

The Core Knowledge[®]

2022
EDITION

Sequence

Content and Skill Guidelines for Grades K-8



Language Arts



Science



History and
Geography



Music



Visual Arts



Mathematics

Core Knowledge[®] Sequence

Content and Skill Guidelines for Grades K–8



Core Knowledge[®]

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Contents

Preface

What's New in the 2022 Edition?	vii
What Support is Available for Implementation of Core Knowledge	viii

Introduction

What is the <i>Core Knowledge Sequence</i> ?	ix
<i>Core knowledge Sequence</i> and Standards	ix
<i>The Sequence</i> as the Core of the Curriculum	ix
The Consensus Behind the <i>Core Knowledge Sequence</i>	ix
Equal Access to Knowledge Promotes Excellence and Fairness	x
The Language of Race: Changes Across Time	x
The Arts in the Curriculum	xi
What's New in 2022	xi
Core Knowledge Schools	xii
Resources for Teaching the <i>Core Knowledge Sequence</i>	xii

Preschool

Please flip this publication over to view the *Preschool Sequence*.

Kindergarten

Overview of Topics	2
English Language Arts	3
World History and Geography	12
American History and Geography	13
Visual Arts	15
Music	17
Mathematics	19
Science	21

Grade 1

Overview of Topics	26
English Language Arts	27
World History and Geography	37
American History and Geography	39
Visual Arts	41
Music	43
Mathematics	45
Science	47

Grade 2

Overview of Topics	52
English Language Arts	53
World History and Geography	64
American History and Geography	66
Visual Arts	69

Music	71
Mathematics	73
Science	76
Grade 3	
Overview of Topics	82
English Language Arts	83
World History and Geography	90
American History and Geography	92
Visual Arts	95
Music	97
Mathematics	99
Science	102
Grade 4	
Overview of Topics	108
English Language Arts	110
World History and Geography	117
American History and Geography	120
Visual Arts	124
Music	126
Mathematics	129
Science	133
Grade 5	
Overview of Topics	140
English Language Arts	142
World History and Geography.....	149
American History and Geography.....	153
Visual Arts	156
Music	158
Mathematics.....	161
Science	164
Grade 6	
Overview of Topics.....	172
English Language Arts	174
World History and Geography	183
American History and Geography	187
Visual Arts	189
Music	191
Mathematics.....	193
Science	196

Grade 7	
Overview of Topics	202
English Language Arts	204
History and Geography	213
Visual Arts	229
Music	231
Mathematics	233
Science	236
Grade 8	
Overview of Topics	242
English Language Arts	244
History and Geography	254
Visual Arts	261
Music	263
Mathematics	266
Science	269
Appendix A	
Why Listening and Learning are Critical to Reading Comprehension	275
Appendix B	
Using Trade Books to Supplement and Enhance the <i>Core Knowledge Sequence</i>	279
Appendix C	
Teaching History and Geography in the Middle School Grades	285
Appendix D	
Knowledge and Social Skills: Powerful Synergy for Productive Citizenship	288
Appendix E	
Core Knowledge Resources	290
Core Knowledge at a Glance	293

Preface to the 2022 Edition of the *Core Knowledge Sequence*

We at the Core Knowledge Foundation fervently believe that our experience over the past thirty years in championing the use of a coherent, cumulative, content-specific curriculum in schools throughout the United States can be of significant value to states and school districts looking to take the next step forward.

To that end, we offer this updated, 2022 edition of the *Core Knowledge Sequence*. Our original mission, Excellence and Equity for All Children, remains unchanged. The simple, yet powerful underlying premise of Core Knowledge, that knowledge builds on knowledge, still fuels our mission. Nearly all of our most important goals for education—greater reading comprehension, the ability to think critically and solve problems, even higher test scores—are a function of the depth and breadth of our knowledge. Although current events and technology are constantly changing, there is a body of lasting knowledge and skills that form the core of a strong Preschool through Grade 8 curriculum. Explicit identification of what children should learn at each grade level ensures a coherent approach to building knowledge across all grade levels, making efficient and effective use of instructional time. Every child should learn the fundamentals of science, basic principles of government, important events in history, essential elements of mathematics, widely acknowledged masterpieces of art and music from around the world, and stories and poems passed down from generation to generation.

Many of the changes made in this latest edition reflect new findings from cognitive research, current standards, and a concerted effort to incorporate *more* inclusive representation of the peoples and cultures that have shaped the world into what we know today.

Over the past thirty years, we have been able to refine and fine tune the implementation of Core Knowledge, thanks to the effort and feedback of thousands of teachers who have put the *Core Knowledge Sequence* into practice in real classrooms with real students. We have attempted to reflect our increased wisdom with regard to effective implementation in this 2022 edition of the *Sequence*.

What's New in the 2022 Edition?

We call your attention specifically to the following revisions.

- **Increased elaboration of the English language arts (ELA) and mathematics sections of the *Sequence***
 - ELA: We updated the ELA skill guidelines to represent our best insights into what effective language arts instruction should encompass—a broader view of “language” within the language arts block, the coherent integration of rich content, i.e., nonfiction, within the language arts block, explicit, systematic instruction in phonics in the early grades (K–3), emphasis on vocabulary, morphology, and grammar in the later grades (3–8), and explicit expectations around writing. These guidelines serve as the framework for our Core Knowledge Language Arts (CKLA) Program. Visit our website (www.coreknowledge.org) for more information.
 - Math: In this update, we narrowed the focus of the math skill guidelines; thus, allowing deeper study around fundamental concepts.¹ As a result, grade levels will explore the following domains:
 - Grades K–2: Concepts, skills, and problem solving related to addition and subtraction
 - Grades 3–5: Concepts, skills, and problem solving related to multiplication and division of whole numbers and fractions

¹ “Key Shifts in Mathematics.” Key Shifts in Mathematics | Common Core State Standards Initiative. Accessed June 4, 2021. <http://www.corestandards.org/other-resources/key-shifts-in-mathematics/>.

- Grade 6: Ratios and proportional relationships, and early algebraic expressions and equations
- Grade 7: Ratios and proportional relationships, and arithmetic of rational numbers
- Grade 8: Linear algebra and linear functions

Educators are encouraged to build conceptual understanding, procedural skills and fluency, and application with equal intensity at each grade.

- **Updated and enhanced science guidelines to reflect the Next Generation Science Standard's (NGSS) emphasis on scientific practice, while developing a foundation of scientific knowledge**
 - Thanks to ongoing research in the field, our understanding of how children learn continues to evolve. In the subject area of science, students benefit from not just reading about concepts and ideas, but from hands-on experiences. The updated *Sequence* incorporates the NGSS emphasis on scientific practice. The NGSS prescribes a multi-dimensional approach to science learning and instruction, integrating core ideas, hands-on practices, and crosscutting concepts, as well as applications of scientific knowledge in engineering and technology. Many of these NGSS principles are reflected in this *Sequence* as well as the characteristic Core Knowledge emphasis on specific content that coherently builds from one grade to the next.
- **Incorporation of contemporary works in literature, art, and music**
 - While Core Knowledge will always offer students access to classical pieces that informed and shaped American culture, we recognize that the inclusion of a selection of contemporary works will provide a connection to the current world. Therefore, this updated *Core Knowledge Sequence* presents both classic and modern works with timeless themes and enduring appeal. Our goal is to offer students a sense of the diversity and richness of literature, art, and music throughout the ages.
- **Offering a renewed commitment to represent the diverse peoples and cultures of the past and present, who enriched our society**
 - Highlighting diverse cultural contributions across subjects and grades in the *Sequence* not only offers students the opportunity to see themselves in the curriculum, it also builds tolerance and appreciation of people different from themselves. Being fully prepared to engage and communicate with peers within this country and around the world requires a detailed, rich knowledge of the ways in which different civilizations have enriched each other across time. The updated *Sequence* reflects an effort to include more voices in America's story and the development of today's world.

Note: See Appendix D to learn more about the connection between cultural knowledge and productive citizenship.

What Support is Available for Implementation of Core Knowledge?

The Core Knowledge Foundation is ready and able to assist states, districts, and individual schools who want to join the ranks of those who are successfully implementing Core Knowledge. The Core Knowledge website (www.coreknowledge.org) offers a wealth of information on how to get started, accessing support materials, professional learning opportunities, as well as many free online resources. Be sure to check out the *Download Curriculum* webpage (www.coreknowledge.org/curriculum/download-curriculum) to access digital copies of our Core Knowledge Curriculum Series™ materials!

Please do not hesitate to contact us directly by phone (434-977-7550) or online: (www.coreknowledge.org/contact-us/).

Introduction

What is the *Core Knowledge Sequence*?

The *Core Knowledge Sequence* is a detailed outline of specific content and skills to be taught in language arts, history, geography, mathematics, science, and the fine arts. As the core of a school's curriculum, it is intended to provide a coherent, content specific foundation of learning, while allowing flexibility to meet local needs.

The *Sequence* represents an effort to describe and state the specific core of shared knowledge that all children should learn in U.S. schools, and that speakers and writers assume their audience knows. It should be emphasized that the *Core Knowledge Sequence* is not a list of facts to be memorized. Rather, it is a guide to coherent content from grade to grade, designed to encourage cumulative academic progress as children build their knowledge and skills from one year to the next.

Core Knowledge Sequence and Standards

"Students will comprehend, evaluate, and respond to works of literature and other kinds of writing which reflect their own cultures and developing viewpoints as well as those of others, using prior knowledge to extend reading ability and comprehension."

This language arts standard is fairly typical of many performance standards. It is broad enough that disagreement is difficult—students *should* be able to comprehend, evaluate and respond to works of literature—but offers little help to teachers in planning units and lessons.

Standards typically describe what students should be able to do, but not what students should know. The content-rich, thoughtfully designed *Core Knowledge Sequence* complements state standards by offering a concrete blueprint to guide teaching and learning. Instead of spending hours researching and planning what to teach, teachers are freed to think more creatively about how to teach. They know what children have learned in previous grades and what they will need in succeeding grades. They can avoid useless repetition. They are less likely to be confronted by big gaps in what students have learned.

The *Sequence* as the Core of the Curriculum

The *Core Knowledge Sequence* offers a blueprint for content and skills instruction. As a means of supporting daily implementation, the Core Knowledge Curriculum Series™ provides comprehensive materials that can be used to teach the content and skills identified in the *Core Knowledge Sequence* in a coherent, cumulative, and cross-curricular way. Current programs include:

- Core Knowledge Language Arts (CKLA)
- Core Knowledge History and Geography (CKHG)
- Core Knowledge Science (CKSci)
- Core Knowledge Math (CKMath)

For more information see Appendix E, *Core Knowledge Grade-by-Grade Resource Recommendations*, or visit the Core Knowledge Foundation website (www.coreknowledge.org/curriculum).

The Consensus Behind the *Core Knowledge Sequence*

The *Core Knowledge Sequence* is the result of a lengthy and rigorous process of research and consensus-building undertaken by the Core Knowledge Foundation, an independent, nonpartisan, nonprofit organization dedicated to excellence and fairness in early education.

To achieve a consensus on the topics to be included in the *Core Knowledge Sequence*, in 1986, the Foundation first analyzed the many reports issued by state departments of education and by professional organizations, such as the National Council of Teachers of Mathematics and the American

Association for the Advancement of Science, which recommend general outcomes for elementary and secondary education. We also examined the knowledge and skills specified in the successful educational systems of several other countries, including France, Japan, Sweden, and Germany.

In addition, we formed an advisory board on multiculturalism that proposed the inclusion of diverse cultural traditions that American children should all share as part of their school-based common culture. We sent the resulting materials to three independent groups of teachers, scholars, and scientists around the country, asking them to create a master list of the core knowledge children should have learned by the end of Grade 6. About 150 teachers, including college professors, scientists, and administrators, were involved in this initial step.

These items were combined into a draft *Sequence*, and additional groups of teachers and specialists were asked to agree on a grade-by-grade sequence of the items. That draft sequence was then sent to some one hundred educators and specialists who participated in a national conference that was called to hammer out a working agreement on core knowledge for the first six grades; kindergarten, grades 7 and 8, and preschool were subsequently added to the *Sequence*.

This important meeting took place in March 1990. The conferees were elementary school teachers, curriculum specialists, scientists, science writers, officers of national organizations, representatives of ethnic groups, district superintendents, and school principals from across the country. A total of twenty-four working groups decided on revisions to the draft *Sequence*. The resulting provisional *Core Knowledge Sequence* was fine-tuned during a year of implementation at a pioneering school, Three Oaks Elementary in Lee County, Florida. Also, the Visual Arts and Music sections of the *Sequence* were further developed based on the research of the Core Knowledge Foundation, with the assistance of advisors and teachers.

An Ongoing Process

Because the *Sequence* is intended to be a living document that provides a foundation of knowledge that speakers and writers assume their audiences know, it has been—and will continue to be—periodically updated and revised. Each new edition involves key stakeholders, and a careful review of both national standards and current trends in cognitive science. The 2022 edition reflects a multi-year effort that engaged subject matter experts, educator focus groups, and the Core Knowledge community network.

Equal Access to Knowledge Promotes Excellence and Fairness

Only by specifying the knowledge that all children should share can we guarantee equal access to that knowledge. In our current system, schools often do not hold high expectations for all students, particularly children from low income families. In many cases, this translates into watered-down curricula. Conversely, schools that implement curricula based on the *Core Knowledge Sequence* expose all children to coherent, core content that commands rigor. This not only provides a foundation for later learning, but also makes up the common ground for communication in our diverse society.

All of the most successful educational systems in the world teach a core of knowledge in the early grades. As both research and common sense demonstrate, we learn new knowledge by building on what we already know. It is important to begin building foundations of knowledge in the early grades because that is when children are most receptive, and because academic deficiencies in the first eight grades can permanently impair the quality of later schooling.

The Language of Race: Changes Across Time

It has been our goal to remain culturally sensitive to generally accepted current usage when writing of race and ethnicity in our publications. However, not all major publishing organizations always agree on the specific standards to follow when referring to race and ethnicity in writing. In cases where there is no universal agreement, we have had to choose which standards to follow, such as:

- Currently, major publications do not agree on the use of hyphens in terms that describe a person's dual heritage—some say, for instance, “Mexican-American” while others say “Mexican American.” In Core Knowledge publications, we have chosen not to use the hyphen.

- There is ongoing debate regarding the use of “Latinos” to refer to people of Spanish heritage as a whole. Since “Latino” is a masculine form, and “Latina” the feminine, some have urged the use of a new gender-neutral term, “Latinx” (pronounced *la-TEEN-ex*). In Core Knowledge publications, we continue to follow the practice of the U.S. Census Bureau, which refers to people of “Hispanic, Latino, or Spanish” origin.
- There is continuing discussion about whether to use the lowercase “black” or uppercase “Black” to refer to persons of African ancestry. In keeping with the practice of an increasing number of major publications, in Core Knowledge publications, we use the uppercase “Black,” which acknowledges, as an editor for the *New York Times* explains, “the difference between a color and a culture.”
- While we have chosen to capitalize “Black,” we have chosen not to capitalize “white.” Some publications have begun to capitalize “white”—see, for example, the guidelines of National Association of Black Journalists or the American Psychological Association. There are arguments for capitalizing “white” on the grounds that lowercase “white” might be taken to imply “whiteness” as a commonly accepted norm apart from race, while uppercase “White” acknowledges “Whiteness” as a racial identity in the context of American history. On the other hand, the *New York Times*, the *Columbia Journalism Review*, and others make the point that “white” should remain lowercase because hate groups and white supremacists have long insisted on capitalizing “white.” Given the lack of consensus on this matter, we maintain our practice of not capitalizing “white,” while affirming that “whiteness” is not to be understood as a norm but as a racial identity.

The Arts in the Curriculum

The Core Knowledge Foundation sees the arts not as a peripheral part of the curriculum, but as an essential part of the knowledge all children should learn in the early grades.

Early instruction in the arts should be noncompetitive, and provide many opportunities to sing, dance, listen to music, play act, read and write poetry, draw, paint, and make objects. Equally important, children should be exposed to fine paintings, great music, and other inspiring examples of art. As children progress in their knowledge and competencies, they can begin to learn more about the methods and terminology of the different arts, and become familiar with an ever wider range of great artists and acknowledged masterworks.

Through attaining a basic knowledge of the arts, children are not only better prepared to understand and appreciate works of art, but also to communicate their ideas, feelings, and opinions to others. A good understanding of the arts grows out of at least three modes of knowledge—creative (i.e., directly making artworks), historical, and analytical. Early study of the arts should embrace all three modes with special emphasis on creativity and active participation.

The arts guidelines in the *Core Knowledge Sequence* are organized into two main sections: Visual Arts and Music. While the *Sequence* does not present other arts such as dance or drama as separate disciplines, we acknowledge their importance and have incorporated them in other disciplines (for example, dance is in music; drama, in English language arts).

What’s New in 2022

Architecture

While architecture was included in the previous editions of the *Sequence*, in 2022, architectural structures are now studied at every grade level. This offers students the opportunity to observe elements of art in structures as well as learn how the designs of buildings, just like works of art, are often inspired by the period.

Contemporary Works

Contemporary works were previously included in both the visual arts and music sections of the *Sequence*. While the original and new works are all considered a valuable asset in broadening students’ background knowledge, this larger list may require teachers be selective (rather than teach everything) in order to adequately address the work in an academic year. We strongly recommend that schools consult with all interested parties within their community – educators, parents, and subject matter experts – before making these decisions.

Core Knowledge Schools

The Core Knowledge Foundation serves as the hub of a nationwide network of Core Knowledge schools. Core Knowledge schools are dedicated to teaching solid academic content and skills to all children. To implement Core Knowledge, many people involved with the school's operations, including both staff and parents, need to engage in a great deal of thoughtful discussion and collaborative planning. The process of "getting started" typically includes these early steps:

- Building buy-in among stakeholders (staff and larger school community)
- Exploring Core Knowledge curricula (to determine where and how to start implementation)
- Considering how Core Knowledge aligns with standards and other school initiatives

Effective implementation relies on a commitment from school leaders and teachers to the Core Knowledge approach.

For more information on adopting or implementing the *Core Knowledge Sequence*, including professional learning, contact the Core Knowledge Foundation at 434-977-7550 or www.coreknowledge.org/contact-us.

Resources for Teaching the *Core Knowledge Sequence*

Instructional materials, part of the Core Knowledge Curriculum Series™, are available for free download on the Core Knowledge Foundation website (www.coreknowledge.org/download-curriculum/). Prior to selecting and purchasing materials, we encourage you to download and peruse these resources.

For a list of current resources and prices, visit the Core Knowledge website at www.coreknowledge.org/store, or contact us directly at:

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Kindergarten



Overview of Topics

Kindergarten

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
 - C. Comprehension and Discussion of Read-Alouds—All Texts
 - D. Comprehension and Discussion of Read-Alouds—Fiction, Drama, and Poetry
 - E. Comprehension and Discussion of Read-Alouds—Nonfiction and Informational Text
- II. Reading
 - A. Print Awareness
 - B. Phonological and Phonemic Awareness
 - C. Phonics: Decoding and Encoding
 - D. Oral Reading and Fluency
 - E. Reading Comprehension—All Texts
- III. Writing
- IV. Language Conventions
 - A. Handwriting and Spelling
 - B. Parts of Speech and Sentence Structure
 - C. Capitalization and Punctuation
- V. Poetry
 - A. Mother Goose and Other Traditional Poems
 - B. Other Poems, Old and New
- VI. Fiction
 - A. Stories
 - B. Aesop's Fables
 - C. American Folk Heroes and Tall Tales
 - D. Literary Terms
 - E. Sayings and Phrases

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. Geography: Spatial Sense
- II. An Overview of the Seven Continents

AMERICAN HISTORY AND GEOGRAPHY

- I. Geography
- II. Native American Peoples, Past and Present
- III. Early Exploration and Settlement
 - A. The Voyage of Columbus (Cristoforo Colombo) in 1492
 - B. The Pilgrims
 - C. July 4, "Independence Day"
- IV. Presidents, Past and Present
- V. Symbols and Figures

VISUAL ARTS

- I. Elements of Art
 - A. Color
 - B. Line
 - C. Artworks
- II. Sculpture
- III. Architecture

MUSIC

- I. Elements of Music
- II. Listening and Understanding
- III. Songs

MATHEMATICS

- I. Counting and Cardinality
- II. Operations and Algebraic Thinking
- III. Number and Operations in Base Ten
- IV. Measurement and Data
- V. Geometry

SCIENCE

- I. Pushes and Pulls
 - A. Pushes and Pulls are Forces
 - B. Pushes and Pulls can Change an Object's Motion
 - C. Magnetism is a Force
- II. Needs of Plants and Animals
 - A. Plants and Animals
 - B. Plants, Their Needs, and Their Environments
 - C. Animals, Their Needs, and Their Environments
 - D. Humans, Their Needs, and Their Environments
- III. Changing Environments
 - A. Ecosystems
 - B. Plants in Ecosystems
 - C. Animals in Ecosystems
 - D. Human Changes in Ecosystems
 - E. People Design Solutions to Reduce Human Impact
- IV. Weather Patterns
 - A. Sunlight
 - B. Patterns in Weather Conditions
 - C. Severe Weather
- V. The Human Body: Our Five Senses
 - A. Vision and Hearing
 - B. Smell, Taste, and Touch
 - C. Taking Care of Your Body
- VI. Science Biographies

Kindergarten | English Language Arts



The *Common Core State Standards for English Language Arts* emphasize the critical importance of building nonfiction background knowledge in a coherent and sequenced way within and across grades. This can be accomplished most effectively, at each grade level, by integrating the topics from history, geography, science, and the arts in the *Core Knowledge Sequence* into the language arts block. Note that in the *Sequence*, there are many cross-curricular connections to history and science topics within Language Arts (e.g., poems, stories, and sayings), as well as to visual arts and music, which can and should be integrated into the applicable domain of study.

NOTE: The objectives listed in sections I–IV of Language Arts below are consistent with the *Core Knowledge Language Arts* program and embed all of the skills and concepts within the *Common Core State Standards for English Language Arts*.

I. Listening and Speaking

Teachers: Shortly after a baby is born, an amazingly complex, interactive communication process begins between the infant and others in his/her environment. While it may seem like an obvious statement, it is nonetheless worth making the point that listening and speaking are the primary means of communication throughout the early years of a young child's development. It should be equally obvious that reading and writing competencies are predicated on competencies in listening and speaking. When a child enters kindergarten, however, traditional language arts instruction has typically accorded little, if any, attention to the ongoing development of children's listening and speaking ability. We have acted as if listening and speaking competencies are fully and firmly established and can be left behind as reading and writing instruction begins. Nothing could be further from the truth. This omission in language arts instruction has been a serious oversight. We must remedy this oversight, deliberately elaborating and extending listening and speaking skills, while we simultaneously begin to introduce reading, and then writing. Children who are fortunate enough to participate in language arts instruction that recognizes the importance of continuing to build listening and speaking competency while also beginning reading and writing instruction will, in the end, be far more literate adults.

A. Classroom Discussion

- Participate in age appropriate activities involving listening and speaking.
- Speak clearly with volume appropriate to the setting.
- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc.
- Ask questions to clarify conversations, directions, exercises, and/or classroom routines.
- Carry on and participate in a conversation over four to five turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age.
- Identify and express physical sensations, mental states, and emotions of self and others.
- Understand and use language to express spatial and temporal relationships (*up, down, first, last, before, after, etc.*).
- Understand and use narrative language to describe people, places, things, locations, events, actions.
- Understand and use common sayings and phrases such as "Better safe than sorry" and "Look before you leap."

B. Presentation of Ideas and Information

- Follow multi-step, oral directions.
- Give simple directions.
- Provide simple explanations.
- Recite a nursery rhyme, poem or song independently.

C. Comprehension and Discussion of Read-Alouds—All Texts

Teachers: Written text makes use of richer vocabulary and more complex syntax than conversational language. It is important that young children be exposed not only to the language of everyday conversation but also to the richer and more formal language of books. This can be done through frequent reading aloud. Helping young children develop the ability to listen to and understand written texts when they are read aloud must be an integral part of any initiative designed to build literacy.

At the kindergarten level, a students' ability to understand what they hear far outpaces their ability to independently read and understand written text. By listening to stories or nonfiction selections read aloud, students can experience the complexities of written language without expending cognitive energy on decoding; they can likewise access deeper and more complex content knowledge than they are presently able to read independently.

Careful consideration should be given to the selection of books read aloud to ensure that the vocabulary and syntax presented is rich and complex. Leveled texts will not provide the rich language experience desired during read-alouds and should only be used as a starting point with students for whom English is a second language.

Grade appropriate read-aloud selections for poetry and fiction are included in the *Sequence*. Nonfiction read-alouds should be selected on the basis of the history, science, music and visual art topics identified for kindergartners in the *Core Knowledge Sequence*, with emphasis on history and science read-alouds. It is strongly recommended that daily read-alouds focus on a single topic over a sustained period of time—about two weeks—rather than intermingling read-alouds on a variety of subjects. Careful consideration should be given to the order in which nonfiction read-alouds are presented to ensure that knowledge about a topic builds in a progressive and coherent way.

Following any read-aloud, students should participate in rich, structured conversations with an adult in response to the written text that has been read aloud. In this way, they can begin to orally practice comparing, analyzing, and synthesizing ideas in written text in much the same way as they will be expected to do as independent readers in the later grades.

- Listen to and understand a variety of texts read aloud, including fictional stories, fairy tales, fables, historical narratives, drama, informational text, and poems.

Grasping Specific Details and Key Ideas

- Describe illustrations.
- Sequence four to six pictures illustrating events in a read-aloud.
- Answer questions requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc.
- Retell key details.
- Ask questions to clarify information in a read-aloud.
- Use narrative language to describe people, places, things, locations, events, actions, a scene or facts in a read-aloud.

Observing Craft and Structure

- Understand and use words and phrases heard in read-alouds.
- Compare and contrast similarities and differences within a single read-aloud or between two or more read-alouds.
- Make personal connections to events or experiences in a read-aloud and/or make connections among several read-alouds.

Integrating Information and Evaluating Evidence

- Prior to listening to a read-aloud, identify what they know and have learned that may be related to the specific story or topic to be read aloud.
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud.
- Make predictions prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far and then compare the actual outcomes to predictions.

- Answer questions that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing cause/effect relationships.
- Identify who is telling a story or providing information in a text.

D. Comprehension and Discussion of Read-Alouds—Fiction, Drama, and Poetry

- Retell or dramatize a story, using narrative language to describe characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence.
- Change some story events and provide a different story ending.
- Create and tell an original story, using narrative language to describe characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence
- Distinguish fantasy from realistic text in a story.
- Demonstrate understanding of literary language (e.g., author, illustrator, characters, setting, plot, dialogue, personification, simile, and metaphor) and use some of these terms in retelling stories or creating their own stories.

E. Comprehension and Discussion of Read-Alouds—Nonfiction and Informational Text

Teachers: Select nonfiction read-aloud topics from the kindergarten history, science, music, and visual arts topics, with emphasis on history and science.

- Retell important facts and information from a nonfiction read-aloud.
- With assistance, categorize and organize facts and information within a given topic.
- With assistance, create and interpret timelines and lifelines related to read-alouds.
- Distinguish read-alouds that describe events that happened long ago from those that describe contemporary or current events

II. Reading

A. Print Awareness

- Demonstrate understanding that what is said can be written and that the writing system is a way of writing down sounds.
- Demonstrate understanding of directionality (left to right, return sweep, top to bottom, front to back).
- Identify the parts of books and function of each part (front cover, back cover, title page, table of contents).
- Demonstrate correct book orientation by holding book correctly and turning pages.
- Recognize that sentences in print are made up of separate words.
- Understand that words are separated by spaces.
- Distinguish letters, words, sentences, and stories.
- Demonstrate understanding of basic print conventions by tracking and following print word for word when listening to text read aloud.
- Demonstrate understanding that the sequence of letters in a written word represents the sequence of sounds in the spoken word.
- Recognize and name the twenty-six letters of the alphabet in both their upper-case and lower-case forms.
- Say the letters of the alphabet in order, either in song or recitation

B. Phonological and Phonemic Awareness

- Identify environmental sounds, e.g., keys jingling, scissors cutting, clapping.
- Identify whether pairs of environmental sounds are the same or different.
- Count the number of environmental sounds heard, e.g., clapping, rhythm band instruments.

- Orally segment sentences into discrete words.
- Demonstrate understanding that words are made up of sequences of sounds.
- Demonstrate understanding that vowel sounds are produced with the mouth open and airflow unobstructed, whereas consonant sounds involve closing parts of the mouth and blocking the air flow.
- Given a pair of spoken words, select the one that is longer (i.e., contains more phonemes).
- In riddle games, supply words that begin with a target phoneme.
- Indicate whether a target phoneme is or is not present in the initial/medial/final position of a spoken word, e.g., hear /m/ at the beginning of *mat* and /g/ at the end of *bag*.
- Listen to one-syllable words and tell the beginning or ending sounds, e.g., given *dog*, identify initial /d/ or final /g/.
- Recognize the same phoneme in different spoken words, e.g., /b/ in *ball*, *bug*, and *big*.
- Identify whether pairs of phonemes are the same or different, including pairs that differ only in voicing, e.g., /b/ and /p/.
- Orally blend two to three sounds to form a word, e.g., given the sounds /k/.../a/... /t/, blend to make *cat*.
- Segment a spoken word into phonemes, e.g., given *bat*, produce the segments/b//a//t/.
- Given a spoken word, produce another word that rhymes, e.g., given *hit*, supply *bit* or *mitt*.
- Identify the number of syllables in a spoken word

C. Phonics: Decoding and Encoding

Teachers: Learning to read requires understanding and mastering the written English code through explicit and systematic phonics instruction. Research suggests that phonics instruction is most effective when specific letter-sound relationships are taught and reinforced by having students both read and write the letter-sound correspondence being studied. Reading and writing—decoding and encoding—are complementary processes that ensure mastery of the written code.

- Demonstrate understanding that a systematic, predictable relationship exists between written letters (graphemes) and spoken sounds (phonemes).
- Blend individual phonemes to pronounce printed words.
- Understand that sometimes two or more printed letters stand for a single sound.
- Read and write any CVC word, e.g., *sit* or *cat*.
- Read and write one-syllable words containing common initial consonant clusters such as tr-, fl-, dr- and sp- and consonant digraphs such as ch-, sh-, th-, etc.
- Read and write words containing separated vowel graphemes, such as, *late*, *bite*, *note*, *cute*.
- Read tricky spellings that can be sounded two ways, e.g., the letter 's' sounded /s/ as in *cats* and /z/ as in *dogs*.
- Read and write chains of one-syllable words in which one sound is added, substituted, or omitted, e.g., read at > *cat* > *bat* > *bad* > *bid*.
- Read at least 15 words generally identified as very high frequency words..

Consonant Sounds and Spellings Taught in Kindergarten

/b/ spelled 'b' as in *boy*, 'bb' as in *tubby*

/d/ spelled 'd' as in *dog*, 'dd' as in *madder*

/f/ spelled 'f' as in *fun*, 'ff' as in *stuff*

/g/ spelled 'g' as in *get*, 'gg' as in *egg*

/h/ spelled 'h' as in *him*

/j/ spelled 'j' as in *jump*

/k/ spelled 'c' as in *cat*, 'k' as in *kitten*, 'ck' as in *sick*, 'cc' as in *moccasin*
 /l/ spelled 'l' as in *lip*, 'll' as in *sell*
 /m/ spelled 'm' as in *mad*, 'mm' as in *hammer*
 /n/ spelled 'n' as in *net*, 'nn' as in *funny*
 /p/ spelled 'p' as in *pet*, 'pp' as in *happy*
 /r/ spelled 'r' as in *red*, 'rr' as in *earring*
 /s/ spelled 's' as in *sit*, 'ss' as in *dress*
 /t/ spelled 't' as in *top*, 'tt' as in *butter*
 /v/ spelled 'v' as in *vet* /w/ spelled 'w' as in *wet*
 /x/ spelled 'x' as in *tax*
 /y/ spelled 'y' as in *yes*
 /z/ spelled 'z' as in *zip*, 'zz' as in *buzz*, 's' as in *dogs*
 /ch/ spelled 'ch' as in *chop*
 /sh/ spelled 'sh' as in *ship*
 /th/ spelled 'th' as in *thin*
 /th/ spelled 'th' as in *then*
 /qu/ spelled 'qu' as in *quick*
 /ng/ spelled 'ng' as in *sing*, 'n' as in *pink*

Vowel Sounds and Spellings Taught in Kindergarten

/a/ spelled 'a' as in *cat*
 /e/ spelled 'e' as in *get*
 /i/ spelled 'i' as in *hit*
 /o/ spelled 'o' as in *hot*
 /u/ spelled 'u' as in *but*
 /ae/ spelled 'a_e' as in *cake*
 /ee/ spelled 'ee' as in *bee*
 /ie/ spelled 'i_e' as in *bike*
 /oe/ spelled 'o_e' as in *note*
 /ue/ spelled 'u_e' as in *cute*
 /er/ spelled 'er' as in *her*
 /ar/ spelled 'ar' as in *car*
 /or/ spelled 'or' as in *for*

D. Oral Reading and Fluency

- Read decodable stories that incorporate the specific code knowledge that has been taught.
- Use phonics skills in conjunction with context to confirm or self-correct word recognition and understanding, rereading as necessary.
- Demonstrate understanding of and use commas and end punctuation while reading orally.
- Read aloud, alone, or with a partner at least 15 minutes each day.

E. Reading Comprehension—All Texts

Teachers: It is important to recognize that kindergartners are taught only some of the many letter-sound correspondences a reader needs to know to read a wide range of printed material. As a result, many kindergartners will be able to read only the simplest written text independently. At this grade level, mental energy will be directed primarily to the act of reading, i.e., decoding. A focus on the mechanics of decoding is appropriate and desirable at this early stage in the reading process. In kindergarten, attention to reading comprehension should be directed to ensuring a fundamental understanding of what has been read. At this

grade level, it will generally be more effective and efficient to devote time to higher level thinking and comprehension skills at the listening and speaking level in response to written texts that are read aloud.

- Demonstrate understanding of simple decodable text after reading independently.

Grasping Specific Details and Key Ideas

- Answer questions requiring literal recall and understanding of the details and/or facts (i.e., who, what, where, when, etc.) about a text that has been read independently.
- Retell or dramatize a story, using narrative language to describe characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence.
- Use narrative language to describe people, places, things, locations, events, actions, a scene or facts from a text that has been read independently.

Observing Craft and Structure

- Understand and use words and phrases from a text that has been read independently.

Integrating Information and Evaluating Evidence

- Prior to reading, identify what they know and have learned that may be related to the specific story or topic to be read.
- Use pictures accompanying the written text to check and support understanding.
- Make predictions prior to and while reading, based on the title, pictures, and/or text read thus far and then compare the actual outcomes to predictions.
- Identify who is telling a story or providing information in a text.

III. Writing

Teachers: It is important to recognize that of all the communication skills—listening, speaking, reading, and writing—writing is the most demanding and challenging, especially for kindergartners who are just learning not only the code, but the fine motor skills and letter strokes necessary to put something down on paper. Kindergartners can, however, express themselves in writing by drawing pictures and, as they begin to learn some of the code, copying or writing words, phrases, and sentences.

In addition, students can also participate in shared writing exercises modeled and scaffolded by an adult. The focus in shared writing should be on encouraging the students to verbally express themselves coherently and in complete sentences, as the teacher serves as a scribe.

Writing to Reflect Audience, Purpose and Task

- Draw pictures to represent a text that has been heard or read independently.
- Draw pictures to represent a preference or opinion.
- Write narratives, informative and explanatory texts, and offer an opinion through shared writing exercises.
- With assistance, add details to writing.
- Create a title or caption to accompany a picture and/or shared writing.

IV. Language Conventions

- Form letters, words, phrases and sentences to communicate thoughts and ideas.
- Apply basic spelling conventions.
- Use basic capitalization and punctuation in sentences to convey meaning.

A. Handwriting and Spelling

- Hold a pencil with a pincer grasp and make marks on paper.
- Trace, copy, and print from memory the 26 letters of the alphabet accurately in both their upper-case and lower-case forms.

- Write own name.
- Write from left to right, leaving spaces between words, and top to bottom using return sweep.
- Begin to write phonemically plausible spellings for words that cannot be spelled correctly with current code knowledge, e.g., write *bote* for *boat*, *sum* for *some*, *hunee* for *honey*.
- Write words, phrases, and sentences from dictation, applying phonics knowledge.

B. Parts of Speech and Sentence Structure

- Use and understand question words, i.e., *what, where, when, who, how*.
- Form regular plural nouns by adding 's' or 'es', i.e., *dog, dogs, wish, wishes*.
- Demonstrate understanding of frequently occurring prepositions, i.e., *to/from, in/out, on/off*.
- Produce and expand complete sentences orally and in shared writing exercises.

C. Capitalization and Punctuation

- Capitalize the first word in a sentence; the pronoun *I*.
- Identify and use end punctuation, including periods, question marks, and exclamation points.

Note Regarding Preschool Content:

Some of the poems and stories specified here are appropriate for preschoolers. Indeed, one would hope that most preschoolers would come to kindergarten having heard, for example, some Mother Goose rhymes or the story of "Goldilocks and the Three Bears." However, as not all children attend preschool, and as home preparation varies, the *Core Knowledge Sequence* offers a core of familiar rhymes and stories for all kindergarten students. See also the *Core Knowledge Preschool Sequence*, available from the Core Knowledge Foundation.

V. Poetry

Teachers: Students should be introduced to a varied selection of poetry with strong rhyme and rhythm. Students should hear these rhymes read aloud, and should say some of them aloud. Some rhymes may also be sung to familiar melodies. The poems listed here represent some of the most popular and widely anthologized titles; students may certainly be introduced to more Mother Goose rhymes beyond the selection below. Although students are not expected to memorize the following rhymes, they will delight in knowing their favorites by heart, and will experience a sense of achievement and satisfaction in being able to recite some of the rhymes.

A. Mother Goose and Other Traditional Poems

- "A Diller, A Dollar"
- "Baa, Baa, Black Sheep"
- "Diddle, Diddle, Dumpling"
- "Early to Bed"
- "Georgie Porgie"
- "Hey Diddle Diddle"
- "Hickory, Dickory, Dock"
- "Hot Cross Buns"
- "Humpty Dumpty"
- "It's Raining, It's Pouring"
- "Jack and Jill"
- "Jack Be Nimble"
- "Jack Sprat"
- "Ladybug, Ladybug"
- "Little Bo Peep"
- "Little Boy Blue"
- "Little Jack Horner"
- "Little Miss Muffet"
- "London Bridge Is Falling Down"
- "Mary, Mary, Quite Contrary"
- "Old King Cole"
- "Old Mother Hubbard"

"One, Two, Buckle My Shoe"
"Pat-a-Cake"
"Rain, Rain, Go Away"
"Ride a Cock-Horse"
"Ring Around the Rosey"
"Rock-a-bye, Baby"
"Roses Are Red"
"See-Saw, Margery Daw"
"Simple Simon"
"Sing a Song of Sixpence"
"Star Light, Star Bright"
"There Was a Little Girl"
"There Was an Old Woman Who Lived in a Shoe"
"This Little Pig Went to Market"
"Three Blind Mice"

Note: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new. To bring students into the spirit of poetry, read it aloud and encourage them to speak it aloud so they can experience the music in the words.

B. Other Poems, Old and New

"April Rain Song" (Langston Hughes)
"Happy Thought" (Robert Louis Stevenson)
"I Do Not Mind You, Winter Wind" (Jack Prelutsky)
"Mary Had a Little Lamb" (Sara Josepha Hale)
"The More It Snows" (A. A. Milne)
"My Nose" (Dorothy Aldis)
"Rain" (Robert Louis Stevenson)
"Three Little Kittens" (Eliza Lee Follen)
"Time to Rise" (Robert Louis Stevenson)
"Tommy" (Gwendolyn Brooks)
"Twinkle Twinkle Little Star" (Jane Taylor)

VI. Fiction

Teachers: While the following works make up a strong core of literature, the content of language arts includes not only stories, fables, and poems, but also the well-practiced, operational knowledge of how written symbols represent sounds, and how those sounds and symbols convey meaning. Thus, the stories specified below are meant to complement, not to replace, materials designed to help students practice decoding and encoding skills (see above, II. Reading and III. Writing).

The following works constitute a core of stories for this grade. In kindergarten, these stories are meant to be read-aloud selections. Expose students to many more stories, including classic picture books and read-aloud books. (In schools, teachers across grade levels should communicate their choices in order to avoid undue repetition.) Students should also be exposed to nonfiction prose: biographies, books on science and history, books on art and music, etc. And, students should be given opportunities to tell and write their own stories.

A. Stories

"The Bremen Town Musicians" (Brothers Grimm)
"Chicken Little" (also known as "Henny-Penny")
"Cinderella" (Charles Perrault)
"Goldilocks and the Three Bears"
"How Many Spots Does a Leopard Have?" (African folktale)
"King Midas and the Golden Touch"
"The Legend of Jumping Mouse" (Native American: Northern Plains legend)

"The Little Red Hen"
 "Little Red Riding Hood"
 "Momotaro: Peach Boy" (Japanese folktale)
 "Snow White and the Seven Dwarfs"
 "The Three Billy Goats Gruff"
 "The Three Little Pigs"
 "A Tug of War" (African folktale)
 "The Ugly Duckling" (Hans Christian Andersen)
 "The Velveteen Rabbit" (Margery Williams)
 selections from "Winnie-the-Pooh" (A. A. Milne)
 "The Wolf and the Kids" (Brothers Grimm)

B. Aesop's Fables

"The Lion and the Mouse"
 "The Grasshopper and the Ants"
 "The Dog and His Shadow"
 "The Hare and the Tortoise"

C. American Folk Heroes and Tall Tales

Johnny Appleseed
 Casey Jones

D. Literary Terms

Teachers: As students become familiar with stories, discuss the following:

author
 illustrator

E. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many students, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with students from home cultures that differ from the standard culture of literate American English.

A dog is man's best friend.
 April showers bring May flowers.
 Better safe than sorry
 Do unto others as you would have them do unto you.
 The early bird gets the worm.
 Great oaks from little acorns grow.
 Look before you leap
 A place for everything and everything in its place
 Practice makes perfect.
 [It's] raining cats and dogs.
 Where there's a will there's a way.

Note: Children will read more American folk heroes and tall tales in Grade 2.



Teachers: In kindergarten, students often study aspects of the world around them: the family, the school, the community, etc. The following guidelines are meant to broaden and complement that focus. The goal of studying selected topics in World History in Kindergarten is to foster curiosity and the beginnings of understanding about the larger world outside the student’s locality, and about varied civilizations and ways of life. This can be done through a variety of means: story, drama, art, music, discussion, and more.

The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures.

World History and Geography

I. Geography: Spatial Sense (working with maps, globes, and other geographic tools)

Teachers: Foster students’ geographical awareness through regular work with maps and globes. Have students regularly locate themselves on maps and globes in relation to places they are studying. Students should make and use a simple map of a locality (such as classroom, home, school grounds) or a map for a treasure hunt.

- Maps and globes: what they represent, how we use them
- Rivers, lakes, and mountains: what they are and how they are represented on maps and globes
- Locate the Atlantic and Pacific Oceans
- Locate the North and South Poles

II. An Overview of the Seven Continents

Teachers: Help students gain a beginning geographic vocabulary and a basic sense of how we organize and talk about the world by giving names to some of the biggest pieces of land. Introduce students to the seven continents through a variety of methods and media (tracing, coloring, relief maps, etc.), and associate the continents with familiar wildlife, landmarks, peoples, cultures, etc., for example, penguins in Antarctica; or the Eiffel Tower in Europe. Throughout the school year, reinforce names and locations of continents when potential connections arise in other disciplines, for example, connect Grimm’s fairy tales to Europe, the voyage of Pilgrims to Europe and North America the story of “Momotaro—Peach Boy” to Asia [Japan], or the study of Native Americans to North America.

- Identify and locate the seven continents on a map and globe:
 - Asia
 - Europe
 - Africa
 - North America
 - South America
 - Antarctica
 - Australia

Note: In later grades, students will continue to learn about all of the continents as well as specific countries and peoples.



Isabella I of Castile and Ferdinand II of Aragon.

Note: No historical evidence exists to confirm Plymouth Rock as the Pilgrims' steppingstone to the New World. In fact, it is believed that the Pilgrims first made landfall on the tip of Cape Cod in November 1620 before sailing to safer harbors in Plymouth the following month. William Bradford, and his fellow Mayflower passengers, made no written references to setting foot on a rock as they disembarked to start their settlement on a new continent.

Note: Discussing slavery with younger students is a very challenging task. Slavery, which has existed for thousands of years in many cultures, is by definition an inhumane practice—people are reduced to property, to be bought and sold, and often treated with brutality and violence. Classroom discussion of slavery should acknowledge its cruelty while remaining mindful of the age of the students.

Note: Discuss with students “What does it mean to be free?”

American History and Geography

Teachers: The study of American history begins in Grades K-2 with a brief overview of major events and figures, from the earliest days to recent times. A more in-depth, chronological study of American history begins again in grade 3 and continues onward. The term “American” here generally, but not always, refers to the lands that became the United States. Other topics regarding North, Central, and South America may be found in the World History and Geography sections of this Sequence.

I. Geography

- Name and locate the town, city, or community, as well as the state where you live.
- Locate North America, the continental United States, Alaska, and Hawaii.

II. Native American Peoples, Past and Present

Teachers: As students progress through the grades of the Core Knowledge Sequence, they will learn about many different Native American peoples in many different regions (such as Pacific Northwest: Kwakiutl [Kwakwaka'wakw, Chinook]; Plateau: Nez Perce; Great Basin: Shoshone, Ute; Southwest: Dine [Navajo], Hopi, Apache, Zuni; Plains: Blackfoot, Comanche, Crow, Kiowa, Dakota, Lakota [Sioux], Cheyenne, Arapaho; Eastern Woodlands: Huron, Iroquois, Mohican, Delaware [Lenni Lenape], Susquehanna, Massachusetts, Wampanoag, Powhatan; Southeast: Cherokee, Seminole). In kindergarten, study at least one specific group of Native Americans. You might explore a local or regional tribe or nation, and compare it with one far away.

- Become familiar with the people and ways of life of at least one Native American tribe or nation, including:
 - The landscape and environment they lived in
 - how they lived
 - what they wore and ate
 - the homes they lived in
 - their beliefs and stories
 - the current status of the tribe or nation

III. Early Exploration and Settlement

Teachers: Columbus Day is an important holiday for many Americans, but in some states the holiday has been renamed Indigenous People's Day in recognition of the harm that was caused to the indigenous peoples of the Americas by explorers, adventurers, and settlers from Europe. In fact, Columbus did enslave the Taino people and take them back to Europe with him. Although elements of Columbus's story are dark, his voyages do mark a great change in the history of the world.

A. The Voyage of Columbus (Cristoforo Colombo) in 1492

- Queen Isabella and King Ferdinand of Spain
- The Niña, Pinta, and Santa Maria
- Columbus's mistaken identification of “Indies” and “Indians”
- The idea of what was, for Europeans, a “New World”

B. The Pilgrims

- The Mayflower
- Plymouth Rock
- Thanksgiving Day celebration

C. July 4, “Independence Day”

- The “birthday” of our nation
- Democracy (rule of the people): Americans wanted to rule themselves instead of being ruled by a faraway king
- Some people were not free: slavery in early America

See below, Symbols and Figures: Mount Rushmore; the White House.

IV. Presidents, Past and Present

Teachers: Introduce students to famous presidents, and discuss with them such questions as: What is the president? How does a person become president? Who are some of our most famous presidents, and what did they do that made them famous?

- George Washington
 - The “Father of Our Country”
 - Legend of George Washington and the cherry tree
- Thomas Jefferson, author of Declaration of Independence
- Abraham Lincoln
 - Humble origins
 - “Honest Abe”
- Theodore Roosevelt
 - National Park initiative
- Barrack Obama
 - First Black American president
- Current United States president

V. Symbols and Figures

- Recognize and become familiar with the significance of
 - American flag
 - Statue of Liberty
 - Mount Rushmore
 - The White House

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Kindergarten | Visual Arts

Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

I. Elements of Art

Teachers: The generally recognized elements of art include line, shape, form, space, light, texture, and color. In kindergarten, introduce students to line and color. Engage students in recognizing and using different kinds of lines and colors, and point out lines and colors in nature. (You may also wish to observe shapes in art and nature—see Math: Geometry.)

A. Color

- Observe how colors can create different feelings and how certain colors can seem “warm” (red, orange, yellow) or “cool” (blue, green, purple).
- Observe the use of color in
 - Pieter Bruegel, *The Hunters in the Snow*
 - Helen Frankenthaler, *Blue Atmosphere*
 - Paul Gauguin, *Tahitian Landscape*
 - Pablo Picasso, *Le Gourmet*
 - Alice Neel, *Two Girls in Spanish Harlem*, 1941
 - Louis Smoky Kaulaity, *Lullaby* (mid-20th c)
 - Mandy Martin, *Evening Clouds* (2014)

B. Line

- Identify and use different lines: straight, zigzag, curved, wavy, thick, thin
- Observe different kinds of lines in
 - Katsushika Hokusai, *Tuning the Samisen*
 - Henri Matisse, *Purple Robe and Anemones*
 - Joan Miró, *People and Dog in the Sun*
 - Käthe Kollwitz, *Sleeping Woman and Child* (1929)
 - William H. Johnson, *Li’L Sis* (1944)
 - Horace Pippin, *Family Supper* (1946)

C. Artworks

Teachers: After students have been introduced to some elements of art and a range of artworks and artists, engage them in looking at pictures and talking about them. Ask the students about their first impressions—what they notice first, and what the picture makes them think of or feel. Go on to discuss the lines and colors, details not obvious at first, why they think the artist chose to depict things in a certain way, etc.

II. Sculpture

- Recognize and discuss the following as sculptures:
- Northwest American Indian totem pole
- Alexander Calder’s *Lobster Trap and Fish Tail*
- Sandy Skoglund, *Gathering Paradise* (1991)



Compare Kollwitz’s *Sleeping Women and Child* to Picasso’s *Mother & Child*

See also American History Grade K: Native Americans, re totem pole

Note: When studying the Hall of Supreme Harmony, draw students' attention to the shape of a diagonal, like that of a pitched roof, as well as the horizontal line of beams resting on the vertical lines of columns. Discuss with students how the shape and design of these columns enable them to hold up the heavy materials above.

Note: When reviewing the Eiffel Tower point out how the structure becomes increasingly thin at the top.

Note: When looking at the Sydney Opera House, discuss the curvature of the roof profile and how this is a shape that copies similar shapes in nature.

- Look at and discuss:
 - Pieter Bruegel, *Children's Games*
 - Winslow Homer, *Snap the Whip*
 - Diego Rivera, *The Mother's Helper*
 - Henry O. Tanner, *The Banjo Lesson*
 - Maria Izquierdo, *My Nieces* (1940)
 - Mark Tansey, *Snowman*, (2004)

III. Architecture

Teachers: These structures offer the opportunity for students to explore different architectural shapes and lines as well as begin to think how the design helps the building stand up.

- Explore different architectural shapes and lines in buildings, such as
 - Hall of Supreme Harmony (1406)
 - Eiffel Tower (1887)
 - Sydney Opera House (1973)

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Kindergarten | Music



Teachers: In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines. The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. Elements of Music

- Through participation, become familiar with some basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
- Recognize a steady beat; begin to play a steady beat.
- Recognize that some beats have accents (stress).
- Move responsively to music (marching, walking, hopping, swaying, etc.).
- Participate in call and response activities (e.g., “John the Rabbit”)
- Engage in improvisation activities (e.g., “All Around the Kitchen;” “Little Johnny Brown”)
- Participate in play party activities (e.g., “The Farmer in the Dell;” “The Paw-Paw Patch;” “Here We Go Round the Mulberry Bush;” “The Hokey Pokey”).
- Recognize short and long sounds.
- Discriminate between fast and slow.
- Discriminate between obvious differences in pitch: high and low.
- Discriminate between loud and soft
- Recognize that some phrases are the same, some different.
- Sing unaccompanied, accompanied, and in unison.

II. Listening and Understanding

Teachers: To encourage listening skills and the beginnings of understanding, play various kinds of music often and repeatedly. In the kindergarten classroom, music can be played for enjoyment, to accompany activities, to inspire creative movement, etc. Expose children to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

- Recognize the following instruments by sight and sound: guitar, piano, trumpet, flute, violin, drum.
- Become familiar with the following works: Edvard Grieg, “Morning Mood” and “In the Hall of the Mountain King” from *Peer Gynt*; Victor Herbert, “March of the Toys” from *Babes in Toyland*; Camille Saint-Saëns, *Carnival of the Animals*; Ella Fitzgerald, “A Tisket, A Tasket.”

III. Songs

Teachers: See also Language Arts, Mother Goose poems. A number of the poems may be sung to familiar melodies.

- “The Bear Went Over the Mountain”
- “Bingo”
- “Go In and Out the Window”
- “Go Tell Aunt Rhody”
- “Here We Go Round the Mulberry Bush”
- “If You’re Happy and You Know It”
- “Jingle Bells”

Note: Grieg’s “In the Hall of the Mountain King” is a good work to illustrate dynamics (loud and quiet), as well as tempo (slow and fast).

"John Jacob Jingleheimer Schmidt"
"Kumbaya" (also "Kum Ba Ya")
"London Bridge"
"Old MacDonald Had a Farm"
"Row, Row, Row Your Boat"
"This Old Man"
"Twinkle Twinkle Little Star"
"The Wheels on the Bus"
"A Ram Sam Sam"
"Fais Dodo"
"Pin Pon"
"This Little Light of Mine"
"Oh, John the Rabbit"

Teachers: You may wish to supplement the songs listed above with songs from the *Core Knowledge Preschool Sequence*, as follows:

"Are You Sleeping?"
"Do Your Ears Hang Low?"
"Did You Ever See a Lassie?"
"Eensy, Weensy Spider"
"Five Little Ducks That I Once Knew"
"Five Little Monkeys Jumping On the Bed"
"Happy Birthday to You"
"Head and Shoulders, Knees and Toes"
"Here is the Beehive"
"I'm a Little Teapot"
"Kookaburra"
"Lazy Mary"
"Looby Loo"
"Oats, Peas, Beans and Barley Grow"
"Oh, Do You Know the Muffin Man?"
"Oh Where, Oh Where, Has My Little Dog Gone?"
"One Potato, Two Potato"
"Open, Shut Them"
"Pop Goes the Weasel"
"Teddy Bear, Teddy Bear, Turn Around"
"Teddy Bears Picnic"
"Where is Thumbkin?"
"Who Stole the Cookie from the Cookie Jar?"
"You Are My Sunshine"

Kindergarten | Mathematics



Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives children a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving “higher order” skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

I. Counting and Cardinality

- Know number names and the count sequence.
 - Count to 100 by ones and by tens.
 - Count forward beginning from a given number within the known sequence.
 - Write numbers from 0 to 20.
 - Represent a number of objects with a written numeral 0–20.
- Count to tell the number of objects.
 - Understand the relationship between numbers and quantities.
 - Connect counting to cardinality.
 - Count to answer “how many?” questions,
 - With as many as 20 things arranged in a line, a rectangular array, or a circle;
 - With as many as 10 things in a scattered configuration.
 - Given a number from 1–20, count out that many objects.
- Compare numbers.
 - Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
 - Compare two numbers between 1 and 10 presented as written numerals.

II. Operations and Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
 - Represent addition and subtraction with:
 - objects
 - fingers
 - mental images
 - drawings
 - sounds (e.g., claps)
 - acting out situations
 - verbal explanations
 - expressions
 - equations
 - Solve addition and subtraction word problems (within 10).
 - Decompose numbers less than or equal to 10 into pairs in more than one way.
 - Record each decomposition by a drawing or equation.
 - For any number from 1 to 9, find the number that makes 10 when added to the given number.
 - Record the answer with a drawing or equation.
 - Fluently add and subtract within 5.

III. Number and Operations in Base Ten

- Work with numbers 11–19 to gain foundations for place value.
 - Understand that numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
 - Compose and decompose numbers from 11 to 19 into ten ones.
 - Record each composition or decomposition by a drawing or equation.

IV. Measurement and Data

- Describe and compare measurable attributes.
 - Describe measurable attributes of objects, such as length or weight.
 - Describe several measurable attributes of a single object.
- Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
 - Classify objects into given categories.
 - Count the numbers of objects in each category and sort the categories by count.

V. Geometry

- Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
 - Describe objects in the environment using names of shapes, and describe the relative positions of these objects.
 - Correctly name shapes regardless of their orientations or overall size.
 - Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
- Analyze, compare, create, and compose shapes.
 - Analyze and compare two- and three-dimensional shapes:
 - In different sizes and orientations;
 - Using informal language to describe their similarities, differences, parts and other attributes.
 - Model shapes in the world by building shapes from components and drawing shapes.
 - Compose simple shapes to form larger shapes.



Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the report from the National Academies of Science, *A Framework for K-12 Science Education*, "...children entering kindergarten have surprisingly sophisticated ways of thinking about the world, based in part on their direct experiences with the physical environment such as watching objects fall or collide and observing plants and animals. They also learn about the world through everyday activities, such as talking with their families, pursuing hobbies, watching television, and playing with friends. As children try to understand and influence the world around them, they develop ideas about their role in that world and how it works. In fact, the capacity of young children—from all backgrounds and socioeconomic levels—to reason in sophisticated ways is much greater than has long been assumed. Although they may lack deep knowledge and extensive experience, they often engage in a wide range of subtle and complex reasoning about the world. Thus, before they even enter school, children have developed their own ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."

While experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge. Only when topics are presented systematically and clearly can children make steady and secure progress in their scientific learning. The child's development of scientific knowledge and understanding is in some ways a very disorderly and complex process, different for each child. But a systematic approach to the exploration of science, one that combines experience with book learning, can help provide essential building blocks for deeper understanding at a later time.

I. Pushes and Pulls

Teachers: Through reading aloud, observation, and activities such as identifying examples of different kinds of pushes and pulls, explore the following with students:

A. Pushes and Pulls are Forces

- A force is a push or a pull.
- Pushes and pulls can involve direct or indirect contact between objects.
- Pushes and pulls can be explored in everyday life.

B. Pushes and Pulls can Change an Object's Motion

- Pushes and pulls can cause objects that are not moving, or at rest, to move.
- Pushes and pulls can change the motion, —the speed and/or direction—of objects.
 - When objects collide with one another, the motions of the colliding objects can change direction.

C. Magnetism is a Force

- Magnetism and gravity are examples of indirect, non-contact forces.
- Magnets are certain metals that can push or pull some metal objects.
- Magnets have two ends, called poles, that behave differently.
- Magnets can be useful in everyday devices (cabinet doors, refrigerator magnets).

II. Needs of Plants and Animals

Teachers: Through reading aloud, observation, and activities such as investigating growing plants in your classroom, introduce students to the needs of living things. Students should explore the following:

A. Plants and Animals

- A living thing is an organism.
- Organisms can grow, respond to environments, reproduce, and use food energy for life processes.
- Plants are organisms.

Collaborate with your third grade colleagues regarding future expectations and definitions of forces. Grade 3, Investigating Forces

- There are many types of plants.
- Most plants have stems, roots, and leaves.
- Animals are organisms.
 - There are many types of animals .
 - Animals have certain parts for certain functions (structure: exoskeleton or skeleton; movement: legs, fins, wings; nutrition: mouth, digestive tract; protection: fur, shell).

B. Plants, Their Needs, and Their Environments

- Plants need air, water, light, and space.
- Plants get what they need from their environment.
- Different types of plants live in different types of environments.
- Plants make their own food using sunlight and air.

C. Animals, Their Needs, and Their Environments

- Animals need air, food, water, and shelter to survive.
- Animals get what they need from their environments.
- Different types of animals live in different types of environments.
- Animals get their food from eating other living things.

D. Humans, Their Needs, and Their Environments

- Human beings are a type of animal.
- Humans need air, food, water, shelter to survive.
- Humans get what they need from their environment.
- Humans are omnivores.

III. Changing Environments

Teachers: The emphasis in kindergarten should be on observation, description, and explanation of real world experiences of different environments and the exploration of how natural spaces can change over time. Technical explanations of ecological phenomena and human impacts on the environment should be taken up in later grades; see Grades 2, 3, and 5 for an increasingly more detailed study of Ecology:

A. Ecosystems

- Plants and animals live in environments that meet their needs.
 - habitats, ecosystems
- Changes in environment affect the organisms that live there.

B. Plants in Ecosystems

- Plants, such as water hyacinth and kudzu, can change ecosystems, affecting the ability of other living things in the ecosystem to meet their own needs.

C. Animals in Ecosystems

- Animals, such as the zebra mussel and the beaver, can change ecosystems, affecting the ability of other living things in the ecosystem to meet their own needs.

D. Human Changes in Ecosystems

- Humans can change ecosystems through roads, cities, pollution, etc. affecting the ability of other living things in the ecosystem to meet their own needs.

E. People Design Solutions to Reduce Human Impact

- People can make choices to reduce the amount of change they cause to ecosystems:
 - Sustainable farming, reforestation, recycling, and pollution reduction

Collaborate with your fifth grade colleagues to connect this topic to learning in Grade 5, Protecting Earth's Resources.

IV. Weather Patterns

Teachers: The emphasis in kindergarten should be on observation, description, and explanation of real world experiences; technical explanations of meteorological phenomena should be taken up in later grades; see grades 3 and 5 for an increasingly detailed study of Meteorology:

A. Sunlight

- The sun is a star that lights the sky during the daytime.
- Sunlight warms Earth's surface.
- Blocking sunlight reduces its warming effect on Earth's surface and materials.

B. Patterns in Weather Conditions

- Weather is what the air is like outside at any one time and place.
- People collect and record weather data, such as temperature, rainfall, wind speed and direction, to reveal patterns.
- Seasons are repeating patterns of weather within the course of a year.

C. Severe Weather

- Weather can be severe and can cause damage, for example, thunder, lightning, heavy rain, high wind, tornadoes, hail, blizzards, hurricanes, drought, and heat waves.
- Looking at patterns in weather data helps people predict, or forecast, when severe weather will occur.

V. The Human Body: Our Five Senses

A. Vision and Hearing

- Vision is the ability to detect objects by light.
 - Eyes are the organs of vision.
- Hearing is the ability to detect sound.
 - The ears are the organs of hearing.
- The senses of sight and hearing enable people to perform many important tasks.
- Corrective lenses and hearing aids may help with vision and hearing impairments.
 - Other ways to help those with impaired hearing or vision include sign language, assistive animals, and braille.

B. Smell, Taste, and Touch

- The sense of smell is the ability to detect scent/odor.
 - The nose is the organ of smell.
- The sense of taste is the ability to detect chemicals in the environment.
 - The taste buds enable a sense of taste.
- The sense of touch is the ability to feel things in the environment.
 - Nerves in the skin enable a sense of touch.

C. Taking Care of Your Body

- Proper care of the body helps all senses to work most effectively.
- Healthy foods promote wellness of the senses.

VI. Science Biographies

Teachers: Through reading aloud and activities, explore with students the stories and accomplishments of these scientists and engineers. This list of science biographies is by no means exhaustive. Other individuals can be incorporated into learning during a corresponding topic of study for this grade level, and should include:

- Isaac Newton—English physicist and mathematician, described the roles of forces in the universe
- Rachel Carson—discussed the dangers of pesticides
- George Washington Carver—used plants for human benefit
- Abbe Cleveland—founded the National Weather Service

DRAFT

Grade 1



Overview of Topics

Grade 1

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
 - C. Comprehension and Discussion of Read-Alouds—All Texts
 - D. Comprehension and Discussion of Read-Alouds—Fiction, Drama, and Poetry
 - E. Comprehension and Discussion of Read-Alouds—Nonfiction and Informational Text
- II. Reading
 - A. Print Awareness
 - B. Phonological and Phonemic Awareness
 - C. Phonics: Decoding and Encoding
 - D. Oral Reading and Fluency
 - E. Reading Comprehension—All Texts
 - F. Reading Comprehension—Fiction, Drama, and Poetry
 - G. Reading Comprehension—Nonfiction and Informational Text
- III. Writing
 - A. Narrative Writing
 - B. Informative/Explanatory Writing
 - C. Persuasive Writing (Opinion)
- IV. Language Conventions
 - A. Handwriting and Spelling
 - B. Parts of Speech and Sentence Structure
 - C. Capitalization and Punctuation
- V. Poetry
- VI. Fiction
 - A. Stories
 - B. Aesop's Fables
 - C. Different Lands, Similar Stories
 - D. Literary Terms
 - E. Sayings and Phrases

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. Geography
 - A. Spatial Sense
 - B. Geographical terms and features
- II. Early World Civilizations
 - A. Mesopotamia: the "cradle of civilization"
 - B. Ancient Egypt
 - C. History of World Religions
- III. Modern Civilization and Culture: Mexico
 - A. Geography
 - B. Culture

AMERICAN HISTORY AND GEOGRAPHY

- I. Early People and Civilizations
 - A. The Earliest People: Hunters and Nomads
 - B. Early American Civilizations
- II. Early Exploration and Settlement
 - A. Columbus
 - B. The Conquistadors
 - C. English Settlers
- III. From Colonies to Independence: The American Revolution

- IV. Early Exploration of the American West
- V. Symbols and Figures

VISUAL ARTS

- I. Art from Long Ago
- II. Elements of Art
 - A. Color
 - B. Line
 - C. Shape
 - D. Texture
- III. Kinds of Pictures
 - A. Portrait
 - B. Still Life
 - C. Murals
- IV. Architecture

MUSIC

- I. Elements of Music
- II. Listening and Understanding
 - A. Musical Terms and Concepts
 - B. Music Can Tell a Story
 - C. American Musical Traditions
- III. Songs

MATHEMATICS

- I. Operations and Algebraic Thinking
- II. Number and Operations in Base Ten
- III. Measurement and Data
- IV. Geometry

SCIENCE

- I. Sun, Moon, and Stars
 - A. The Sun and Its Predictable Patterns
 - B. Annual Patterns of Sunrise and Sunset
 - C. The Moon and Its Predictable Patterns
 - D. Stars and Their Predictable Patterns
- II. Plant and Animal Survival
 - A. Structure and Function in Plants and Animals
 - B. Information Processing: Plant and Animal Stimulus and Response
 - C. Growth and Development
 - D. Parents and Offspring
- III. Exploring Light and Sound
 - A. Sound and Vibration
 - B. Light
 - C. Light and Materials
 - D. Solving Problems with Light or Sound
- IV. Simple Machines
 - A. Simple Machines
 - B. Compound Machines
- V. The Human Body: Human Body Systems
 - A. Skeletal and Muscular Systems
 - B. Respiratory and Circulatory Systems
 - C. Nervous System
 - D. Taking Care of your Body
- VI. Science Biographies

Grade 1 | English Language Arts

1



The *Common Core State Standards for English Language Arts* emphasize the critical importance of building nonfiction background knowledge in a coherent and sequenced way within and across grades. This can be accomplished most effectively, at each grade level, by integrating the topics from history, geography, science, and the arts in the *Core Knowledge Sequence* into the language arts block. Note that in the *Sequence*, there are many cross-curricular connections to history and science topics within Language Arts (e.g., poems, stories, and sayings), as well as to visual arts and music, which can and should be integrated into the applicable domain of study.

NOTE: The objectives listed in sections I–IV of Language Arts below are consistent with the *Core Knowledge Language Arts* program and embed all of the skills and concepts within the *Common Core State Standards for English Language Arts*.

I. Listening and Speaking

Teachers: Traditional language arts instruction has typically accorded little, if any, attention to the ongoing development of children’s listening and speaking ability. This failure to focus on the development of oral language in language arts instruction has been a serious oversight. Literacy, the ability to read and write written language, is highly correlated with students’ oral language proficiency, and the ability to understand a text read aloud is a prerequisite for making sense of the same text in printed form. It is therefore essential that children build listening and speaking competency while also developing reading and writing skills.

A. Classroom Discussion

- Participate in age appropriate activities involving listening and speaking.
- Speak clearly with volume appropriate to the setting.
- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say “excuse me” or “please,” etc.
- Ask questions to clarify conversations, directions, exercises, and/or classroom routines.
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner’s comments, with either an adult or another child of the same age.
- Identify and express physical sensations, mental states, and emotions of self and others.
- Understand and use language to express spatial and temporal relationships (*up, down, first, last, before, after, etc.*).
- Understand and use narrative language to describe people, places, things, locations, events, actions.
- Understand and use common sayings and phrases such as “Hit the nail on the head” and “Let the cat out of the bag.”

B. Presentation of Ideas and Information

- Follow multi-step, oral directions.
- Give simple directions.
- Provide simple explanations.
- Recite a nursery rhyme, poem or song independently, using appropriate eye contact, volume and clear enunciation.
- Give oral presentations about personal experiences, topics of interest, and/or stories, using appropriate eye contact, volume and clear enunciation.

C. Comprehension and Discussion of Read-Alouds—All Texts

Teachers: Written text makes use of richer vocabulary and more complex syntax than conversational language. It is important that young children be exposed not only to the language of everyday conversation but also to the richer and more formal language of books.

This can be done through frequent reading aloud. Helping young children develop the ability to listen to and understand written texts read aloud must be an integral part of any initiative designed to build literacy.

At the first grade level, a students' abilities to understand what they hear far their abilities to independently read and understand written text. By listening to stories or nonfiction selections read aloud, students can experience the complexities of written language without expending cognitive energy on decoding; they can likewise access deeper and more complex content knowledge than they are presently able to read independently.

Careful consideration should be given to the selection of books read aloud to ensure that the vocabulary and syntax presented is rich and complex. Leveled texts will not provide the rich language experience desired during read-alouds and should only be used as a starting point with students for whom English is a second language.

Nonfiction read-alouds should be selected on the basis of the history, science, music and visual art topics identified for Grade 1 students in the *Core Knowledge Sequence*, with emphasis on history and science read-alouds. It is strongly recommended that daily read- alouds focus on a single topic over a sustained period of time—about two weeks—rather than intermingling read-alouds on a variety of subjects. Careful consideration should be given to the order in which nonfiction read-alouds are presented to ensure that knowledge about a topic builds in a progressive and coherent way.

Following any read-aloud, students should participate in rich, structured conversations with an adult in response to the written text that has been read aloud. In this way, they can begin to orally practice comparing, analyzing, and synthesizing ideas in written text in much the same way as they will be expected to do as independent readers in the later grades.

- Listen to and understand a variety of texts read aloud, including fictional stories, fairy tales, fables, historical narratives, drama, informational text, and poems.
- Distinguish the following genres of literature: fiction, nonfiction and drama.

Grasping Specific Details and Key Ideas

- Describe illustrations.
- Sequence four to six pictures illustrating events in a read-aloud.
- Answer questions requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc.
- Retell key details.
- Ask questions to clarify information in a read-aloud.
- Use narrative language to describe people, places, things, locations, events, actions, a scene or facts in a read-aloud.

Observing Craft and Structure

- Understand and use words and phrases heard in read-alouds.
- Compare and contrast similarities and differences within a single read-aloud or between two or more read-alouds.
- Make personal connections to events or experiences in a read-aloud and/or make connections among several read-alouds.

Integrating Information and Evaluating Evidence

- Prior to listening to a read-aloud, identify what they know and have learned that may be related to the specific story or topic to be read aloud.
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud.
- Make predictions prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far and then compare the actual outcomes to predictions.
- Answer questions that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing cause/effect relationships.

- Interpret information that is presented orally and then ask additional questions to clarify information or the topic in the read-aloud.
- Identify who is telling a story or providing information in a text.

D. Comprehension and Discussion of Read-Alouds—Fiction, Drama, and Poetry

- Retell or dramatize a story, using narrative language to describe characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence.
- Compare and contrast characters from different stories.
- Change some story events and provide a different story ending.
- Create and tell an original story, using narrative language to describe characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence.
- Distinguish fantasy from realistic text in a story.
- Identify the moral or lesson of a fable, folktale, or myth.
- Demonstrate understanding of literary language (e.g., author, illustrator, characters, setting, plot, dialogue, personification, simile, and metaphor) and use some of these terms in retelling stories or creating their own stories.
- Identify sensory language and how it is used to describe people, objects, places and events.

E. Comprehension and Discussion of Read-Alouds—Nonfiction and Informational Text

Teachers: Select nonfiction read-aloud topics from the first grade history, science, music, and visual arts topics, with emphasis on history and science.

- Generate questions and seek information from multiple sources to answer questions.
- Answer questions about the details of a nonfiction text, indicating which part of the text provided the information needed to answer specific questions.
- With assistance, categorize and organize facts and information within a given topic.
- With assistance, create and interpret timelines and lifelines related to read-alouds.
- Distinguish read-alouds that describe events that happened long ago from those that describe contemporary or current events.

II. Reading

A. Print Awareness

- Demonstrate understanding that what is said can be written and that the writing system is a way of writing down sounds.
- Demonstrate understanding of directionality (left to right, return sweep, top to bottom, front to back).
- Identify the parts of books and function of each part (front cover, back cover, title page, table of contents).
- Demonstrate correct book orientation by holding book correctly and turning pages.
- Recognize that sentences in print are made up of separate words.
- Understand that words are separated by spaces.
- Distinguish letters, words, sentences, and stories.
- Demonstrate understanding of basic print conventions by tracking and following print word for word when listening to text read aloud.
- Demonstrate understanding that the sequence of letters in a written word represents the sequence of sounds in the spoken word.
- Recognize and name the 26 letters of the alphabet in both their upper-case and lower-case forms.
- Say the letters of the alphabet in order, either in song or recitation.

B. Phonemic Awareness

- Demonstrate understanding that words are made up of sequences of sounds.
- Demonstrate understanding that vowel sounds are produced with the mouth open and airflow unobstructed, whereas consonant sounds involve closing parts of the mouth and blocking the air flow.
- Given a pair of spoken words, select the one that is longer (i.e., contains more phonemes).
- In riddle games, supply words that begin with a target phoneme.
- Indicate whether a target phoneme is or is not present in the initial/medial/final position of a spoken word, e.g., hear /m/ at the beginning of *mat* and /g/ at the end of *bag*.
- Listen to one-syllable words and tell the beginning or ending sounds, e.g., given *dog*, identify initial /d/ or final /g/.
- Recognize the same phoneme in different spoken words, e.g., /b/ in *ball*, *bug*, and *big*.
- Identify whether pairs of phonemes are the same or different, including pairs that differ only in voicing, e.g., /b/ and /p/.
- Orally blend two to three sounds to form a word, e.g., given the sounds /k/.../a/.../t/, blend to make *cat*.
- Segment a spoken word into phonemes, e.g., given *bat*, produce the segments/b//a//t/.
- Given a spoken word, produce another word that rhymes, e.g., given *hit*, supply *bit* or *mitt*.
- Identify the number of syllables in a spoken word.

C. Phonics: Decoding and Encoding

Teachers: Learning to read requires understanding and mastering the written English code through explicit and systematic phonics instruction. Research suggests that phonics instruction is most effective when specific letter-sound relationships are taught and reinforced by having students both read and write the letter-sound correspondence being studied. Reading and writing—decoding and encoding—are complementary processes that ensure mastery of the written code.

- Demonstrate understanding that a systematic, predictable relationship exists between written letters (graphemes) and spoken sounds (phonemes).
- Blend individual phonemes to pronounce printed words.
- Understand that sometimes two or more printed letters stand for a single sound.
- Read one to two syllable words containing any of the grapheme-phoneme correspondences listed below.
- Read and write words with inflectional endings, i.e., -s, -ed, -ing, -er, -est.
- Read, understand, and write contractions, i.e., *isn't*, *I'm*, *can't*, etc.
- Sort and classify words according to the spelling used to represent a specific phoneme.
- Read tricky spellings that can be sounded two ways, e.g., the letter 's' sounded /s/ as in *cats* and /z/ as in *dogs*.
- Read and spell chains of one-syllable words in which one sound is added, substituted, or omitted, i.e., read at > *cat* > *bat* > *bad* > *bid*.
- Read at least 30 words generally identified as high frequency words.

Consonant Sounds and Spellings Taught in First Grade

/b/ spelled 'b' as in *boy*, 'bb' as in *tubby*

/d/ spelled 'd' as in *dog*, 'dd' as in *madder*, 'ed' as in *filled*

/f/ spelled 'f' as in *fun*, 'ff' as in *stuff*

/g/ spelled 'g' as in *get*, 'gg' as in *egg*

/h/ spelled 'h' as in *him*

/j/ spelled 'j' as in *jump*, 'g' as in *gem*, 'ge' as in *fringe*

/k/ spelled 'c' as in *cat*, 'k' as in *kitten*, 'ck' as in *sick*, 'cc' as in *moccasin*

/l/ spelled 'l' as in *lip*, 'll' as in *sell*
 /m/ spelled 'm' as in *mad*, 'mm' as in *hammer*
 /n/ spelled 'n' as in *net*, 'nn' as in *funny*, 'kn' as in *knock*
 /p/ spelled 'p' as in *pet*, 'pp' as in *happy*
 /r/ spelled 'r' as in *red*, 'rr' as in *earring*, 'wr' as in *wrist*
 /s/ spelled 's' as in *sit*, 'ss' as in *dress*, 'c' as in *cent*, 'ce' as in *prince*, 'se' as in *rinse*
 /t/ spelled 't' as in *top*, 'tt' as in *butter*, 'ed' as in *asked*
 /v/ spelled 'v' as in *vet*, 've' as in *twelve*
 /w/ spelled 'w' as in *wet*, 'wh' as in *when*
 /x/ spelled 'x' as in *tax*
 /y/ spelled 'y' as in *yes*
 /z/ spelled 'z' as in *zip*, 'zz' as in *buzz*, 's' as in *dogs*
 /ch/ spelled 'ch' as in *chop*, 'tch' as in *itch*
 /sh/ spelled 'sh' as in *ship*
 /th/ spelled 'th' as in *thin*
 /th/ spelled 'th' as in *then*
 /qu/ spelled 'qu' as in *quick*
 /ng/ spelled 'ng' as in *sing*, 'n' as in *pink*

Vowel Sounds and Spellings Taught in First Grade

/a/ spelled 'a' as in *cat*
 /e/ spelled 'e' as in *get*
 /i/ spelled 'i' as in *hit*
 /o/ spelled 'o' as in *hot*
 /u/ spelled 'u' as in *but*
 /ae/ spelled 'a_e' as in *cake*, 'ai' as in *wait*, 'ay' as in *day*, 'a' as in *paper*
 /ee/ spelled 'ee' as in *bee*, 'e' as in *me*, 'y' as in *funny*, 'ea' as in *beach*, 'e_e' as in *Pete*, 'ie' as in *cookie*
 /ie/ spelled 'i_e' as in *bike*, 'i' as in *biting*, 'y' as in *try*, 'ie' as in *tie*, 'igh' as in *night*
 /oe/ spelled 'o_e' as in *note*, 'oa' as in *boat*, 'oe' as in *toe*, 'o' as in *open*, 'ow' as in *snow*
 /ue/ spelled 'u_e' as in *cute*
 /aw/ spelled 'aw' as in *paw*
 /oo/ spelled 'oo' as in *look*, /oo/ spelled 'oo' as in *soon*
 /ou/ spelled 'ou' as in *shout*
 /oi/ spelled 'oi' as in *oil*
 /er/ spelled 'er' as in *her*
 /ar/ spelled 'ar' as in *car*
 /or/ spelled 'or' as in *for*

D. Oral Reading and Fluency

- Read decodable stories that incorporate the specific code knowledge that has been taught.
- Demonstrate increased accuracy, fluency, and expression on successive reading of a decodable text (50 wpm by the end of the year).
- Use phonics skills in conjunction with context to confirm or self-correct word recognition and understanding, rereading as necessary.
- Demonstrate understanding of and use commas and end punctuation while reading orally.
- Read aloud, alone, or with a partner at least 15 minutes each day.

E. Reading Comprehension—All Texts

Teachers: During the beginning of first grade, most students will still need to devote considerable energy when reading to deciphering the written text. Over the course of this year, they will learn even more elements of the code, meaning that the decodable texts that they can read independently will increasingly resemble “real stories” and trade books. With practice and repeated readings of the same text, students will develop increasing automaticity, allowing them to focus more intently on the meaning of what they are reading. Both of these factors, i.e., the student’s increasing fluency and the use of more authentic text—which is now decodable because of the student’s increasing code knowledge—mean that attention to reading comprehension can move to a higher level than just the rudimentary understanding of text expected at the kindergarten level. This expectation is reflected in the increased number of objectives below that have been added to the kindergarten level objectives. However, it is important to remember that listening comprehension still far exceeds reading comprehension and that children’s ability to talk about what they have heard and/or read will exceed their ability to demonstrate that understanding in writing.

- Demonstrate understanding of completely decodable text after reading independently.

Grasping Specific Details and Key Ideas

- Sequence four to six pictures illustrating events from a text that has been read independently.
- Answer questions requiring literal recall and understanding of the details and/or facts (i.e., who, what, where, when, etc.) about a text that has been read independently.
- Retell key details from a text that has been read independently.
- Ask questions to clarify information about a text that has been read independently.
- Use narrative language to describe people, places, things, locations, events, actions, a scene or facts from a text that has been read independently.

Observing Craft and Structure

- Identify basic text features and what they mean, including title, table of contents, and chapters.
- Understand and use words and phrases from a text that has been read independently.
- Compare and contrast similarities and differences within a single text or between multiple texts read independently.
- Make personal connections to events or experiences in a text that has been read independently and/or make connections among several texts that have been read independently.

Integrating Information and Evaluating Evidence

- Prior to reading, identify what they know and have learned that may be related to the specific story or topic to be read.
- Use pictures accompanying the written text to check and support understanding.
- Make predictions prior to and while reading, based on the title, pictures, and/or text read thus far and then compare the actual outcomes to predictions.
- Answer questions that require making interpretations, judgments, or giving opinions about what is read independently, including answering “why” questions that require recognizing cause/effect relationships.
- Identify who is telling a story or providing information in a text.
- Identify temporal words that link and sequence events, i.e., first, next, then, etc.
- Identify words that link ideas, i.e., *for example, also, in addition*.

F. Reading Comprehension—Fiction, Drama, and Poetry

- Retell or dramatize a story, using narrative language to describe characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence.
- Compare and contrast characters from different stories.

- Change some story events and provide a different story ending.
- Distinguish fantasy from realistic text in a story.
- Identify the moral or lesson of a fable, folktale, or myth.
- Demonstrate understanding of literary language (e.g., author, illustrator, characters, setting, plot, dialogue, personification, simile, and metaphor) and use some of these terms in retelling stories or creating their own stories.
- Identify sensory language and how it is used to describe people, objects, places and events.

G. Reading Comprehension—Nonfiction and Informational Text

Teachers: Select nonfiction topics from the first grade history, science, music and visual arts topics listed on pages 35–47, with emphasis on history and science.

- With assistance, create and interpret timelines and lifelines related to text read independently.
- Distinguish text that describes events that happened long ago from text that describes contemporary or current events.

III. Writing

Teachers: It is important to recognize that of all the communication skills—listening, speaking, reading, and writing—writing is the most demanding and challenging. During the beginning of first grade, students still need to devote much of their focus and cognitive energy to the code itself, as well as the fine motor act of writing. During this period, teachers should continue to support written expression through shared writing experiences that are modeled and scaffolded by an adult.

At some point during the first grade year, however, most students will feel comfortable enough with the basic skills to begin making a transition to writing more independently. Young children’s desire to express themselves in writing should be heartily encouraged. To this end, it is important that teachers have age-appropriate expectations about what first grade student writing should resemble. Students have not been taught all of the spellings they will need to achieve dictionary-correct spelling. It is therefore premature to expect that words in their independent writing will be spelled correctly. It is reasonable to expect students to use the letter-sound correspondences they have learned to set down plausible spellings for the sounds in the word. For example, a student who writes *bote* for *boat*, *dun* for *done*, or *hed* for *head* has set down a plausible spelling for each sound in the word, using the code knowledge taught in this grade. This should be seen as good spelling for this stage of literacy acquisition. Dictionary-correct spelling will be a realistic goal when students have learned more spellings and learned how to use a dictionary to check spelling.

Furthermore, while teachers can begin to model and scaffold the use of a writing process, such as “Plan-Draft-Edit,” it is equally important not to dampen student enthusiasm by rigidly insisting that all student writing be edited over and over again to bring the text to the “publication” stage. A sensible balance that encourages children to use their current skill knowledge when writing—without stifling creative expression—is optimal at the first grade level.

Writing to Reflect Audience, Purpose and Task

- Add details to writing
- Begin to use tools, including technology, to plan, draft, and edit writing

Conducting Research

- Gather information from experiences or provided text sources.

A. Narrative Writing

- Write or retell a story that includes characters, setting(s), and a beginning, a middle and an end to events of the story in proper sequence.
- Write a descriptive paragraph using sensory language.
- Create a title and an ending that are relevant to the narrative.

B. Informative/Explanatory Writing

- Write about a topic, including a beginning and ending sentence, facts and examples relevant to the topic, and specific steps (if writing explanatory text).

C. Persuasive Writing (Opinion)

- Express an opinion or point of view in writing, providing reasons and supporting details for preference or opinion using the linking word *because*.
- Create a title that is relevant to the topic or subject of the text.
- If writing about a specific book or read-aloud, refer to the content of the text.

IV. Language Conventions

- Form letters, words, phrases and sentences to communicate thoughts and ideas.
- Apply basic spelling conventions.
- Use basic capitalization and punctuation in sentences to convey meaning.

A. Handwriting and Spelling

- Print from memory the 26 letters of the alphabet accurately in both their upper-case and lower-case forms.
- Write on primary lined paper from left to right, staying within the lines and leaving spaces between words, and from top to bottom, using return sweep.
- Write phonemically plausible spellings for words that cannot be spelled correctly with current code knowledge, e.g., write *ate* for *eight*, *boi* for *boy*, *fone* for *phone*.
- Write words, phrases, and sentences from dictation, applying phonics knowledge.
- Identify and use synonyms and antonyms.

B. Parts of Speech and Sentence Structure

- Recognize, identify and use subject, object, and possessive pronouns, i.e., *I, me, my, they, them*, orally, in written text, and in own writing.
- Recognize, identify, and use common and proper nouns, orally, in written text, and in own writing.
- Recognize, identify and use regular verbs to convey a sense of past, present, and future tense orally, in written text, and in own writing.
- Recognize, identify, and use adjectives orally, in written text, and in own writing.
- Recognize, identify, and use subjects and predicates, orally, in written text, and in own writing.
- Recognize, identify, and use statements, questions, and exclamations orally, in written text, and in own writing.
- Produce and expand complete sentences orally and in shared writing exercises.

C. Capitalization and Punctuation

- Capitalize the first word in a sentence, the pronoun *I*, and proper nouns (names and places,) months, days of the week.
- Identify and use end punctuation, including periods, question marks, and exclamation points.
- Use commas appropriately in greetings and closings of letters, dates, and items in a series.
- Write a simple friendly letter.
- Use apostrophes to create contractions and indicate possession, i.e., *cat's meow*.
- Use quotation marks appropriately to designate direct speech.

Note: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose children to more poetry, old and new, and to have students write their own poems. To bring students into the spirit of poetry, read it aloud and encourage them to speak it aloud so they can experience the music in the words. Although students are not expected to memorize the following rhymes, they will delight in knowing their favorites by heart, and will experience a sense of achievement and satisfaction in being able to recite some of the rhymes.

V. Poetry

“Hope” (Langston Hughes)
 “I Know All the Sounds the Animals Make” (Jack Prelutsky)
 “My Shadow” (Robert Louis Stevenson)
 “The Owl and the Pussycat” (Edward Lear)
 “The Pasture” (Robert Frost)
 “The Purple Cow” (Gelett Burgess)
 “Rope Rhyme” (Eloise Greenfield)
 “Sing a Song of People” (Lois Lenski)
 “Solomon Grundy” (traditional)
 “The Swing” (Robert Louis Stevenson)
 “Table Manners” [also known as “The Goops”] (Gelett Burgess)
 “Thanksgiving Day” [“Over the river and through the wood”] (Lydia Maria Child)
 “Washington” (Nancy Byrd Turner)
 “Wynken, Blynken, and Nod” (Eugene Field)

VI. Fiction

Teachers: While the following works make up a strong core of literature, the content of language arts includes not only stories, fables, and poems, but also the well-practiced, operational knowledge of how written symbols represent sounds, and how those sounds and symbols convey meaning. Thus, the stories specified below are meant to complement, not to replace, materials designed to help students practice decoding and encoding skills (see above, II. Reading and III. Writing).

The titles here constitute a core of stories for this grade. They are available in a variety of editions, some designed for novice readers, and others best for reading aloud to children. In first grade, most of the following titles should be read-aloud selections. It is recommended that you provide a mixture of texts, including some beginning readers, with their necessarily limited vocabulary and syntax, for these can give children the important sense of accomplishment that comes from being able to “read it all by myself.”

Expose students to many more stories, including classic picture books and read-aloud books. (In schools, teachers across grade levels should communicate their choices in order to avoid undue repetition.) Students should also be exposed to nonfiction prose—biographies, books on science and history, books on art and music—and they should be given opportunities to tell and write their own stories.

A. Stories

“The Boy at the Dike” (folktale from Holland)
 “The Frog Prince”
 “Hansel and Gretel”
 selections from *The House at Pooh Corner* (A. A. Milne)
 “How Anansi Got Stories from the Sky God” (folktale from West Africa)
 “It Could Always Be Worse” (Yiddish folktale)
 “Jack and the Beanstalk”
 “The Knee-High Man” (African-American folktale)
 “Medio Pollito” (Hispanic folktale)
 “The Pied Piper of Hamelin”
 “Pinocchio”
 “The Princess and the Pea”
 “Puss-in-Boots”
 “Rapunzel”
 “Rumpelstiltskin”
 “Sleeping Beauty”
The Tale of Peter Rabbit (Beatrix Potter)

Tales of Br'er Rabbit (recommended tales: "Br'er Rabbit Gets Br'er Fox's Dinner"; "Br'er Rabbit Tricks Br'er Bear"; "Br'er Rabbit and the Tar Baby")
"Why the Owl Has Big Eyes" (Native American legend)

B. Aesop's Fables

"The Boy Who Cried Wolf"
"The Dog in the Manger"
"The Wolf in Sheep's Clothing"
"The Maid and the Milk Pail"
"The Fox and the Grapes"
"The Goose and the Golden Eggs"

C. Different Lands, Similar Stories

Teachers: To give students a sense that people all around the world tell certain stories that, while they differ in details, have much in common, introduce students to similar folktales from different lands, such as the following:

"Lon Po Po" (China) and Little Red Riding Hood
"Issun Boshi", or "One-Inch Boy" (Japan)
"Tom Thumb" (England)
"Thumbelina" (by the Danish writer Hans Christian Andersen)
"Little Finger of the Watermelon Patch" (Vietnam)
Some of the many variations on the Cinderella story (from Europe, Africa, China, Vietnam, Egypt, Korea, etc.)

D. Literary Terms

- Characters, heroes, and heroines
- Drama
 - actors and actresses
 - costumes, scenery and props
 - theater, stage, audience

E. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many students, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with students from home cultures that differ from the standard culture of literate American English.

a.m. and p.m.

An apple a day keeps the doctor away.

Do unto others as you would have them do unto you. [also in Kindergarten]

Fish out of water

Hit the nail on the head.

If at first you don't succeed, try, try again.

Land of Nod

Let the cat out of the bag

The more the merrier.

Never leave till tomorrow what you can do today.

Practice makes perfect. [also in Kindergarten]

Sour grapes

There's no place like home.

Wolf in sheep's clothing

Note: Students should learn terms relating to drama as part of their participation in a play appropriate for first graders—possibly a dramatized version of one of the stories listed above.



Teachers: In first grade, students often study aspects of the world around them: the family, the school, the community, etc. The following guidelines are meant to broaden and complement that focus. The goal of studying selected topics in World History in first grade is to foster curiosity and the beginnings of understanding about the larger world outside the child's locality, and about varied civilizations and ways of life. This can be done through a variety of means: story, drama, art, music, discussion, and more.

The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge embraces a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures.

World History and Geography

I. Geography

A. Spatial Sense (Working with Maps, Globes, and Other Geographic Tools)

Teachers: Foster students' geographical awareness through regular work with maps and globes. Have students regularly locate themselves on maps and globes in relation to places they are studying.

- Name your continent, country, state, and community.
- Understand that maps have keys or legends with symbols and their uses.
- Find directions on a map: east, west, north, south.
- Identify the major oceans: Pacific, Atlantic, Indian, Arctic, Southern.
- Review the seven continents: Asia, Europe, Africa, North America, South America, Antarctica, Australia.
- Locate: Canada, United States, Mexico, Central America, South America
- Locate: the Equator, Northern Hemisphere, Southern Hemisphere, North and South Poles

B. Geographical terms and features

- peninsula, harbor, bay, island, ocean, sea

II. Early World Civilizations

Teachers: As you introduce students to early civilizations, keep in mind the question, *What is civilization?* Help students see recurring features such as settling down, agriculture, building towns and cities, and learning how to write.

A. Mesopotamia: the "cradle of civilization"

- Importance of Tigris and Euphrates Rivers
- Farming methods, organized settlements
- Development of writing, why writing is important to the development of civilization
- Code of Hammurabi (early code of laws), why rules and laws are important to the development of civilization

B. Ancient Egypt

- Geography
 - Transcontinental country (Africa and Asia)
 - Sahara Desert

The Southern Ocean is the *newest* named ocean basin. It is recognized by the U.S. Board on Geographic Names as the body of water extending from the coast of Antarctica to the line of latitude at 60 degrees South.

See also Visual Arts Grade 1: Art from Long Ago: Art of Ancient Egypt.

- Importance of Nile River, floods and farming
- Pharaohs
 - Tutankhamen
 - Hatshepsut, woman pharaoh
- Pyramids and mummies, animal gods and goddesses, Sphinx
- Writing: hieroglyphics

Note: Students will be introduced to Hinduism and Buddhism in Grade 2, and examine Islam in more detail in Grade 4. They also examine lasting ideas from Judaism and Christianity in Grade 6.

Note: In older sources you may find these formerly used spellings: Mohammed, Mecca, Koran.

C. History of World Religions

Teachers: Since religion is a shaping force in the story of civilization, the *Core Knowledge Sequence* introduces students in the early grades to major world religions, beginning with a focus on geography and major symbols and figures. The purpose is not to explore matters of theology but to provide a basic vocabulary for understanding many events and ideas in history. The goal is to familiarize, not proselytize; to be descriptive, not prescriptive. The tone should be one of respect and balance: no religion should be disparaged by implying that it is a thing of the past. To the question, “Which one is true?” an appropriate response is: “People of different faiths believe different things to be true. The best people to guide you on this right now are your parents or someone at home.”

- Judaism
 - Belief in one God
 - Story of the Exodus: Moses leads the Hebrews out of Egypt
 - Israel, Chanukah, Star of David, Torah, synagogue
- Christianity
 - Christianity grew out of Judaism
 - Jesus, meaning of “messiah”
 - Christmas and Easter, symbol of the cross
- Islam
 - Originated in Arabia, since spread worldwide
 - Followers are called Muslims
 - Allah, Muhammad, Makkah, Qur’an, mosque
 - Symbol of crescent and star (found on the flags of many mainly Islamic nations)

III. Modern Civilization and Culture: Mexico

A. Geography

- North American continent, locate Mexico relative to Canada and the United States
- Central America, Yucatan Peninsula
- Pacific Ocean, Gulf of Mexico, Rio Grande
- Mexico City

B. Culture

- Indigenous and Spanish heritage
- Mexican flag
- Traditions: fiesta, piñata, Day of the Dead
- National holiday: September 16, Independence Day

Note: For historical connections, see American History Grade 1: Maya and Aztec civilizations; Conquistadors, Cortes, Moctezuma. See also Music Grade 1: “La Raspa”; Language Arts Grade 1: “Medio Pollito,” and Visual Arts Grade 1: Diego Rivera, The History of Medicine in Mexico (mural).



Archaeological discoveries in North and South America, dating back 14,000 to 15,000 years, show that humans arrived on the continent 1,000 or even 2,000 years earlier than previously believed. According to a new theory, known as “Kelp Highway,” massive ice sheets covering western North America retreated allowing the first humans to arrive on the continent not only by foot but by boat. They traveled down the Pacific shore and subsisted on abundant coastal resources.

Note: Early exploration and the colonial years will be studied in greater depth and detail in Grade 3. First grade teachers should examine the Grade 3 guidelines to see how these topics build in the later grades.

Note: The now-familiar name “Powhatan” was used by English settlers for the leader whose name was Wahunsonacock.

American History and Geography

Teachers: The study of American history begins in grades K–2 with a brief overview of major events and figures, from the earliest days to recent times. A more in-depth, chronological study of American history begins again in Grade 3 and continues onward. The term “American” here generally, but not always, refers to the lands that became the United States. Other topics regarding North, Central, and South America may be found in the World History and Geography sections of this Sequence.

I. Early People and Civilizations

A. The Earliest People: Hunters and Nomads

- Crossing from Asia to North America (Beringian Land Bridge Theory or Kelp Highway)
 - From hunting to farming
 - Gradual development of early towns and cities

B. Early American Civilizations

Teachers: Students will study the Maya, Inca, and Aztec civilizations in detail in Grade 5. First grade teachers should examine the fifth grade guidelines to see how these topics build in the later grade. Here, introduce students to these civilizations. Though it is historically accurate to note the warlike nature of the Maya and Aztecs, it is recommended that mention of the practice of human sacrifice be left to the fifth grade.

- Maya in Mexico and Central America
 - Mayan Calendar
 - Culture: Farming methods, religious beliefs, temples
- Aztecs in Mexico
 - Moctezuma (also called Montezuma)
 - Tenochtitlan (Mexico City)
- Inca in South America (Peru, Chile)
 - Cities in the Andes, Machu Picchu

II. Early Exploration and Settlement

A. Columbus

Teachers: Review from kindergarten the story of Columbus’s voyage in 1492. Note that while Columbus Day is an important holiday for many Americans, in some states the holiday has been renamed Indigenous People’s Day in recognition of the harm that was caused to the indigenous peoples of the Americas by explorers, adventurers, and settlers from Europe. In fact, Columbus did enslave the Taino people and take them back to Europe with him. Although elements of Columbus’s story are dark, his voyages do mark a great change in the history of the world.

B. The Conquistadors

- The search for gold and silver
- Hernán Cortés and the Aztecs
- Francisco Pizarro and the Inca
- Diseases devastate Native American population

C. English Settlers

- The story of the Lost Colony
 - Sir Walter Raleigh
 - Virginia Dare
- Virginia
 - Jamestown
 - Captain John Smith
 - Pocahontas and Powhatan

See below, Symbols and Figures: Liberty Bell. See also Music Grade 1: "Yankee Doodle."

- Enslavement of people brought by force from Africa, plantations in Southern colonies
- Massachusetts
 - Pilgrims
 - Mayflower
 - Native Americans helped Pilgrims survive, Tisquantum (Squanto)
 - Thanksgiving Day
 - Massachusetts Bay Colony, the Puritans
 - Development of towns and cities

III. From Colonies to Independence: The American Revolution

Teachers: The American Revolution will be studied in greater depth and detail in Grade 4. First grade teachers should examine the fourth grade guidelines to see how these topics build in the later grade. It is recommended that first grade teachers focus on the topics specified here, and leave for fourth grade the more detailed study of the Revolution. In first grade, emphasize the story of the birth of our nation.

- Locate the original thirteen colonies.
- The Boston Tea Party
- Paul Revere's ride, "One if by land, two if by sea"
- The colonists were fighting the British to gain their freedom
- Minutemen and Redcoats, the "shot heard round the world"
- Thomas Jefferson and the Declaration of Independence, "We hold these truths to be self-evident, that all men are created equal. . . ."
- Fourth of July
- Benjamin Franklin: patriot, inventor, writer
- George Washington: from military commander to our first president
 - Martha Washington
 - Our national capital city named Washington
- Legend of Betsy Ross and the flag

IV. Early Exploration of the American West

Teachers: America's westward growth will be studied in Grade 2 and in greater depth and detail in Grade 5. First grade teachers should examine the second and fifth grade guidelines to see how these topics build in later grades.

- Daniel Boone and the Wilderness Road
- The Louisiana Purchase
 - Explorations of Lewis and Clark (Corps of Discover) Sacagawea
 - The Mandan Tribe and Fort Mandan
 - Port of New Orleans
- Geography: Locate the Appalachian Mountains, the Rocky Mountains, and the Mississippi River.

V. Symbols and Figures

- Recognize and become familiar with the significance of
 - Liberty Bell
 - Current United States president
 - American flag
 - Bald eagle



See also World History
Grade 1: Ancient Egypt.

Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

I. Art from Long Ago

Teachers: Help students see how art has been an important human activity since early times.

- Look at and discuss
 - Cave paintings
 - Running Horses from Cave of Lascaux
 - Art of Ancient Egypt
 - Great Sphinx
 - Tutankamen's Coffin
 - Bust of Queen Nefertiti

II. Elements of Art

Teachers: The generally recognized elements of art include line, shape, form, space, light, texture, and color. In first grade, focus on the following:

A. Color

Teachers: Review from Kindergarten the idea of "warm" and "cool" colors.

- Know that red, yellow, and blue are commonly referred to as the "primary colors," and that
 - blue + yellow = green
 - blue + red = purple
 - red + yellow = orange
- Observe the use of color in
 - *Tulips in Holland*, Claude Monet
 - McNeill Whistler, *Arrangement in Black and Grey (Whistler's Mother)*
 - Diego Rivera, *Piñata*
 - Romaine Brooks, *Emile d'Erlanger La Baronne* (1924)
 - Pedro Linares, *Alebrijes* (1930s)
 - Retablos
 - Dr. Atl (Gerardo Murillo), *Popocatepetl volcano* (1940)
 - Etel Adnan, *Explosion Floral* (1968/2018)

B. Line

- Identify and use different lines: straight, zigzag, curved, wavy, spiral, thick, thin
- Observe how different lines are used in
 - Jacob Lawrence, *Parade*
 - Henri Matisse, *The Swan*
 - Georgia O'Keeffe, *Shell*
 - John Audubon, *Trumpeter Swan* (1838)
 - Lola Álvarez Bravo, *El baño* (1930)
 - Elizabeth Catlett, *La Presa* (1952)
 - Leonard Freed, *Fire Hydrant* (1963)
 - Juan Quezada Celado, *Mata Ortiz pottery* (1970s)

See also World History
Grade 1: Mexico, re
piñata.

Compare Adnan to
Monet

Compare Audubon's
Trumpeter Swan to
Matisse

The *Trumpeter Swan*
can also be used to
address texture

C. Shape

- Recognize basic geometric shapes—square, rectangle, triangle, circle, oval—in nature, man-made objects, and artworks, including
 - Grant Wood, *Stone City, Iowa*
 - Sophie Taeuber-Arp, *Dada Head* (1920)
 - Marisol, *The Family* (1962)
 - Chuck Close, *Elizabeth* (1989)
 - Amy Bennett, *Nothing New Under The Sun* (2016)

D. Texture

Teachers: Provide opportunities for students to experience both tactile and visual texture (these terms are for your reference only) by having them describe qualities of texture in natural objects (tactile texture) and in works of art (visual texture)

- Describe qualities of texture (as, for example, rough, smooth, bumpy, scratchy, slippery, etc.) in
 - Native American Baskets
 - Edgar Degas, *Little Fourteen-Year-Old-Dancer*
 - Albrecht Dürer, *Young Hare*
 - Olga de Amaral, *Marea Azul* (2016)
 - Lina Iris Viktor, *In the Beginning was Chaos* (2020)

III. Kinds of Pictures

Teachers: Introduce students to the terms we use to describe different kinds of paintings, discuss examples, and provide opportunities for students to create their own works in different genres. When you look at the specified works, ask the students about their first impressions—what they notice first, and what the picture makes them think of or feel. Go on to discuss lines, shapes, colors, and textures; details not obvious at first; why they think the artist chose to depict things in a certain way, etc.

A. Portrait

- Recognize as a portrait or self-portrait:
 - Leonardo da Vinci, *Mona Lisa*
 - Francisco Goya y Lucientes, *Don Manuel Osorio Manrique de Zuñiga*
 - Vincent van Gogh, *Self-Portrait* [1889]
 - Frida Kahlo, *Self-Portrait with Necklace of Thorns* (1940)
 - Horace Pippin, *Self-Portrait II* (1944)
 - Amy Sherald, *The Make Believer* (Monet's Garden) 2016

B. Still Life

- Recognize as a still life:
 - Vincent van Gogh, *Irises*
 - Paul Cézanne, *Apples and Oranges*
 - Clara Peeters, *Table with Orange, Olives and Pie* (1611)

C. Murals

- Recognize as a mural (a painting on a wall):
 - Diego Rivera, *The History of Medicine in Mexico*
 - David Alfaro Siqueiros, *The Revolution*

III. Architecture

- Discuss shape of architectural structures and the different ways they were used, such as
 - Ziggurat of Ur in Ancient Mesopotamia
 - Great Pyramids of Egypt
 - Teotihuacan: Pyramid of the Moon

See also World History Grade 1: Mexico, re murals of Diego Rivera.

Ask students to think about why the same forms would be built in different places in the world without there being any communication between them (as in the case of Teotihuacán).



Teachers: In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines. The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. Elements of Music

- Through participation become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
 - Recognize a steady beat; moving to a beat; play a steady beat; recognize accents.
 - Move responsively to music (marching, walking, hopping, swaying, etc.).
 - Participate in play party activities and dance (e.g., *Chimes of Dunkirk*, *Les Saluts*)
 - Engage in improvisation activities (e.g., *Highway Number One*, *There was a Man and He was Mad*)
 - Recognize short and long sounds.
 - Discriminate between fast and slow.
 - Discriminate between obvious differences in pitch: high and low.
 - Discriminate between loud and soft.
 - Understand that melody can move up and down.
 - Hum the melody while listening to music.
 - Echo short rhythms and melodic patterns.
 - Participate in call and response activities (e.g., *Funga Alafia*, *Down By the Bay*, *Che Che Kule*).
 - Play simple rhythms and melodies.
 - Recognize like and unlike phrases.
 - Recognize that music has timbre or tone color.
 - Sing unaccompanied, accompanied, and in unison.
- Recognize (aurally) the following frequently used Italian terms:
 - *adagio* (slow)
 - *moderato* (medium) *allegro* (fast)
- Understand that music is written down in a special way and become familiar with the following notation:

Teachers: Consider introducing the count system for each note (i.e., “ta” for quarter notes and “ti ti” for eighth notes).

 - ♩ quarter note ♪ eighth note

Also known as *Che Che Koolay*

Note to Teachers:

The expectation is that students understand what these words mean when spoken. It is not expected that they recognize the written words.

II. Listening and Understanding

Teachers: Expose students to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

A. Musical Terms and Concepts

- Composers
 - Know that a composer is someone who writes music.
 - Become familiar with Wolfgang Amadeus Mozart as a composer who wrote what is known as classical music, and listen to the Allegro (first movement) from *A Little Night Music* (*Eine kleine Nachtmusik*).

Note: Students will review families of instruments and specific instruments in later grades

Note: If resources are available, read aloud to students the story behind Tchaikovsky's *Nutcracker*, and either attend a performance or show scenes from the ballet, which is available on videotape. You may also wish to introduce students to the Suite from Tchaikovsky's *Sleeping Beauty*, in relation to the story in Language Arts Grade 1, "Sleeping Beauty."

- Orchestra
 - Become familiar with the families of instruments in the orchestra: strings, brass, woodwinds, percussion.
 - Know that the leader of the orchestra is called the conductor. Listen to Sergei Prokofiev, *Peter and the Wolf*.

B. Music Can Tell a Story

- Opera
 - Understand that opera combines music, singing, and acting.
 - Listen to selections from Humperdinck's *Hansel and Gretel*: "Brother, Come Dance with Me," "I Am the Little Sandman," "Children's Prayer."
- Instrumental Music
 - Listen to Paul Dukas, *The Sorcerer's Apprentice*.
- Ballet
 - Understand that ballet combines music and movement, often to tell a story.
 - Listen to *Tchaikovsky's Nutcracker Suite*.

Teachers: Familiarize students with other types of dance, such as square dancing and tap dancing.

C. American Musical Traditions

- Jazz
 - Understand that jazz is a kind of music that developed in America, with African and African American roots, and that jazz musicians improvise.
 - Recognize Louis Armstrong as a great early jazz musician. Listen to *What a Wonderful World*
 - Listen and dance to *Doin' the Suzie Q* (Lil Hardin Armstrong)

III. Songs

Teachers: You may also wish to teach students the song "Brother, Come Dance with Me" in connection with their introduction to the opera *Hansel and Gretel*. And you may wish to teach the poem "Thanksgiving Day" ("Over the river and through the wood") as a song (see Language Arts Grade 1: Poetry).

- "My Country 'Tis of Thee"
- "Dry Bones"
- "For He's a Jolly Good Fellow"
- "Frère Jacques"
- "La Raspa"
- "Make New Friends"
- "Michael, Row the Boat Ashore"
- "Oh, Dear, What Can the Matter Be?"
- "On Top of Old Smokey"
- "She'll Be Comin' 'Round the Mountain"
- "Skip to My Lou"
- "Take Me Out to the Ball Game"
- "There's a Hole in the Bucket"
- "When the Saints Go Marching In"
- "Yankee Doodle"

Consider showing students a clip of Louis Armstrong performing "When the Saints Go Marching In"



Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives students a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving “higher order” skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

Using objects and drawings

Using objects and drawings.

I. Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
 - Use addition and subtraction within 20 to solve word problems, with unknowns in all positions, involving situations of
 - adding to
 - taking from
 - putting together
 - taking apart
 - comparing
 - Solve word problems that call for
 - addition of three whole numbers (whose sum is less than or equal to 20)
 - equations with a symbol for the unknown number to represent the problem
- Understand and apply properties of operations and the relationship between addition and subtraction.
 - Apply properties of operations (**commutative and associative**) as strategies to add and subtract.
 - Understand subtraction as an unknown-addend problem.
- Add and subtract within 20.
 - Relate counting to addition and subtraction.
 - Add and subtract within 20 **using strategies such as counting on, making ten, decomposing a number to a ten, and creating equivalent known sums.**
 - Demonstrate fluency for addition and subtraction within 10.
- Work with addition and subtraction equations.
 - Understand the meaning of the equal sign.
 - Determine if equations involving addition and subtraction are true or false.
 - Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.

II. Number and Operations in Base Ten

- Extend the counting sequence.
 - Count to 120, starting at any number less than 120.
 - Read and write numerals from 1–120.
 - Represent a number of objects with a written numeral.
- Understand place value.
 - Understand that the two digits of a two-digit number represent amounts of tens and ones: **10 as a bundle of ones, the numbers from 11–19 are a ten and ones, and that the multiples of ten refer to the number of tens.**
 - Compare two two-digit numbers based on meanings of the tens and ones digits.
 - Record the results of comparisons with the symbols $>$, $=$, and $<$.

Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction

- Use place value understanding and properties of operations to add and subtract.
 - Add within 100, including
 - adding a two-digit number and a one-digit number
 - adding a two-digit number and a multiple of 10
 - Relate the strategy to a written method and explain the reasoning used.
 - Understand that in adding two-digit numbers sometimes it is necessary to compose a ten.
 - Given a two-digit number, mentally find 10 more or 10 less than the number.
 - Explain the reasoning used.
 - Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences).
 - Use concrete models or drawings and strategies based on
 - place value
 - properties of operations
 - the relationship between addition and subtraction
 - Relate the strategy to a written method and explain the reasoning used.

III. Measurement and Data

- Measure lengths indirectly and by iterating length units.
 - Order three objects by length.
 - Compare the lengths of two objects indirectly by using a third object.
 - Express the length of an object as a whole number of length units
 - Understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps when laid end to end.
- Tell and write time.
 - Tell and write time in hours and half-hours using analog and digital clocks.
- Represent and interpret data.
 - Organize, represent, and interpret data with up to three categories.
 - Ask and answer questions about the total number of data points.

Example questions: how many in each category, or how many more or less are in one category than in another.

IV. Geometry

- Reason with shapes (**rectangles, squares, trapezoids, triangles, half-circles, quarter-circles, cubes, right rectangular prisms, right circular cones and right circular cylinders**) and their attributes.
 - Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size).
 - Build and draw shapes to possess defining attributes.
 - Compose two-dimensional and three-dimensional shapes to create a composite shape.
 - Compose new shapes from the composite shape.
 - Partition circles and rectangles into two and four equal shares.
 - Describe shares using the words *halves*, *fourths*, and *quarters*.
 - Use the phrases *half of*, *fourth of*, and *quarter of*.
 - Describe the whole as two of, or four of the shares.
 - Understand for these examples that decomposing into more equal shares creates smaller shares.



Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the report from the National Academies of Science, *A Framework for K-12 Science Education*, "...children have surprisingly sophisticated ways of thinking about the world, based in part on their direct experiences with the physical environment, such as watching objects fall or collide and observing plants and animals. They also learn about the world through everyday activities, such as talking with their families, pursuing hobbies, watching television, and playing with friends. As children try to understand and influence the world around them, they develop ideas about their role in that world and how it works. In fact, the capacity of young children—from all backgrounds and socioeconomic levels—to reason in sophisticated ways is much greater than has long been assumed. Although they may lack deep knowledge and extensive experience, they often engage in a wide range of subtle and complex reasoning about the world. Thus, before they even enter school, children have developed their own ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."

While experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge. Only when topics are presented systematically and clearly can children make steady and secure progress in their scientific learning. The child's development of scientific knowledge and understanding is in some ways a very disorderly and complex process, different for each child. But a systematic approach to the exploration of science, one that combines experience with book learning, can help provide essential building blocks for deeper understanding at a later time.

I. Sun, Moon, and Stars

Teachers: Through reading aloud, observation, and activities such as describing how the moon appears to change at different times of the month, explore the following with students:

A. The Sun and Its Predictable Patterns

- The sun is a star.
- Earth gets light and heat (thermal energy) from the sun.
- An Earth day (daytime and night together) is twenty-four hours.
- Sunrise and sunset happen because Earth, which is ball-shaped, rotates.

B. Annual Patterns of Sunrise and Sunset

- The times of sunrise and sunset vary a little each day and occur in predictable patterns.

C. The Moon and Its Predictable Patterns

- The moon, which is ball-shaped, is visible in the sky at night and often during the day.
- The moon appears to change shape over about a month; these changes are called the moon's phases (new, crescent, half, full).

D. Stars and Their Predictable Patterns

- Stars are distant objects that give off their own light.
- The positions of some stars are used to draw imagined patterns called constellations (Big Dipper, Orion).
- Stars appear to rotate across the sky in the course of a night.

II. Plant and Animal Survival

Teachers: Through reading aloud, observation, and activities such as investigating how various animals respond to different stimuli in their environment, help students to explore the following:

A. Structure and Function in Plants and Animals

- Plants and animals are composed of parts (structures), which they use in support of their survival.

Review and extend learning from Kindergarten, Needs of Plants and Animals.

B. Information Processing: Plant and Animal Stimulus and Response

- Animals and plants have parts that enable them to obtain and process information about their environment through their senses.
- Animals and plants respond to environmental inputs (stimuli) with behaviors that help them survive.

C. Growth and Development

- Adult plants and animals reproduce.
- Many kinds of animal parents take care of their offspring until the offspring become mature enough to care for themselves.

D. Parents and Offspring

- Traits are the characteristics of living things.
- Individuals of the same kind of animal or plant have similar traits, but they can also vary in many ways.

III. Exploring Light and Sound

Teachers: The emphasis in Grade 1 should be on observation, description, and explanation of real world experiences of light and sound, including how they can be used to solve problems; technical explanations of light and sound should be taken up in later grades; see Grades 4, 6, and 8 for an increasingly more detailed study of energy and waves:

A. Sound and Vibration

- Sound comes from sound waves that we detect with our ears.
- To vibrate means to move back and forth quickly. Vibrating matter can make a sound wave that can travel through many kinds of matter.

B. Light

- Light is a phenomenon we detect with our eyes.
- Some objects (the Sun, electric lights) give off light; most objects do not.

C. Light and Materials

- Light interacts differently with different types of materials.
 - Transparent
 - Translucent
 - Opaque
- The dark area created by an object blocking light is a shadow.
- Materials that reflect light may illuminate the surrounding space.

D. Solving Problems with Light or Sound

- People use light and sound in devices to solve problems.
- People use light and sound in a variety of devices to communicate over long distances.

IV. Simple Machines

Teachers: The emphasis in Grade 1 should be on observation, description, and explanation of real world applications of simple machines and how they are placed together to form compound machines; technical explanations of work, power, and force should be taken up in later grades; see Grade 8 for a detailed introduction to Physics:

A. Simple Machines

- A simple machine is a device that changes the strength or direction of a force (a push or a pull).
- There are six types of simple machines:

Review and extend learning from Kindergarten, Pushes and Pulls.

- lever
- wheel and axle
- pulley
- inclined plane
- wedge
- screw
- Simple machines make work easier because less force is used.

B. Compound Machines

- A compound machine consists of two or more simple machines working together.
- Examples of compound machines:
 - scissors
 - pencil sharpener
 - bicycle
 - wheelbarrow, and many other useful devices

V. The Human Body: Human Body Systems

A. Skeletal and Muscular Systems

- The skeletal system is made up of bones that provide structure to the human body and work with muscles to enable movement.
- The muscular system is made up of three types of muscle tissue:
 - cardiac, smooth, skeletal

B. Respiratory and Circulatory Systems

- The respiratory system performs an exchange of gases between the body and the atmosphere (breathing).
- The respiratory system interacts with the circulatory system to move matter back and forth between the lungs and cells in the body.
- The circulatory system is comprised of the body's blood, blood vessels, and heart.

C. Nervous System

- The nervous system is comprised of nerves and the brain.
- The nervous system interacts with all the body's other systems and controls all the body's voluntary and involuntary functions.

D. Taking Care of your Body

- Body systems require healthy choices to function properly.
- Neglecting health can lead to illnesses.

VI. Science Biographies

Teachers: Through reading aloud and activities, explore with students the stories and accomplishments of these scientists and engineers. This list of science biographies is by no means exhaustive. Other individuals can be incorporated into learning during a corresponding topic of study for this grade level, and should include:

- Galileo—astronomer, physicist, and engineer who observed planetary movement
- Shi Shen, Gan De, and Wu Xian—Chinese astronomers who developed ancient star charts
- Jacques Cousteau—explored the oceans, invented equipment for undersea exploration
- Gordon Gould—physicist who developed the laser
- Archimedes—Greek mathematician and inventor

Review and extend learning from Kindergarten, Our Five Senses.

DRAFT

Grade 2

$2 \times 1 = 2$

$3 \times 1 = 3$

$4 \times 1 = 4$

$2 \times 2 = 4$

$3 \times 2 = 6$

$4 \times 2 = 8$

$2 \times 3 = 6$

$3 \times 3 = 9$

$4 \times 3 = 12$

$2 \times 4 = 8$

$4 \times 4 = 16$

$2 \times 5 = 10$

$4 \times 5 = 20$

$2 \times 6 = 12$

$4 \times 6 = 24$

$2 \times 7 = 14$

$4 \times 7 = 28$

$2 \times 8 = 16$

$4 \times 8 = 32$

$2 \times 9 = 18$

$4 \times 9 = 36$

$2 \times 10 = 20$

$4 \times 10 = 40$



Overview of Topics

Grade 2

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
 - C. Comprehension and Discussion of Read-Alouds—All Texts
 - D. Comprehension and Discussion of Read-Alouds—Fiction, Drama, and Poetry
 - E. Comprehension and Discussion of Read-Alouds—Nonfiction and Informational Text
- II. Reading
 - A. Phonics: Decoding and Encoding
 - B. Oral Reading and Fluency
 - C. Reading Comprehension—All Texts
 - D. Reading Comprehension—Fiction, Drama, and Poetry
 - E. Reading Comprehension—Nonfiction and Informational Text
- III. Writing
 - A. Narrative Writing
 - B. Informative/Explanatory Writing
 - C. Persuasive Writing (Opinion)
- IV. Language Conventions
 - A. Spelling
 - B. Parts of Speech and Sentence Structure
 - C. Capitalization and Punctuation
- V. Poetry
- VI. Fiction
 - A. Stories
 - B. Mythology of Ancient Greece
 - C. American Folk Heroes and Tall Tales
 - D. Literary Terms
- VII. Sayings and Phrases

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. Geography
 - A. Spatial Sense
 - B. Geographical Terms and Features
- II. Early Asian Civilizations
 - A. Geography of Asia
 - B. India
 - C. China
- III. Modern Japanese Civilization
 - A. Geography
 - B. Culture
- IV. The Ancient Greek Civilization

AMERICAN HISTORY AND GEOGRAPHY

- I. American Government: The Constitution
- II. The War of 1812
- III. Westward Expansion
 - A. Pioneers Head West
 - B. Native Americans
- IV. The Civil War
- V. Immigration and Citizenship

- VI. Fighting for a Cause
- VII. Geography of the Americas
 - A. North America
 - B. South America
- VIII. Symbols and Figures

VISUAL ARTS

- I. Elements of Art
- II. Sculpture
- III. Landscape
- IV. Abstraction
- V. Architecture

MUSIC

- I. Elements of Music
- II. Listening and Understanding
 - A. The Orchestra
 - B. Keyboard Instruments
 - C. Composers and Their Music
- III. Songs

MATHEMATICS

- I. Operations and Algebraic Thinking
- II. Number and Operations in Base Ten
- III. Measurement and Data
- IV. Geometry

SCIENCE

- I. Properties of Matter
 - A. Introduction to Matter
 - B. Properties and Uses of Matter
 - C. Heating and Cooling Matter
 - D. Building with Matter
- II. Organisms and Their Habitats
 - A. Plant Needs
 - B. Plant Diversity
 - C. Animal Needs
 - D. Animal Diversity
 - E. Ecosystems: Plant and Animal Relationships
- III. Exploring Land and Water
 - A. Landforms
 - B. Earth's Water
 - C. Effects of Wind and Water on Land
- IV. Electricity and Magnetism
 - A. Electricity
 - B. Magnets and Magnetism
 - C. Designing and Engineering Useful Devices
 - D. Safe Use of Electricity and Magnetism
- V. The Human Body: Cells and Digestion
 - A. Cells, Tissues, and Organs
 - B. Digestive and Excretory systems
 - C. Taking Care of Your Body
- VI. Science Biographies

Grade 2 | English Language Arts



The *Common Core State Standards for English Language Arts* emphasize the critical importance of building nonfiction background knowledge in a coherent and sequenced way within and across grades. This can be accomplished most effectively, at each grade level, by integrating the topics from history, geography, science, and the arts in the *Core Knowledge Sequence* into the language arts block. Note that in the *Sequence*, there are many cross-curricular connections to history and science topics within Language Arts (e.g., poems, stories, and sayings), as well as to visual arts and music, which can and should be integrated into the applicable domain of study.

NOTE: The objectives listed in sections I–IV of Language Arts below are consistent with the *Core Knowledge Language Arts* program and embed all of the skills and concepts within the *Common Core State Standards for English Language Arts*.

2

I. Listening and Speaking

Teachers: Traditional language arts instruction has typically accorded little, if any, attention to the ongoing development of children’s listening and speaking ability. This failure to focus on the development of oral language in language arts instruction has been a serious oversight. Literacy, the ability to read and write written language, is highly correlated with students’ oral language proficiency, and the ability to understand a text read aloud is a prerequisite for making sense of the same text in printed form. It is therefore essential that children build listening and speaking competency while also developing reading and writing skills.

A. Classroom Discussion

- Maintain attention and actively participate in discussions about a variety of topics, ideas, and texts in both small and large group settings.
- Speak clearly with volume appropriate to the setting.
- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say “excuse me” or “please,” etc.
- Ask questions to clarify conversations, directions, exercises, and/or classroom routines.
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner’s comments, with either an adult or another child of the same age.
- Participate in a conversation or group discussion by making reference to, or building upon, a comment made by another person.
- Identify and express physical sensations, mental states, and emotions of self and others.
- Understand and use language to express spatial and temporal relationships (*up, down, first, last, before, after, etc.*).
- Understand and use narrative language to describe people, places, things, locations, events, actions.
- Understand and use common sayings and phrases such as “Don’t judge a book by its cover” and “Better late than never.”

B. Presentation of Ideas and Information

- Follow multi-step, oral directions.
- Give simple directions.
- Provide simple explanations.
- Recite a nursery rhyme, poem or song independently, using appropriate eye contact, volume and clear enunciation.
- Give oral presentations about personal experiences, topics of interest, stories, and summaries of factual information that have been presented orally, visually or through multimedia, using appropriate eye contact, volume and clear enunciation.

C. Comprehension and Discussion of Read-Alouds—All Texts

Teachers: Written text makes use of richer vocabulary and more complex syntax than conversational language. It is important that young children be exposed not only to the language of everyday conversation but also to the richer and more formal language of books. This can be done through frequent reading aloud. Helping young children develop the ability to listen to and understand written texts read aloud must be an integral part of any initiative designed to build literacy.

At the second grade level, students are becoming increasingly skilled as independent readers. Nevertheless, research indicates that reading comprehension ability does not catch up to listening comprehension until the middle school grades. It is therefore still important to provide second graders with extensive read aloud experiences of both fiction and nonfiction texts.

Careful consideration should be given to the selection of books read aloud to ensure that the vocabulary and syntax presented is rich and complex. Leveled texts will not provide the rich language experience desired during read-alouds and should only be used as a starting point with students for whom English is a second language.

Nonfiction read-alouds should be selected on the basis of the history, science, music and visual art topics identified for Grade 2 students in the *Core Knowledge Sequence*, with emphasis on history and science read-alouds. It is strongly recommended that daily read-alouds focus on a single topic over a sustained period of time—about two weeks—rather than intermingling read-alouds on a variety of subjects. Careful consideration should be given to the order in which nonfiction read-alouds are presented to ensure that knowledge about a topic builds in a progressive and coherent way.

Following any read-aloud, students should participate in rich, structured conversations with an adult in response to the written text that has been read aloud. In this way, they can begin to orally practice comparing, analyzing, and synthesizing ideas in written text in much the same way as they will be expected to do as independent readers in the later grades.

- Listen to and understand a variety of texts read aloud, including fictional stories, fairy tales, fables, historical narratives, drama, informational text, and poems.
- Distinguish the following genres of literature: fiction, nonfiction and drama.

Grasping Specific Details and Key Ideas

- Describe illustrations.
- Sequence four to six pictures illustrating events in a read aloud.
- Answer questions requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc.
- Retell key details.
- Summarize in one's own words selected parts of a read-aloud.
- Ask questions to clarify information in a read-aloud.
- Use narrative language to describe people, places, things, locations, events, actions, a scene or facts in a read-aloud.

Observing Craft and Structure

- Understand and use words and phrases heard in read-alouds.
- Compare and contrast similarities and differences within a single read-aloud or between two or more read-alouds.
- Make personal connections to events or experiences in a read-aloud and/or make connections among several read-alouds.

Integrating Information and Evaluating Evidence

- Prior to listening to a read-aloud, identify what they know and have learned that may be related to the specific story or topic to be read aloud.
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud.
- Make predictions prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far and then compare the actual outcomes to predictions.

- Answer questions that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing cause/effect relationships.
- Interpret information that is presented orally and then ask additional questions to clarify information or the topic in the read-aloud.
- Identify who is telling a story or providing information in a text.

D. Comprehension and Discussion of Read-Alouds—Fiction, Drama, and Poetry

- Retell a story, using narrative language to describe characters, setting(s), and the plot of the story in proper sequence.
- Compare and contrast characters from different stories.
- Describe characters in increasing depth by referring to their dialogue and/or actions in the story.
- Change some story events and provide a different story ending.
- Create and tell an original story, using narrative language to describe characters, setting(s), and the plot of the story in proper sequence.
- Distinguish fantasy from realistic text in a story.
- Identify the moral or lesson of a fable, folktale, or myth.
- Demonstrate understanding of literary language (e.g., author, illustrator, characters, setting, plot, dialogue, personification, simile, and metaphor) and use some of these terms in retelling stories or creating their own stories.
- Identify repetitions in phrases, refrains, or sounds in poems or songs.
- Identify sensory language and how it is used to describe people, objects, places and events.
- Describe the use of rhyme, rhythm and sensory images used in poetry.

E. Comprehension and Discussion of Read-Alouds—Nonfiction and Informational Text

Teachers: Select nonfiction read-aloud topics from the second grade history, science, music, and visual arts topics, with emphasis on history and science.

- Generate questions and seek information from multiple sources to answer questions.
- Answer questions about the details of a nonfiction text, indicating which part of the text provided the information needed to answer specific questions.
- With assistance, categorize and organize facts and information within a given topic.
- With assistance, create and interpret timelines and lifelines related to read-alouds.
- Interpret information presented in diagrams, charts, graphs, etc.
- Distinguish read-alouds that describe events that happened long ago from those that describe contemporary or current events.

II Reading

A. Phonics: Decoding and Encoding

Teachers: Learning to read requires understanding and mastering the written English code through explicit and systematic phonics instruction. Research suggests that phonics instruction is most effective when specific letter-sound relationships are taught and reinforced by having students both read and write the letter-sound correspondence being studied. Reading and writing—decoding and encoding—are complementary processes that ensure mastery of the written code.

- Demonstrate understanding that a systematic, predictable relationship exists between written letters (graphemes) and spoken sounds (phonemes).
- Blend individual phonemes to pronounce printed words.
- Understand that sometimes two or more printed letters stand for a single sound.

- Read multi-syllable words containing any of the grapheme-phoneme correspondences listed below.
- Read and write words with inflectional endings, i.e., -s, -ed, -ing, -er, -est.
- Read, understand, and write contractions, i.e., *isn't, I'm, can't*, etc.
- Sort and classify words according to the spelling used to represent a specific phoneme.
- Read tricky spellings that can be sounded two ways, e.g., the letter 's' sounded /s/ as in *cats* and /z/ as in *dogs*.
- Read and spell chains of one-syllable words in which one sound is added, substituted, or omitted, i.e., read *at > cat > bat > bad > bid*.
- Read at least 100 words generally identified as high frequency words.

Consonant Sounds and Spellings Taught in Second Grade

/b/ spelled 'b' as in *boy*, 'bb' as in *tubby*

/d/ spelled 'd' as in *dog*, 'dd' as in *madder*, 'ed' as in *filled*

/f/ spelled 'f' as in *fun*, 'ff' as in *stuff*

/g/ spelled 'g' as in *get*, 'gg' as in *egg*

/h/ spelled 'h' as in *him*

/j/ spelled 'j' as in *jump*, 'g' as in *gem*, 'ge' as in *fringe*

/k/ spelled 'c' as in *cat*, 'k' as in *kitten*, 'ck' as in *sick*, 'cc' as in *moccasin*

/l/ spelled 'l' as in *lip*, 'll' as in *sell*

/m/ spelled 'm' as in *mad*, 'mm' as in *hammer*

/n/ spelled 'n' as in *net*, 'nn' as in *funny*, 'kn' as in *knock*

/p/ spelled 'p' as in *pet*, 'pp' as in *happy*

/r/ spelled 'r' as in *red*, 'rr' as in *earring*, 'wr' as in *wrist*

/s/ spelled 's' as in *sit*, 'ss' as in *dress*, 'c' as in *cent*, 'ce' as in *prince*, 'se' as in *rinse*

/t/ spelled 't' as in *top*, 'tt' as in *butter*, 'ed' as in *asked*

/v/ spelled 'v' as in *vet*, 've' as in *twelve*

/w/ spelled 'w' as in *wet*, 'wh' as in *when*

/x/ spelled 'x' as in *tax*

/y/ spelled 'y' as in *yes*

/z/ spelled 'z' as in *zip*, 'zz' as in *buzz*, 's' as in *dogs*

/ch/ spelled 'ch' as in *chop*, 'tch' as in *itch*

/sh/ spelled 'sh' as in *ship*

/th/ spelled 'th' as in *thin*

/th/ spelled 'th' as in *then*

/qu/ spelled 'qu' as in *quick*

/ng/ spelled 'ng' as in *sing*, 'n' as in *pink*

Vowel Sounds and Spellings Taught in Second Grade

/a/ spelled 'a' as in *cat*

/e/ spelled 'e' as in *get*, 'ea' as in *head*

/i/ spelled 'i' as in *hit*, 'y' as in *myth*

/o/ spelled 'o' as in *hot*, 'a' as in *wall*

/u/ spelled 'u' as in *but*, 'o' as in *son*

/ae/ spelled 'a_e' as in *cake*, 'ai' as in *wait*, 'ay' as in *day*, 'a' as in *paper*, 'ey' as in *hey*, 'ei' as in *weight*, 'ea' as in *great*

/ee/ spelled 'ee' as in *bee*, 'e' as in *me*, 'y' as in *funny*, 'ea' as in *beach*, 'e_e' as in *Pete*, 'ie' as in *cookie*, 'i' as in *ski*, 'ey' as in *key*

/ie/ spelled 'i_e' as in *bike*, 'i' as in *biting*, 'y' as in *try*, 'ie' as in *tie*, 'igh' as in *night*

/oe/ spelled 'o_e' as in *note*, 'oa' as in *boat*, 'oe' as in *toe*, 'o' as in *open*, 'ow' as in *snow*

/ue/ spelled 'u_e' as in *cute*, 'u' as in *unit*, 'ue' as in *cue*

/aw/ spelled 'aw' as in *paw*, 'au' as in *Paul*, 'augh' as in *caught*, 'ough' as in *bought*

/oo/ spelled 'oo' as in *look*, 'u' as in *student*, 'ue' as in *blue*, 'ui' as in *fruit*, 'ew' as in *new*, 'u_e' as in *tune*

/oo/ spelled 'oo' as in *soon*

/ou/ spelled 'ou' as in *shout*, 'ow' as in *now*

/oi/ spelled 'oi' as in *oil*, 'oy' as in *toy*

/er/ spelled 'er' as in *her*, 'ur' as in *hurt*, 'ir' as in *bird*, 'ar' as in *dollar*

/ar/ spelled 'ar' as in *car*

/or/ spelled 'or' as in *for*, 'ore' as in *more*, 'our' as in *four*, 'oor' as in *door*

Schwa spelled 'a' as in *about*

/shun/ spelled 'tion' as in *mention*

B. Oral Reading and Fluency

- Read decodable stories that incorporate the specific code knowledge that has been taught.
- Demonstrate increased accuracy, fluency, and expression on successive reading of a decodable text (90 wpm by the end of the year).
- Use phonics skills in conjunction with context to confirm or self-correct word recognition and understanding, rereading as necessary.
- Demonstrate understanding of and use commas and end punctuation while reading orally.
- Read aloud, alone, or with a partner at least 20 minutes each day.

C. Reading Comprehension—All Texts

Teachers: At the second grade level, students should be demonstrating ever-increasing code knowledge and fluency in their independent reading, allowing them to focus more intently on the meaning of what they are reading. This increased focus on reading comprehension is reflected in the number and complexity of the objectives below, as compared to earlier grades. However, it is important to remember that listening comprehension still far exceeds reading comprehension and that students' ability to talk about what they have heard and/or read will exceed their ability to demonstrate that understanding in writing.

- Demonstrate understanding of text—the majority of which is decodable—after independent reading.

Grasping Specific Details and Key Ideas

- Sequence four to six pictures illustrating events from a text that has been read independently.
- Answer questions requiring literal recall and understanding of the details and/or facts (i.e., who, what, where, when, etc.) about a text that has been read independently.
- Retell key details from a text that has been read independently.
- Summarize in one's own words selected parts of a text.
- Ask questions to clarify information about a text that has been read independently.
- Use narrative language to describe people, places, things, locations, events, actions, a scene or facts from a text that has been read independently.

Observing Craft and Structure

- Identify basic text features and what they mean, including title, table of contents, chapter headings and captions.
- Understand and use words and phrases from a text that has been read independently.
- Compare and contrast similarities and differences within a single text or between multiple texts read independently.

- Make personal connections to events or experiences in a text that has been read independently and/or make connections among several texts that have been read independently.

Integrating Information and Evaluating Evidence

- Prior to reading, identify what they know and have learned that may be related to the specific story or topic to be read.
- Use pictures accompanying the written text to check and support understanding.
- Make predictions prior to and while reading, based on the title, pictures, and/or text read thus far and then compare the actual outcomes to predictions.
- Answer questions that require making interpretations, judgments, or giving opinions about what is read independently, including answering “why” questions that require recognizing cause/effect relationships.
- Interpret information that is read independently and then ask questions to clarify this information.
- Identify who is telling a story or providing information in a text.
- Identify temporal words that link and sequence events, i.e., *first, next, then, etc.*
- Identify words that link ideas, i.e., *for example, also, in addition.*

D. Reading Comprehension—Fiction, Drama, and Poetry

- Retell a story, using narrative language to describe characters, setting(s), and the plot of the story in proper sequence.
- Compare and contrast characters from different stories.
- Describe characters in increasing depth by referring to dialogue and/or their actions in the story.
- Change some story events and provide a different story ending.
- Distinguish fantasy from realistic text in a story.
- Identify the moral or lesson of a fable, folktale, or myth.
- Demonstrate understanding of literary language (e.g., author, illustrator, characters, setting, plot, dialogue, personification, simile, and metaphor) and use some of these terms in retelling stories or creating their own stories.
- Identify sensory language and how it is used to describe people, objects, places, and events.
- Identify repetitions in phrases, refrains, or sounds in poems or songs.
- Describe the use of rhyme, rhythm and sensory images used in poetry.

E. Reading Comprehension—Nonfiction and Informational Text

Teachers: Select nonfiction topics from the second grade history, science, music and visual arts topics with emphasis on history and science.

- Generate questions and seek information from multiple sources to answer questions.
- Answer questions about the details of a nonfiction text, indicating which part of the text provided the information needed to answer specific questions.
- Interpret information presented in diagrams, charts, graphs, etc.
- With assistance, categorize and organize facts and information for a given topic.
- With assistance, create and interpret timelines and lifelines related to text read independently.
- Distinguish text that describes events that happened long ago from text that describes contemporary or current events.

III. Writing

Teachers: Students develop ever increasing code knowledge and fluency in reading during second grade and, as a result, most will also become increasingly comfortable and competent in expressing their thoughts and ideas in writing.

Teachers should, however, have age-appropriate expectations about what second grade student writing should resemble. Students' spelling skills will often lag behind the code knowledge they demonstrate in reading. It is reasonable to expect that the students will use the letter-sound correspondences they have learned thus far to set down plausible spellings for the sounds in the word. For example, a student who writes *doller* for *dollar*, *wate* for *wait* or *weight* has set down a plausible spelling for each sound in the word, using the code knowledge taught in this grade. This should be seen as acceptable spelling for this stage of literacy acquisition. With continued writing practice, students should begin to include more dictionary correct spellings for words that they read and write frequently. Dictionary-correct spelling as the rule will be a realistic goal when students have learned more spellings, had repeated writing practice opportunities and have learned how to use a dictionary to check spelling.

At the second grade level, teachers should model and scaffold use of a writing process, such as “Plan-Draft-Edit,” as students learn to write in various genres. It is important, though, not to dampen student enthusiasm for writing by rigidly insisting that *all* student writing be edited over and over again to bring the text to the “publication” stage. A sensible balance that encourages students to use their current skill knowledge when writing, as well as a simple editing rubric for review—without stifling creative expression—is optimal at the second grade level.

Writing to Reflect Audience, Purpose and Task

- Add details to writing.
- Begin to use tools, including technology, to plan, draft, and edit writing.

Conducting Research

- Gather information from experiences or provided text sources.

A. Narrative Writing

- Write a familiar story that includes setting(s), character(s), dialogue, and if appropriate, several events, using temporal words and phrases to indicate the chronology of events.
- Write a personal narrative.
- Create a title and an ending that are relevant to the narrative

B. Informative/Explanatory Writing

- Write about a topic, including a beginning and ending sentence, facts and examples relevant to the topic, and specific steps (if writing explanatory text).
- Group similar information into paragraphs.
- Use linking words such as *also*, *another*, *and*, etc. to connect ideas within a paragraph.

C. Persuasive Writing (Opinion)

- Express an opinion or point of view in writing, providing reasons and supporting details for preference or opinion.
- Use words to link opinions with reasons or supporting details, such as *because*, *also*, *another*.
- Create a title that is relevant to the topic or subject of the text.
- If writing about a specific book or read-aloud, refer to the content of the text.

IV. Language Conventions

- Form sentences and paragraphs to communicate thoughts and ideas.
- Apply basic spelling conventions.
- Use basic capitalization and punctuation in sentences to convey meaning.

A. Spelling

- Write phonemically plausible spellings for words using current code knowledge, e.g., write *doller* for *dollar*, *wate* for *wait* or *weight*.
- Write words, phrases, and sentences from dictation, applying phonics knowledge.
- Alphabetize words to the second letter.

- Use a children’s dictionary, with assistance, to check spelling and verify the meaning of words.
- Identify and use synonyms, antonyms, homophones, and compound words.

B. Parts of Speech and Sentence Structure

- Recognize, identify and use subject, object, and possessive pronouns, i.e., *I, me, my, they, them*, orally, in written text and in own writing.
- Recognize, identify and use correct noun-pronoun agreement orally, in written text and in own writing.
- Recognize, identify and use common and proper nouns, orally, in written text, and in own writing.
- Recognize, identify, and use the articles *a* and *an* appropriately orally, in written text and in own writing.
- Recognize, identify and use selected regular and irregular plural nouns orally, in written text and in own writing.
- Recognize, identify and use selected regular and irregular past, present, and future tense verbs orally, in written text, and in own writing.
- Recognize, identify, and use adjectives orally, in written text, and in own writing.
- Recognize, identify, and use adverbs orally, in written text, and in own writing.
- Recognize, identify and use subjects and predicates, orally, in written text, and in own writing.
- Recognize, identify, and use statements, questions, and exclamations orally, in written text, and in own writing.
- Recognize, identify, and use complete simple and compound sentences.

C. Capitalization and Punctuation

- Capitalize the first word in a sentence, the pronoun *I*, and proper nouns (names and places,) months, days of the week, titles of people, and addresses.
- Recognize, identify and use abbreviations with correct punctuation for the months, days of the week, titles of people, and addresses.
- Identify and use end punctuation, including periods, question marks, and exclamation points.
- Use commas appropriately in greetings and closings of letters, dates, items in a series, and addresses.
- Write a simple friendly letter.
- Use apostrophes to create contractions and indicate possession, i.e., *cat’s meow*.
- Use quotation marks appropriately to designate direct speech.

Note: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new, and to have students write their own poems. To bring students into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words.

V. Poetry

- “Bed in Summer” (Robert Louis Stevenson)
- “Bee! I’m expecting you” (Emily Dickinson)
- “Buffalo Dusk” (Carl Sandburg)
- “Caterpillars” (Aileen Fisher)
- “Discovery” (Harry Behn)
- “Harriet Tubman” (Eloise Greenfield)
- “Hurt No Living Thing” (Christina Rossetti)
- “Lincoln” (Nancy Byrd Turner)
- “The Night Before Christmas” (Clement Clarke Moore)
- “Rudolph Is Tired of the City” (Gwendolyn Brooks)
- “Seashell” (Federico Garcia Lorca)
- “Smart” (Shel Silverstein)

See below, Literary Terms—limerick, re Edward Lear.

Note: Review Drama from Grade 1, and engage students in dramatic activities, possibly with one of the stories below in the form of a play.

Note: “The Magic Paintbrush” is also known as “Tye May and the Magic Brush” and “Liang [or Ma Liang] and the Magic Brush.” See also World History Grade 2: India, re “The Blind Men and the Elephant” and “The Tiger, the Brahman, and the Jackal.”

Note: Roman names are listed in parentheses because, although students do not study ancient Rome until third grade in the *Core Knowledge Sequence*, you are likely to encounter both Greek and Roman names in various books of myths you may use.

- “Something Told the Wild Geese” (Rachel Field)
- “There Was an Old Man with a Beard” (Edward Lear)
- “Who Has Seen the Wind?” (Christina Rossetti)
- “Windy Nights” (Robert Louis Stevenson)

VI. Fiction

Teachers: The titles listed below are available in a variety of editions, including both adaptations for novice readers and others that lend themselves to reading aloud to children—for example, *Charlotte’s Web* or “How the Camel Got His Hump.” It is recommended that you provide a mixture of texts. Editions designed for beginning readers can help students practice decoding skills. Read-aloud texts, which the students may not be capable of reading on their own, can be understood when the words are read aloud and talked about with a helpful adult. Such active listening to vocabulary and syntax that go beyond the limits of grade-level readability formulas is an important part of developing an increasingly sophisticated verbal sense.

The titles below constitute a core of stories for this grade. Expose students to many more stories, including classic picture books, read-aloud books, etc. (In schools, teachers across grade levels should communicate their choices in order to avoid undue repetition.) Students should also be exposed to nonfiction prose—biographies, books on science and history, books on art and music—and they should be given opportunities to tell and write their own stories.

A. Stories

- “Beauty and the Beast”
- “The Blind Men and the Elephant” (a fable from India)
- A Christmas Carol* (Charles Dickens)
- Charlotte’s Web* (E. B. White)
- “The Emperor’s New Clothes” (Hans Christian Andersen)
- “The Fisherman and His Wife” (Brothers Grimm)
- “How the Camel Got His Hump” (a “Just-So” story by Rudyard Kipling)
- Iktomi stories (legends of the Plains Indian trickster figure, such as “Iktomi Lost His Eyes”; “Iktomi and the Berries”; “Iktomi and the Boulder”)
- “The Magic Paintbrush” (a Chinese folktale)
- “El Pajaro Cu” (a Hispanic folktale)
- selections from *Peter Pan* (James M. Barrie)
- “Talk” (a West African folktale)
- “The Tiger, the Brahman, and the Jackal” (a folktale from India)
- “The Tongue-Cut Sparrow” (a folktale from Japan)

B. Mythology of Ancient Greece

Teachers: See *World History and Geography 2: The Ancient Greek Civilization*.

- Gods of Ancient Greece (and Rome)
 - Zeus (Jupiter)
 - Hera (Juno)
 - Apollo (Apollo)
 - Artemis (Diana)
 - Poseidon (Neptune)
 - Aphrodite (Venus)
 - Demeter (Ceres)
 - Ares (Mars)
 - Hermes (Mercury)
 - Athena (Minerva)
 - Hephaestus (Vulcan)
 - Dionysus (Bacchus)

Note: Students will read more myths in third grade; see Language Arts Grade 3.

- Eros (Cupid)
- Hades (Pluto)
- Mount Olympus: home of the gods
- Mythological creatures and characters
 - Atlas (holding the world on his shoulders)
 - centaurs
 - Cerberus
 - Pegasus
 - Pan
- Greek Myths
 - "Prometheus" (how he brought fire from the gods to men)
 - "Pandora's Box"
 - "Oedipus and the Sphinx"
 - "Theseus and the Minotaur"
 - "Daedalus and Icarus"
 - "Arachne the Weaver"
 - "Swift-footed Atalanta"
 - "Demeter and Persephone"
 - Hercules (Heracles) and the "Labors of Hercules"

C. American Folk Heroes and Tall Tales

Teachers: Johnny Appleseed and Casey Jones were introduced in kindergarten.

- Paul Bunyan
- Johnny Appleseed
- John Henry
- Pecos Bill
- Casey Jones

D. Literary Terms

Teachers: In the course of their studies, students should learn the following terms:

- myth
- tall tale
- limerick

VII. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many students, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with students from home cultures that differ from the standard culture of literate American English.

Back to the drawing board
Better late than never
Cold feet
Don't cry over spilled milk.
Don't judge a book by its cover.
Easier said than done
Eaten out of house and home
Get a taste of your own medicine
Get up on the wrong side of the bed
In hot water

Keep your fingers crossed.
Practice what you preach.
The real McCoy
Two heads are better than one.
Turn over a new leaf
Where there's a will there's a way.
You can't teach an old dog new tricks.

DRAFT

Grade 2 | History and Geography



See also below, American History and Geography: Geography of the Americas.

The Southern Ocean is the *newest* named ocean basin. It is recognized by the U.S. Board on Geographic Names as the body of water extending from the coast of Antarctica to the line of latitude at 60 degrees South.

See also Language Arts Grade 2: “The Tiger, the Brahman, and the Jackal,” and “The Blind Men and the Elephant,” re India.

Teachers: In second grade, students often study aspects of the world around them: the family, the school, the community, etc. The following guidelines are meant to broaden and complement that focus. The goal of studying selected topics in World History in second grade is to foster curiosity and the beginnings of understanding about the larger world outside the student’s locality, and about varied civilizations and ways of life. This can be done through a variety of means: story, drama, art, music, discussion, and more.

The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures.

World History and Geography

I. Geography

A. Spatial Sense (Working with Maps, Globes, and Other Geographic Tools)

Teachers: Review and reinforce topics from Grade 1, including:

- Name your continent, country, state, and community.
- Understand that maps have keys or legends with symbols and their uses.
- Find directions on a map: east, west, north, south.
- Identify major oceans: Pacific, Atlantic, Indian, Arctic, Southern.
- The seven continents: Asia, Europe, Africa, North America, South America, Antarctica, Australia.
- Locate: Canada, United States, Mexico, Central America, South America.
- Locate: the Equator, Northern Hemisphere and Southern Hemisphere, North and South Poles.

B. Geographical Terms and Features

Teachers: Review terms from Grade 1 (peninsula, harbor, bay, island), and add:

- coast, valley, prairie, desert, oasis

II. Early Asian Civilizations

Teachers: Since religion is a shaping force in the story of civilization, the Core Knowledge Sequence introduces students in the early grades to major world religions, beginning with a focus on geography and major symbols and figures. The purpose is not to explore matters of theology but to provide a basic vocabulary for understanding many events and ideas in history. The goal is to familiarize, not proselytize; to be descriptive, not prescriptive. The tone should be one of respect and balance: no religion should be disparaged by implying that it is a thing of the past. To the question, “Which one is true?” an appropriate response is: “People of different faiths believe different things to be true. The best people to guide you on this right now are your parents or someone at home.”

A. Geography of Asia

- The largest continent, with the most populous countries in the world
- Locate: China, India, Japan, Pakistan

B. India

- Indus River and Ganges River
- Farming methods, organized settlements, written language made up of symbols

See also Visual Arts
Grade 2: Architecture:
Great Stupa, re
Buddhism.

See also Language Arts
Grade 2: "The Magic
Paintbrush."

- Hinduism
 - Brahma, Vishnu, Shiva, Agni
 - Many holy books, including the Rig Veda
 - Diwali — Hindu Festival of Light
- Buddhism
 - Prince Siddhartha becomes Buddha, "the Enlightened One."
 - Buddhism begins as an outgrowth of Hinduism in India, and then spreads through many countries in Asia.
 - King Asoka (also spelled Ashoka)

C. China

Teachers: Students will study China again in Grade 4. Second grade teachers should examine the fourth grade guidelines to see how these topics build in the later grade.

- Yellow (Huang He) and Yangtze (Chang Jiang) Rivers
- Farming methods, organized settlements, written language made up of symbols
- Inventions of paper and fireworks
- Chinese written language (possibly oldest written language still used today)
- Teachings of Confucius (for example, honor your ancestors)
- Great Wall of China
- Invention of paper
- Importance of silk
- Chinese New Year

III. Modern Japanese Civilization

A. Geography

- Locate relative to continental Asia: "land of the rising sun."
- A country made up of islands; four major islands
- Pacific Ocean, Sea of Japan (East Sea)
- Mt. Fuji
- Tokyo

B. Culture

- Japanese flag
- Big modern cities, centers of industry and business
- Traditional craft: origami
- Traditional costume: kimono
- Tea ceremony

Note: Students will study feudal Japan in Grade 5.

See also Language Arts Grade 2: "The Tongue-Cut Sparrow"; Visual Arts Grade 2: Elements of Art: Hokusai, *The Great Wave*; and, Architecture: The Katsura Palace.

See also Language Arts Grade 2: Greek Myths; Visual Arts Grade 2: Sculpture, *Discus Thrower*; Architecture, The Parthenon.

Note: Suggested topics for learning about Alexander the Great include his tutoring by Aristotle, his horse Bucephalus, and the legend of the Gordian knot.

IV. The Ancient Greek Civilization

Teachers: Students will study Greece again in Grade 6, with a focus on the legacy of ideas from ancient Greece and Rome.

- Geography: Mediterranean Sea and Aegean Sea, Crete
- Athens and Sparta as a city-state: the beginnings of democracy
- Persian Wars: Marathon and Thermopylae
- Olympic Games
- Mount Olympus, worship of gods and goddesses
- Great thinkers: Socrates, Plato, and Aristotle
- Alexander the Great



American History and Geography

Teachers: The study of American history begins in grades K-2 with a brief overview of major events and figures, from the earliest days to recent times. A more in-depth, chronological study of American history begins again in Grade 3 and continues onward. The term “American” here generally, but not always, refers to the lands that became the United States. Other topics regarding North, Central, and South America may be found in the World History and Geography sections of this Sequence.

I. American Government: The Constitution

Teachers: Through analogies to familiar settings—the family, the school, the community—discuss some basic questions regarding American government, such as: “What is government?” “What are some basic functions of American government?” (Making and enforcing laws; settling disputes; protecting rights and liberties, etc.) Only basic questions need to be addressed at this grade level. In fourth grade students will examine in more detail specific issues and institutions of American government, including, for example, the separation of powers, and the relation between state and federal government.

- American government is based on the Constitution, the highest law of our land.
- James Madison, the “Father of the Constitution”
- Government by the consent of the governed: “We the people”

II. The War of 1812

- President James Madison and Dolley Madison
- British impressment of American sailors
- Old Ironsides
- Charles Ball, and other former slaves, who choose to fight the British in exchange for the promise of freedom
- British burn the White House.
- Fort McHenry, Francis Scott Key, and “The Star-Spangled Banner”
- Battle of New Orleans, Andrew Jackson

III. Westward Expansion

Teachers: Students will study Westward Expansion in greater depth and detail in Grade 5. Second grade teachers should examine the fifth grade guidelines to see how these topics build in the later grade. It is recommended that second grade teachers keep their focus on the people and events specified here, and leave for fifth grade the figures and ideas specified for that grade.

A. Pioneers Head West

- New means of travel
 - Robert Fulton, invention of the steamboat
 - Erie Canal
 - Railroads: the Transcontinental Railroad
- Routes west: wagon trains on the Oregon Trail, the Wilderness Road
- California Gold Rush
- The Pony Express

B. Native Americans

- Sequoyah and the Cherokee alphabet
- Forced removal to reservations: the “Trail of Tears”
- Some Native Americans displaced from their homes and ways of life by railroads (the “iron horse”).
- Effect of near extermination of bison on Plains Indigenous People

IV. The Civil War

Teachers: Students will study the Civil War in greater depth and detail in Grade 5. Second grade teachers should examine the fifth grade guidelines to see how these topics build in the later grade.

- Controversy over enslaved workers
- Plantations, plantation crops
- Harriet Tubman, the “underground railroad”
- Fort Sumter
- Northern v. Southern states: Yankees and Rebels
- Ulysses S. Grant and Robert E. Lee
- Clara Barton, “Angel of the Battlefield,” founder of American Red Cross
- President Abraham Lincoln: keeping the Union together
- Appomattox Court House
- Emancipation Proclamation and the end of slavery

V. Immigration and Citizenship

Teachers: Students will study Immigration and Urbanization in greater depth and detail in Grade 6. Second grade teachers should examine the sixth grade American History guidelines to see how these topics build in the later grade. In second grade, it is recommended that teachers use narrative, biography, and other accessible means to introduce students to the idea that many people have come to America (and continue to come here) from all around the world, for many reasons: to find freedom, to seek a better life, to leave behind bad conditions in their native lands, etc. Discuss with students: What is an immigrant? Why do people leave their home countries to make a new home in America? What is it like to be a newcomer in America? What hardships have immigrants faced? What opportunities have they found?

- America perceived as a “land of opportunity”
- The meaning of “e pluribus unum” (a national motto you can see on the back of coins)
- Ellis Island and the significance of the Statue of Liberty
- Millions of newcomers to America
 - Large populations of immigrants settle in major cities (such as New York, Chicago, Philadelphia, Detroit, Cleveland, Boston, San Francisco)
- The idea of citizenship: What it means to be a citizen of a nation
 - American citizens have certain rights and responsibilities (for example, voting, eligible to hold public office, paying taxes).
 - Becoming an American citizen (by birth, naturalization)

Note: In Grade 4, students will study, in the historical context of antebellum reform, early pioneers in the women’s movement in America, including Elizabeth Cady Stanton, Lucretia Mott, Margaret Fuller, and Sojourner Truth.

Note: Students will study the modern American civil rights movement in more depth and detail in the middle school grades.

Chief Standing Bear was the first Native American to speak before a Federal Court. He spoke out against the removal of his people from their land.

VI. Fighting for a Cause

Teachers: Through narrative, biography, and other accessible means, introduce students to the idea that while America is a country founded upon “the proposition that all men are created equal,” equality has not always been granted to all Americans. Many people, however, have dedicated themselves to the struggle to extend equal rights to all Americans. Specific figures and issues to study include:

- Susan B. Anthony and the right to vote
- Eleanor Roosevelt and civil rights and human rights
- Mary McLeod Bethune and educational opportunity
- Ruby Bridges and equitable access in public school education
- Jackie Robinson and the integration of major league baseball
- Rosa Parks and the bus boycott in Montgomery, Alabama
- Martin Luther King, Jr. and the dream of equal rights for all
- Cesar Chavez and the rights of migrant workers
- Chief Standing Bear and the rights of Native Americans

VII. Geography of the Americas

A. North America

- North America: Canada, United States, Mexico
- The United States
 - Fifty states: Forty-eight contiguous states, plus Alaska and Hawaii
 - Current territories (American Samoa, Guam, Puerto Rico, and U.S. Virgin Islands)
 - Mississippi River
 - Appalachian and Rocky Mountains
 - Great Lakes
- Atlantic and Pacific Oceans, Gulf of Mexico, Caribbean Sea, West Indies
- Central America

B. South America

- Brazil: largest country in South America, Amazon River, rain forests
- Peru and Chile: Andes Mountains
- Locate: Venezuela, Colombia, Ecuador
- Bolivia: named after Simon Bolivar, "The Liberator"
- Argentina: the Pampas
- Main languages: Spanish and (in Brazil) Portuguese

VIII. Symbols and Figures

- Recognize and become familiar with the significance of
 - U. S. flag: current and earlier versions
 - Statue of Liberty
 - Lincoln Memorial



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

I. Elements of Art

Teachers: The generally recognized elements of art include line, shape, form, space, light, texture, and color. In second grade, continue when appropriate to discuss qualities of line, shape, color, and texture that students learned about in kindergarten and first grade.

- Recognize lines as horizontal, vertical, or diagonal.
- Observe the use of implied line/movement in:
 - Katsusika Hokusai, *The Great Wave at Kanagawa*
 - Pablo Picasso, *Mother and Child*
 - Yu Hong, *A Man Playing the Hula Hoop*, 1992
 - Liu Xiaodong, *My Hometown*, (2014)

See also World History Grade 2: Japan, re Hokusai

II. Sculpture

- Observe shape, mass, and line in sculptures, including
 - Myron of Athens, *Discus Thrower*
 - (Ancient China) *Flying Horse, One Leg Resting on a Swallow*
 - Auguste Rodin, *The Thinker*
 - Ruth Asawa, *Installation View* (1960)
 - Yin Xiuzhen, *Portable City: Hangzhou* (2011)
 - Cai Guo-Qiang, *Sky Ladder* (2015)

See also World History Grade 2: The Ancient Greek Civilization, re *The Discus Thrower*; and China, re *Flying Horse*.

III. Landscape

Teachers: Briefly review from Grade 1: portrait, self-portrait, and still life. In discussing the following works, ask the students about their first impressions—what they notice first, and what the picture makes them think of or feel. Go on to discuss lines, shapes, colors, and textures; details not obvious at first; why they think the artist chose to depict things in a certain way, etc.

- Recognize as landscapes and discuss
 - Thomas Cole, *View from Mount Holyoke, Northampton, Massachusetts after a Thunderstorm- The Oxbow*
 - El Greco, *View of Toledo*
 - Henri Rousseau, *Virgin Forest at Sunset*
 - Van Gogh, *The Starry Night*
 - Clementine Hunter, *Murals*, (1955)
 - Richard Mayhew, *Vista* (2004)
 - Xing Danwen, *Urban Fiction No. 13* (2005)
 - David Hockney, *Bigger Trees Near Warter* (2007)
 - Lois Dodd, *Night House with Lit Window* (2012)
 - Julie Mehretu, *Fever graph (algorithm for serendipity)* (2013)
 - D.Y. Begay, *Winter in the North* (2018)

Note: You may wish to recall from kindergarten, Joan Miró, *People and Dog in the Sun*.

IV. Abstraction

- Compare lifelike and abstract animals, including
 - Albrecht Dürer, *Young Hare*
 - Paul Klee, *Cat and Bird*
 - Pablo Picasso, *Bull's Head*
 - Elaine Marie de Kooning, *Baseball Players*
 - Henri Matisse, *The Snail*
 - John James Audubon, *Passenger Pigeon*
- Observe and discuss examples of abstract painting and sculpture, including
 - Marc Chagall, *I and the Village*
 - Constantin Brancusi, *Bird in Space*

See also World History Grade 2: The Ancient Greek Civilization, re the Parthenon; India, re the Great Stupa; Japan, re the Katsura Palace.

V. Architecture

- Understand architecture as the art of designing buildings.
- Understand symmetry and a line of symmetry, and observe symmetry in the design of some buildings (such as the Parthenon).
 - Symmetry versus asymmetry (comparing the Parthenon to the Katsura Palace)
- Interior space versus exterior (comparing the Great Mosque to the Lakshmana Temple).
- Noting line, shape, and special features (such as columns and domes), look at
 - The Parthenon
 - Great Stupa (Buddhist temple in Sanchi, India)
 - The Baths of Diocletian
 - The Great Mosque of Cordoba
 - The Lakshmana Temple, Khajuraho
 - The Katsura Palace

Note: Also known as the Katsura Imperial Villa or Katsura Detached Palace. Call attention to the inspiration of Asian Gardens and the shift from symmetry to asymmetry that occurred at the time in the 19th century European Architecture in the Gothic Revival (see Grade 6) The way space is organized inspired 20th century architects (see Frank Lloyd Wright in Grade 7).



Teachers: In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines.

The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. Elements of Music

- Through participation, become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
 - Recognize a steady beat, accents, and the downbeat; play a steady beat.
 - Move responsively to music (marching, walking, hopping, swaying, etc.).
 - Recognize short and long sounds.
 - Discriminate between fast and slow; gradually slowing down and getting faster.
 - Discriminate between differences in pitch: high and low.
 - Discriminate between loud and soft; gradually increasing and decreasing volume.
 - Understand that melody can move up and down.
 - Hum the melody while listening to music.
 - Echo short rhythms and melodic patterns.
 - Engage in improvisation activities (e.g., *Bum, Bum, Bum Here We Come*)
 - Participate in call and response activities (e.g., *My Aunt Came Back, Oh Won't You Sit Down?*)
 - Participate in simple rounds (e.g., *Canoe Song*)
 - Sing Partner Songs (e.g., *This Old Man, Michael Finnegan*)
 - Dance and echo rhythm (e.g., *Miss Mary Mack, Alabama Gal*)
 - Play simple rhythms and melodies.
 - Recognize like and unlike phrases.
 - Recognize timbre (tone color).
 - Sing unaccompanied, accompanied, and in unison.
 - Recognize verse and refrain.
 - Recognize that musical notes have names.
 - Recognize a scale as a series of notes.
 - Sing the C major scale using "do re mi," etc.
- Recognize (aurally) the following frequently used Italian terms:
 - Review
 - *adagio* (slow)
 - *moderato* (medium)
 - *allegro* (fast)
 - Introduce
 - *piano* (soft)
 - *forte* (loud)
- Understand the following notation:
 -  staff,  treble clef, names of lines and spaces in the treble clef
 -  whole note  half note  quarter note  eighth note
 - quarter rest eighth rest
 - soft **p** (piano) loud **f** (forte)

II. Listening and Understanding

Teachers: Expose students to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

Note: In third grade, students will take a closer look at the brass and woodwind families.

Note: If you have recordings or other resources, also introduce African drumming and Latin American music with percussion.

See also below, *Composers and Their Music*, Bach, “Toccatà and Fugue in D minor” (organ).

See also *Language Arts Grade 2: American Tall Tales*, re “Casey Jones,” and “John Henry.”

See also *American History Grade 2: Civil War*, re “Follow the Drinking Gourd,” and “When Johnny Comes Marching Home.”

See also *American History Grade 2: War of 1812*, re “The Star-Spangled Banner.”

A. The Orchestra

- Review families of instruments: strings, brass, woodwinds, percussion.
- Become familiar with instruments in the string family—violin, viola, cello, double bass—and listen to
 - Camille Saint-Saëns, from *Carnival of the Animals*: “The Swan” (cello) and “Elephants” (double bass)
 - Antonio Vivaldi, *The Four Seasons* (see below, *Composers and Their Music*)
- Become familiar with instruments in the percussion family—for example, drums (timpani, snare), xylophone, wood block, maracas, cymbals, triangle, tambourine—and listen to
 - Carlos Chavez, *Toccatà for Percussion*, third movement.
 - Evelyn Glennie, *A Little Prayer*
 - Abing (Hua Yanjun), *The Moon’s Reflection on the Second Spring*
 - Heitor Villa-Lobos, *O Polichinelo*

B. Keyboard Instruments

- Recognize that the piano and organ are keyboard instruments, and listen to a variety of keyboard music, including:
 - Wolfgang Amadeus Mozart, “Rondo Alla Turca” from *Piano Sonata K. 331*
 - Ludwig van Beethoven, “Für Elise”
 - Felix Mendelssohn, from *Songs without Words*, “Spring Song”
 - Fanny Mendelssohn, “piano trio in d minor, op. 11”

C. Composers and Their Music

Teachers: Provide brief, child-friendly biographical profiles of the following composers, and listen to representative works:

- Antonio Vivaldi, *The Four Seasons*
- Johann Sebastian Bach, *Minuet in G major* (collected by Bach in the *Anna Magdalena Notebook*); *Jesu, Joy of Man’s Desiring*; *Toccatà and Fugue in D minor*
- Ludwig van Beethoven, *Symphony No. 6 (“Pastoral”)*: first movement and from final movement, “Thunderstorm” to end of symphony

III. Songs

- “Casey Jones” (chorus only)
- “Do-Re-Mi”
- “The Erie Canal”
- “Follow the Drinking Gourd”
- “Good Bye Old Paint”
- “Home on the Range”
- “John Henry”
- “Old Dan Tucker”
- “The Star-Spangled Banner”
- “Swing Low, Sweet Chariot”
- “This Land Is Your Land”
- “When Johnny Comes Marching Home”
- “If You Miss Me From the Back of the Bus”
- “De Colores”
- “Jambo Bwana”
- “Song of the Volga Boatmen”



By end of Grade 2, know from memory all sums of two one-digit numbers.

Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives students a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving higher order skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

I. Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
 - Use addition and subtraction within 100 to solve one- and two-step word problems.
 - Solve word problems that involve situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
 - Use equations with a symbol for the unknown number to represent the problem.
- Add and subtract within 20.
 - Fluently add and subtract within 20 using mental strategies.
- Work with equal groups of objects to gain foundations for multiplication.
 - Determine whether a group of objects (up to 20) has an odd or even number of members.
 - Write an equation to express an even number as a sum of two equal addends.
 - Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns.
 - Write an equation to express the total as a sum of equal addends.

II. Number and Operations in Base Ten

- Understand place value.
 - Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.
 - Count within 1000.
 - Skip-count by 5s, 10s, and 100s.
 - Read and write numbers to 1000, using
 - base-ten numerals
 - number names
 - expanded form
 - Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits.
 - Use $>$, $=$, and $<$ symbols to record the results of comparisons.
- Use place value understanding and properties of operations to add and subtract.
 - Fluently add and subtract within 100.
 - Use strategies based on
 - place value
 - properties of operations
 - relationship between addition and subtraction
 - Add up to four two-digit numbers.
 - Use strategies based on
 - place value
 - properties of operations

- Add and subtract within 1000.
 - Understand that when adding or subtracting three digit numbers sometimes it is necessary to compose or decompose tens or hundreds.
 - Use concrete models or drawings and strategies based on
 - place value
 - properties of operations
 - relationship between addition and subtraction
- Relate the applied strategy to a written method.
 - Mentally add 10 or 100 to a given number 100–900.
 - Mentally subtract 10 or 100 from a given number 100–900.
 - Explain why addition and subtraction strategies work.
 - Use place value and the properties of operations.

III. Measurement and Data

- Measure and estimate lengths in standard units.
 - Measure the length of an object by selecting and using appropriate tools, such as
 - rulers
 - yardsticks
 - meter sticks
 - measuring tape
 - Measure the length of an object twice, using length units of different lengths for the two measurements.
 - Describe how the two measurements relate to the size of the unit chosen.
 - Estimate lengths, using
 - units of inches
 - feet
 - centimeters
 - meters
 - Measure to determine how much longer one object is than another.
 - Express the length difference in terms of a standard length unit.
- Relate addition and subtraction to length.
 - Use addition and subtraction within 100 to solve word problems involving lengths (same units).
 - Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, etc.
 - Represent whole-number sums and differences within 100 on a number line diagram.
- Work with time and money.
 - Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
 - Solve word problems involving money.
 - Solve problems that include the following forms of currency
 - dollar bills
 - quarters
 - dimes
 - nickels
 - pennies
 - Use \$ and ¢ symbols appropriately
- Represent and interpret data.
 - Generate measurement data by measuring lengths of several objects to the nearest whole unit.
 - Make repeated measurements of the same object.

A line plot where the horizontal scale is marked off in whole number units

- Show the measurements by making a line plot.
- Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories.
- Solve simple put together, take apart, and compare problems using information presented in a bar graph.

IV. Geometry

- Reason with shapes and their attributes.
 - Recognize and draw shapes having specified attributes, such as
 - a given number of angles
 - a given number of equal faces
 - Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
 - Partition a rectangle into rows and columns of same-size squares.
 - Count to find the total number.
 - Partition circles and rectangles into two, three, or four equal shares.
 - Describe shares using the words halves, thirds, half of, a third of, etc.
 - Describe the whole as two halves, three thirds, four fourths.
 - Recognize that equal shares of identical wholes need not have the same shape.

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Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the report from the National Academies of Science, *A Framework for K-12 Science Education*, "...children have surprisingly sophisticated ways of thinking about the world, based in part on their direct experiences with the physical environment, such as watching objects fall or collide and observing plants and animals. They also learn about the world through everyday activities, such as talking with their families, pursuing hobbies, watching television, and playing with friends. As children try to understand and influence the world around them, they develop ideas about their role in that world and how it works. In fact, the capacity of young children—from all backgrounds and socioeconomic levels—to reason in sophisticated ways is much greater than has long been assumed. Although they may lack deep knowledge and extensive experience, they often engage in a wide range of subtle and complex reasoning about the world. Thus, before they even enter school, children have developed their own ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."

While experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge. Only when topics are presented systematically and clearly can children make steady and secure progress in their scientific learning. The child's development of scientific knowledge and understanding is in some ways a very disorderly and complex process, different for each child. But a systematic approach to the exploration of science, one that combines experience with book learning, can help provide essential building blocks for deeper understanding at a later time.

I. Properties of Matter

Teachers: Through reading aloud, observation, and activities such as describing and sorting different kinds of matter, explore the following with students:

A. Introduction to Matter

- Matter is anything that has mass and takes up space.
- There are many types of matter;
 - solid, liquid, gas

B. Properties and Uses of Matter

- Matter has properties that can be measured:
 - size, weight, volume
- Matter can be sorted, or classified, by properties.

C. Heating and Cooling Matter

- The state of matter depends on temperature.
- Heating or cooling a substance can change its properties.
 - Water has three states: liquid, solid (ice), and gas (water vapor).

D. Building with Matter

- Some objects are made from a single type of matter.
- Other objects are made from different types of matter being combined or placed together.

II. Organisms and Their Habitats

Teachers: Through reading aloud, observation, and activities such as investigating differences in the variety of plants and animals in different environments, help students to explore the following:

A. Plant Needs

- Plants have body parts (roots, stems, leaves) to survive and grow.
- Plants are living organisms and typically grow in fixed locations.

Review and extend learning from Kindergarten, Needs of Plants and Animals.

- Though there are many different types of plants, they have common needs (air, water, minerals, light).

B. Plant Diversity

- Plants are diverse in size, structure, and ecological needs.
- Plants live in environments to which they are suited; those environments also differ:
 - Deciduous forests (oak trees)
 - Tropical forests (vines, epiphytes)
 - Meadows and prairies (grasses)
 - Deserts (cacti)
 - Tundra (plants of small size)
 - Ponds, lakes, rivers, and streams
 - Oceans are home to less than a dozen known species of plants.
- Many plant habitats change in cycles over time—seasons—and plants are adapted to survive during those changes.

C. Animal Needs

- Adult plants and animals reproduce.
- Many kinds of animal parents take care of their offspring until the offspring become mature enough to care for themselves.

D. Animal Diversity

- Animals are diverse in size, shape, and ecological needs.
- Animals vary in their structure:
 - Invertebrates: without backbones (snails, insects, coral)
 - Vertebrates: with backbones (mammals, birds, fish, reptiles, and amphibians)
- Animals live in environments to which they are suited; those environments differ:
 - Deciduous forests (squirrels, raccoons)
 - Tropical forests (moles, worms)
 - Meadows and prairies (prairie dogs)
 - Deserts (lizards, scorpions)
 - Tundra (arctic fox, polar bears)
 - Ponds, lakes, rivers, and streams (fish, oysters)
 - Oceans (There are numerous species of animals in the world's oceans such as sea stars and whales.)

E. Ecosystems: Plant and Animal Relationships

- Many plants and animals live in a specific habitat.
- Organisms that share a given space affect each other.
 - Animals depend on plants for food and shelter.
 - Plants depend on animals (for example, pollination, seed dispersal).
- There are also groups of living things that are neither plants nor animals (fungi, algae, bacteria).

III. Exploring Land and Water

Teachers: Through reading aloud, observation, and activities such as developing models of the shapes and kinds of land and water in an area, help students to explore the following:

A. Landforms

- Earth's surface has various landforms such as:
 - plains, hills, plateaus, mountains, valleys, canyons, buttes, basins, cliffs, beaches, dunes, underwater mountains and valleys

- Maps are models of Earth’s surface.
 - A globe is a spherical map of Earth that helps to visualize locations of continents, the poles, and the equator.

B. Earth’s Water

- Most of Earth’s surface is covered with water and occurs in various places.
- Most of Earth’s water is liquid; some is solid (ice); Some is fresh water (rivers, lakes, groundwater, glaciers); most is salt water (ocean).

C. Effects of Wind and Water on Land

- Wind and water can change the shape of land.
- Wind and water produce many distinctive landforms:
 - dunes, beaches, cliffs, hoodoos, arches, oxbows and meanders, canyons, mesas
- Wind and water cause relatively slow changes to Earth’s crust.
- Scientists and engineers work together to design solutions that slow or prevent unwanted weathering and erosion.

IV. Electricity and Magnetism

Teachers: The emphasis in Grade 2 should be on observation, description, and explanation of real world applications of electricity and magnetism; technical explanations of electromagnetism should be taken up in later grades; see Grades 4, 5, 6, and 8 for an increasingly detailed study of energy, electricity, and magnetism.

Students should also engage with the engineering design process and its relationship to scientific knowledge. Contextualized design challenges should be embedded across multiple topics of study such as this domain, including in the later grades; for example, see Grades 3, 4, and 5 for an increasingly detailed study of engineering design. At this grade level, explore the following with students:

A. Electricity

- Electricity is a form of energy; it can cause changes.
- Matter contains two types of electrical charges: positive and negative.
- Types of electricity:
 - Static electricity: electric charges on the surface of things
 - Current electricity: electrical charges flowing in a circuit through wires and other devices

B. Magnets and Magnetism

- Magnet: a metal object that can exert a force through a distance on certain types of metal objects.
- A magnet has two poles: north and south.
- Similar magnetic poles attract each other; opposite magnetic poles repel each other.

C. Designing and Engineering Useful Devices

- Electricity and magnetism are used in many useful devices.
- All useful devices are developed through engineering design, a process which includes:
 - Defining a problem
 - Developing possible solutions
 - Refining (optimizing) the design solution
- Scientists and engineering designers often work together in teams to solve problems and design effective solutions.

D. Safe Use of Electricity and Magnetism

- Electricity is potentially dangerous.
- Safety rules for electricity include:

Collaborate with your fourth grade colleagues regarding future expectations and definitions of energy, transfer, and the transformation of energy (Grade 4, Energy Transfer and Transformation).

- never put your finger or anything metallic in an electrical outlet.
- never touch a switch or electrical appliance when your hand or body is wet.
- never put your finger in a lamp socket.

V. The Human Body: Cells and Digestion

Emphasis at this grade is to introduce the hierarchy of structures in the body.

Review and extend learning from Kindergarten and Grade 1, Our Five Senses and Human Body Systems

A. Cells, Tissues, and Organs

- All living things are made up of cells too small to be seen without a microscope.
- The human body is made up of different types of cells including: stem, bone, blood, muscle, fat, skin, nerve.
- Cells combine to form tissues.
- Tissues combine to form organs.
- Organs combine to form organ systems.

B. Digestive and Excretory systems

- The human body has complex systems, including the digestive and excretory systems.
 - The digestive system includes body parts that take in and process food (salivary glands, taste buds, teeth, esophagus, stomach, liver, small intestine, large intestine).
 - The excretory system includes those body parts that eliminate some kinds of wastes (kidneys, bladder, urethra).

C. Taking Care of Your Body

- A healthy lifestyle involves performing certain behaviors and avoiding other behaviors.
- The body needs specific foods, vitamins, and minerals in certain quantities to function properly.
- Organizations make recommendations about what nutrients people need to stay healthy.
- Vaccinations can help protect health.

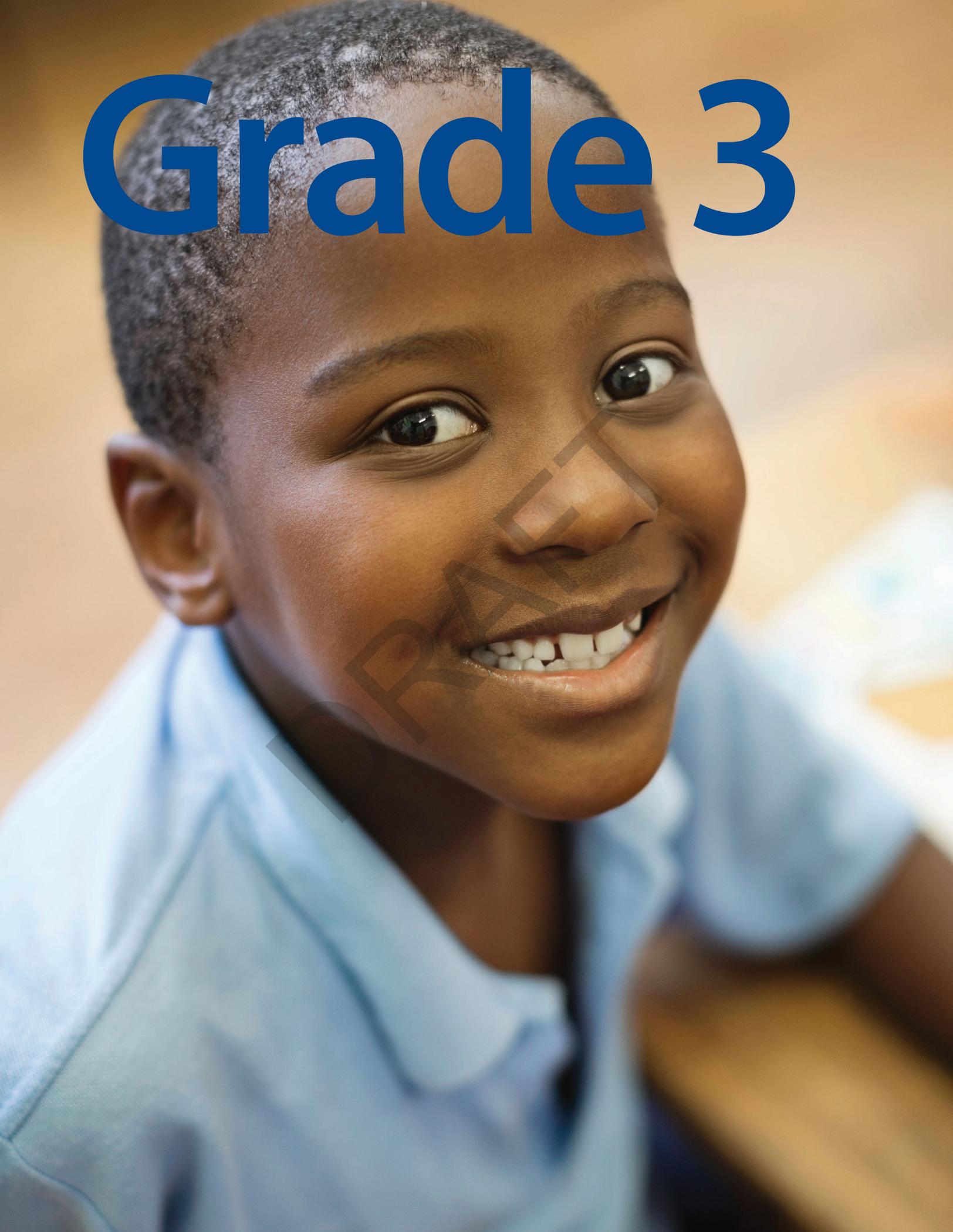
VI. Science Biographies

Teachers: Through reading aloud and activities, explore with students the stories and accomplishments of these scientists and engineers. This list of science biographies is by no means exhaustive. Other individuals can be incorporated into learning during a corresponding topic of study for this grade level, and should include:

- Dmitri Mendeleev—developed the periodic table
- John James Audubon—artist specializing in American birds
- Marie Tharp—pioneer in mapping the ocean floor
- Louis Pasteur—explored bacteria and the safety of foods

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Grade 3



Overview of Topics

Grade 3

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
- II. Reading
 - A. Phonics: Decoding and Encoding
 - B. Oral Reading and Fluency
 - C. Reading Comprehension and Response—All Texts
 - D. Reading Comprehension—Fiction, Drama, Poetry
 - E. Reading Comprehension—Nonfiction and Informational
- III. Writing
 - A. Writing to Reflect Audience, Purpose, and Task
 - B. Conducting Research
 - C. Narrative Writing
 - D. Informative/Explanatory Writing
 - E. Persuasive Writing/Opinion
- IV. Language Conventions
 - A. Command of Language
 - B. Spelling
 - C. Grammar
 - D. Capitalization and Punctuation
 - E. Vocabulary
- V. Poetry
- VI. Fiction
 - A. Myths and Mythical Characters
 - B. Literary Terms
- VII. Sayings and Phrases

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. World Geography
 - A. Spatial Sense
 - B. Geographical Terms and Features
 - C. Canada
 - D. Important Rivers of the World
- II. The Ancient Roman Civilization
 - A. Geography of the Mediterranean Region
 - B. Background
 - C. The Empire
 - D. The “Decline and Fall” of Rome
 - E. The Eastern Roman Empire: Byzantine Civilization
- III. The Vikings

AMERICAN HISTORY AND GEOGRAPHY

- I. The Earliest Americans
 - A. Crossing from Asia to North America
 - B. Native Americans
- II. Early Exploration of North America
 - A. Early Spanish Exploration and Settlement
 - B. Exploration and Settlement of the American Southwest
 - C. The Search for the Northwest Passage
- III. The Thirteen Colonies: Life and Times Before the Revolution
 - A. Geography
 - B. Southern Colonies
 - C. New England Colonies
 - D. Middle Atlantic Colonies

VISUAL ARTS

- I. Elements of Art
 - A. Light in Artworks
 - B. Space in Artworks
 - C. Design: How the Elements of Art Work Together
- II. Native American Art
- III. Art of Ancient Rome and Byzantine Civilization
- IV. Architecture

MUSIC

- I. Elements of Music
- II. Listening and Understanding
 - A. The Orchestra
 - B. Composers and Their Music
 - C. Musical Connections
- III. Songs

MATHEMATICS

- I. Operations and Algebraic Thinking
- II. Number and Operations in Base Ten
- III. Number and Operations—Fractions
- IV. Measurement and Data
- V. Geometry

SCIENCE

- I. Investigating Forces
 - A. Forces and Motion
 - B. The Force of Friction
 - C. Predicting Motion
 - D. The Force of Magnetism
- II. Life Cycles, Traits, and Variations
 - A. Organisms have Life Cycles
 - B. Organisms have Traits
 - C. The Environment Affects Traits
 - D. Advantages of Specific Traits
- III. Habitats and Change
 - A. Living Things and Their Environments
 - B. Ecosystems and Environmental Change
 - C. Evidence of How Organisms and Environments have Changed Over Time
- IV. Weather and Climate
 - A. Earth’s Atmosphere
 - B. Wind: The Movement of Air
 - C. Weather and Climate
 - D. Reducing the Impact of Hazardous Weather
- V. The Human Body: Systems and How Our Eyes and Ears Work
 - A. The Muscular System
 - B. The Skeletal System
 - C. The Nervous System
 - D. Vision: How the Eye Works
 - E. Hearing: How the Ear Works
- VI. Science Biographies

Grade 3 | English Language Arts



The *Common Core State Standards for English Language Arts* emphasize the critical importance of building nonfiction background knowledge in a coherent and sequenced way within and across grades. This can be accomplished most effectively, at each grade level, by integrating the topics from history, geography, science, and the arts in the *Core Knowledge Sequence* into the language arts block. Note that in the *Sequence*, there are many cross-curricular connections to history and science topics within Language Arts (e.g., poems, stories, and sayings), as well as to visual arts and music, which can and should be integrated into the applicable domain of study.

I. Listening and Speaking

A. Classroom Discussion

- Maintain attention and actively participate in discussions about a variety of topics, ideas, and texts in a variety of settings including partners, small and large groups, and teacher-led groups.
- Prepare for discussions in advance, including reading about the topic and organizing information for the discussion. Draw on preparations during the discussion.
- Use agreed-upon rules for group discussions, e.g., look at and listen attentively to the speaker, raise hand to speak, take turns, keep discussions on-topic, and say “excuse me” or “please.”
- Ask relevant questions to clarify conversations and ideas and to build upon remarks made by others.
- Participate in a discussion by explaining their own ideas relevant to the topic or conversation.
- Understand and use narrative language to describe main ideas and supporting details in a text read aloud, such as people, places, things, locations, events, and actions.
- Understand and use narrative language to describe texts read aloud or presented in different formats, such as videos, recordings, pictures, graphs, and charts.
- Ask and answer questions about information presented orally, providing appropriate on-topic elaboration and detail.

B. Presentation of Ideas and Information

- Give a presentation about a topic or text, tell a story, or orally relate a personal experience including relevant details and facts.
- Make audio recordings of poems and stories, reading fluently and at an understandable volume and pace.
- Add visual displays to enhance certain facts and details in oral readings or presentations.
- Speak in complete sentences, providing appropriate details and clarification for multiple tasks and situations.

II. Reading

A. Phonics: Decoding and Encoding

- Identify and understand the meaning of common prefixes and suffixes.
- Decode words with common Latin suffixes.
- Decode and read multisyllable words at grade level.
- Read irregularly spelled words at grade level.

Note: Students should read outside of school at least 20 minutes daily.

B. Oral Reading and Fluency

- Read grade-level text fluently and accurately to support comprehension.
- Understand the purpose for reading a particular text.
- Orally read and reread grade-level poetry and prose to develop accuracy, appropriate pacing, and expression.
- Self-correct and develop understanding by rereading as necessary.

C. Reading Comprehension and Response—All Texts

- Independently read and comprehend longer works of fiction (chapter books, stories, plays, and poems) and nonfiction (science, history, and social studies) appropriately written for third grade or beyond.

Grasping Specific Details and Key Ideas

- Ask and pose plausible answers to *how*, *why*, and *what-if* questions in interpreting fiction and nonfiction texts read independently.
- Orally summarize main points from fiction and nonfiction readings.
- Make inferences, draw conclusions, and trace the development of themes.
- Support inferences, conclusions, and themes with evidence from the text.
- Understand how ideas develop in a text and the interactions between ideas, people, places, and events, and why they are important.

Observing Craft and Structure

- Point to specific words or passages that are causing difficulties in comprehension.
- Determine the meaning of words and phrases from a text that has been read independently, including denotative, connotative, and figurative meanings.
- Identify and use text features to locate and understand information (e.g., table of contents, index, chapters, scenes, stanzas, sidebars, captions, and key words).
- Determine their own point of view about a text and understand how it differs from that of the author, narrator, or characters in a text.

Integrating Information and Evaluating Evidence

- Prior to reading, identify what they know and have learned that may be related to the specific story or topic to be read.
- Make predictions prior to and while reading, based on the title, pictures, and/or text read thus far and then compare the actual outcomes to predictions.
- Use images accompanying the written text (e.g., illustrations, photographs, charts, and maps) to check and support understanding.
- Answer questions that require making interpretations, making judgments, or giving opinions about what is read independently.
- Interpret information that is read independently and then ask questions to clarify this information.
- Identify the important themes or key ideas in a text.
- Compare and contrast themes or key ideas across texts.

D. Reading Comprehension—Fiction, Drama, Poetry

- Retell a story, using narrative language to describe characters, setting(s), and the plot of the story in proper sequence.
- Identify the moral or lesson of a fable, folktale, or myth and identify the components that build it, including details such as the title, setting, characters, and how the story plays out.
- Describe characters in increasing depth by referring to dialogue and/or their actions in the story.
- Explain how characters' actions, words, and motivations affect the plot of a story.

- Demonstrate understanding of literary language (e.g., author, illustrator, characters, setting, plot, dialogue, personification, simile, and metaphor) and use some of these terms when discussing fiction, drama, or poetry.
- Distinguish between literal and figurative language and be able to explain the meaning of figurative language in a text.
- Distinguish between poems, plays, and stories, including the components of each (e.g., stanzas, scenes and acts, and chapters) and how the components affect the whole.
- Identify the point(s) of view of the narrator(s) and characters in a text; distinguish their own opinion or point of view from that of the narrator or characters.
- Understand and explain how illustrations impact stories by showing aspects of a character or setting and creating a specific mood.
- Identify and describe the theme, setting, and plot of a story; compare the themes, settings, and plots of stories written by the same author (as in a series).

E. Reading Comprehension—Nonfiction and Informational

- Answer questions about the details of a nonfiction text, indicating which part of the text provides the information needed to answer specific questions.
- Locate the main ideas in a text and distinguish them from details. Explain how details support big ideas.
- Identify the structure of a text, section of text, paragraph, or sentence (e.g., comparison, cause/effect, problem/solution, compare/contrast, sequence, or main idea and details) and describe how it connects and communicates ideas in the text.
- Understand how historical events, scientific ideas, or steps in a procedure are related in a text and use language pertaining to sequence or cause/effect to explain how or why they happened.
- Identify and determine the meaning of Tier 2 academic vocabulary and Tier 3 domain-specific vocabulary in informational text.
- Locate relevant information in a print or digital text using text features and search tools such as key words, sidebars, and hyperlinks.
- Understand the author’s point of view or opinion about a nonfiction subject and distinguish it from their own.
- Use both words and images (e.g., photos, maps, and diagrams) in an informational text to answer *where*, *when*, *why*, and *how* questions relevant to the text.
- Compare and contrast the information in nonfiction texts on similar subjects.

III. Writing

A. Writing to Reflect Audience, Purpose, and Task

- Write routinely, completing both short and long assignments focused on a range of different tasks, purposes, and audiences.
- Produce a variety of types of writing—such as stories, reports, poems, letters, descriptions, and arguments—and make reasonable judgments about what to include in their own written works based on the purpose and type of composition.
- Know how to use established conventions when writing a friendly letter: heading, salutation (greeting), closing, and signature.
- Organize material in paragraphs and understand
 - how to use a topic sentence.
 - how to develop a paragraph with examples and details.
 - that each new paragraph is indented.
- In some writings, proceed with guidance through a process of gathering information, organizing thoughts, composing a draft, revising to clarify and refine their meaning, and proofreading with attention to spelling, mechanics, and presentation of a final draft.

- Use keyboards, tablets, and other technologies to produce and publish writing as well as to collaborate and communicate with others.

B. Conducting Research

- Conduct short research projects to demonstrate knowledge gathered and learned about a topic.
- Gather information from personal experiences as well as from print and digital sources (e.g., a children’s encyclopedia, approved online sources, videos, and recordings).
- Take notes from sources.
- Organize information from research notes into categories provided by the teacher.

C. Narrative Writing

- Produce narrative pieces that reflect real-life or imagined experiences
- Introduce a narrator and characters and develop them through dialogue and exposition, including actions, thoughts, feelings, and reactions to events in the plot.
- Organize a logical sequence of plot events, using time-order words to indicate event order.
- Provide a beginning that introduces the story, a middle that develops story events, and an ending that gives a sense of closure.

D. Informative/Explanatory Writing

- Write a short report that clearly presents ideas and information in their own words.
- Introduce a topic with information organized in related sections or paragraphs and developed with facts, definitions, and details.
- Include visual elements such as photos, drawings, or diagrams to help explain or present ideas or information when appropriate.
- Use linking words to connect ideas (e.g., *also, another, and, more, but, however, therefore, in addition*).
- Write a conclusion that wraps up ideas in the text.

E. Persuasive Writing/Opinion

- Introduce an opinion and support it with reasons or evidence.
- Use linking words to connect their opinion with reasons (e.g., *another, more, but, also, however, therefore, in addition*).
- Write a conclusion that wraps up the argument.

IV. Language Conventions

A. Command of Language

- Use knowledge of language conventions when reading, writing, speaking, and listening.
- Identify differences between written and spoken English.
- Apply word choices to create meaning and effect.

B. Spelling

- Spell most words correctly or with a highly probable spelling.
- Apply current code knowledge to spelling.
- Spell most grade-level high-frequency words correctly.
- Spell words correctly when adding plurals, suffixes, and other known endings.
- Use knowledge of word patterns, word families, word parts, and ending rules to spell correctly.
- Use dictionaries or glossaries—print and digital—to check and correct spellings about which they are uncertain.

C. Grammar

- Understand what a complete sentence is, and
 - identify subject and predicate in single-clause sentences.
 - distinguish complete sentences from fragments.
- Identify and use different sentence types:
 - simple (contains one subject and one predicate)
 - compound (contains more than one subject or predicate)
 - complex (contains a subordinate clause)
- Correctly use coordinating and subordinating conjunctions in sentences.
- Know the following parts of speech and how they are used:
 - nouns (concrete and abstract; regular and irregular plural)
 - pronouns (singular and plural)
 - verbs (action verbs and auxiliary or helping verbs; regular and irregular verbs; verb tenses)
 - adjectives (including articles: *a* before a consonant, *an* before a vowel, and *the*)
 - adverbs
- Understand and use correct subject-verb agreement.
- Understand and use correct pronoun-antecedent agreement.
- Correctly form and use comparative and superlative adjectives and adverbs.

Note: Review and reinforce from Grade 2: singular and plural nouns; making words plural with /s/ or /es/; irregular plurals; correct usage of irregular verbs (be, have, do, go, come, etc.); regular past tense with -ed and past tense of irregular verbs.

Note: Review from Grade 2: capital letters for the first word of a sentence; proper nouns; the pronoun *I*; holidays and months and days of the week; names of countries, cities, states; main words in titles; initials.

Note: Teach only words that can be clearly analyzed into prefix and base word; for example, do not teach “discover” or “display” as prefixed words.

D. Capitalization and Punctuation

- Use capital letters correctly, including at the beginning of sentences, proper nouns, and words in titles.
- Know how to use the following punctuation:
 - comma: between city and state in an address; in dialogue
 - apostrophe: in singular and plural possessive nouns
 - quotation marks: in dialogue

E. Vocabulary

- Use context clues to figure out the meaning of words and phrases in a sentence.
- Know what prefixes and suffixes are and how the following affect word meaning:
 - Prefixes:
 - *re-* meaning “again” (as in *reuse, refill*)
 - *pre-* meaning “before” (as in *preview*)
 - *pro-* meaning “for” or “forward” (as in *propel*)
 - *mis-* meaning “incorrectly” (as in *misplaced*)
 - *un-* meaning “not” (as in *unfriendly*)
 - *dis-*, *non-* meaning “not” (as in *dishonest, nonsense*)
 - *un-*, *dis-* meaning “opposite of” (as in *untie, disappear*)
 - *anti-* meaning “against” (as in *antiviral*)
 - *uni-* meaning “one” (as in *universe*)
 - *bi-* meaning “two” (as in *bicycle*)
 - *tri-* meaning “three” (as in *triangle*)
 - *multi-* meaning “many” (as in *multiple*)
 - *mid-* meaning “middle” (as in *midsection*)
 - Suffixes:
 - *-er* and *-or* meaning “someone who” (as in *singer, actor*)
 - *-ful* meaning “having” or “full of” (as in *careful*)
 - *-less* meaning “without” (as in *careless*)
 - *-able*, *-ible* meaning “able to” (as in *breakable, visible*)
 - *-ly* meaning “in the manner of” (as in *quickly*)

- Figure out the meaning of a new word based on the meaning of a known word with the same root (e.g., *vision, visible, visualize*).
- Use a dictionary or glossary to answer questions regarding meaning and usage of unfamiliar words.
- Differentiate between literal and figurative word choices, as in the phrase “hold your head up high.”
- Make connections between words and real-world examples (e.g., describe something *enjoyable*; give an example of a *disappointment*).
- Distinguish shades and degrees of meaning in related words (e.g. *happy, pleased, overjoyed*).
- Acquire grade-level academic words (e.g., *compare, infer, describe*).
- Acquire grade-level words related to specific domains or subject areas (e.g., *gravity, atmosphere, environment*).
- Understand and use words that signal time and spatial relationships (e.g., *later, earlier that day, after breakfast yesterday*.)

V. Poetry

Teachers: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new, and to have students write their own poems. To bring students into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words. At this grade, poetry should be a source of delight; technical analysis should be delayed until later grades.

- “Adventures of Isabel” (Ogden Nash)
- “The Bee” (Isaac Watts; see also below, “The Crocodile”)
- “By Myself” (Eloise Greenfield)
- “Catch a Little Rhyme” (Eve Merriam)
- “The Crocodile” (Lewis Carroll)
- “Dream Variations” (Langston Hughes)
- “Eletelephony” (Laura Richards)
- “Father William” (Lewis Carroll)
- “First Thanksgiving of All” (Nancy Byrd Turner)
- “For want of a nail, the shoe was lost . . .” (traditional)
- “Jimmy Jet and His TV Set” (Shel Silverstein)
- “Knoxville, Tennessee” (Nikki Giovanni)
- “Trees” (Sergeant Joyce Kilmer)

VI. Fiction

- Alice in Wonderland* (Lewis Carroll)
- from *The Arabian Nights*:
 - “Aladdin and the Wonderful Lamp”
 - “Ali Baba and the Forty Thieves”
- “The Hunting of the Great Bear” (an Iroquois legend about the origin of the Big Dipper)
- “The Husband Who Was to Mind the House” (a Norse/English folktale, also known as “Gone is Gone”)
- “The Little Match Girl” (Hans Christian Andersen)
- “The People Could Fly” (an African American folktale)
- “Three Words of Wisdom” (a folktale from Mexico)
- “William Tell”
- selections from *The Wind in the Willows*:
 - “The River Bank” and “The Open Road” (Kenneth Grahame)

See also American History Grade 3: Enslavement of People in the Southern Colonies, re “The People Who Could Fly.”

See also World History
Grade 3: Vikings.

See also World History
Grade 3: Ancient Rome.

A. Myths and Mythical Characters

- Norse Mythology
 - Asgard (home of the gods)
 - Valhalla
 - Hel (underworld)
 - Odin
 - Thor
 - trolls
- Norse gods and English names for days of the week: Tyr, Odin [Wodin], Thor, Frigg [Freyja]
- More Myths and Legends of Ancient Greece and Rome
 - “Jason and the Golden Fleece”
 - “Perseus and Medusa”
 - “Cupid and Psyche”
 - “The Sword of Damocles”
 - “Damon and Pythias”
 - “Androcles and the Lion”
 - “Horatius at the Bridge”

B. Literary Terms

- biography and autobiography
- fiction and nonfiction

VII. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many students, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with students from home cultures that differ from the standard culture of literate American English.

Actions speak louder than words.
His bark is worse than his bite.
Beat around the bush
Beggars can't be choosers.
Clean bill of health
Cold shoulder
A feather in your cap
Last straw
Let bygones be bygones.
One rotten apple spoils the whole barrel.
On its last legs
Rule the roost
The show must go on.
Touch and go
When in Rome do as the Romans do.
Rome wasn't built in a day.



Teachers: The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures.

World History and Geography

I. World Geography

A. Spatial Sense (Working With Maps, Globes, and Other Geographic Tools)

- Name your continent, country, state, and community.
- Understand that maps have keys or legends with symbols and their uses.
- Find directions on a map: east, west, north, south.
- Identify major oceans: Pacific, Atlantic, Indian, Arctic, Southern.
- The seven continents: Asia, Europe, Africa, North America, South America, Antarctica, Australia
- Locate: Canada, United States, Mexico, Central America, South America.
- Locate: the Equator, Northern Hemisphere and Southern Hemisphere, North and South Poles.
- Measure straight-line distances using a bar scale.
- Use an atlas and, if available, on-line sources to find geographic information.

B. Geographical Terms and Features

Teachers: Review terms from Grade 1 (peninsula, harbor, bay, island, ocean, sea) and Grade 2 (coast, valley, desert, oasis, prairie), and add:

- boundary, channel, delta, isthmus, plateau, reservoir, strait

C. Canada

- Locate in relation to United States.
- French and British heritage, French-speaking Quebec
- Rocky Mountains
- Hudson Bay, St. Lawrence River, Yukon River
- Divided into provinces and territories
- Canadian Arctic
- Inuit people and culture
- Major cities, including Montreal, Quebec, Toronto, Vancouver

D. Important Rivers of the World

- Terms: source, mouth, tributary, drainage basin
- Asia: Ob, Yellow (Huang He), Yangtze (Chang Jiang), Ganges, Indus, Tigris, Euphrates
- Africa: Nile, Niger, Congo
- South America: Amazon, Paraná, Iguazu, Orinoco
- North America: Mississippi and major tributaries, Mackenzie, Yukon
- Australia: Murray-Darling
- Europe: Volga, Danube, Rhine

See also below, American History and Geography II.C: Search for the Northwest Passage.

The Iguazu River is a tributary of the Paraná River.

II. The Ancient Roman Civilization

Teachers: Students will study Rome again in Grade 6, with a focus on the legacy of ideas from ancient Greece and Rome.

A. Geography of the Mediterranean Region

- Mediterranean Sea, Aegean Sea, Adriatic Sea
- Greece, Italy (peninsula), France, Spain
- Strait of Gibraltar, Atlantic Ocean
- North Africa, Asia Minor (peninsula), Turkey
- Bosphorus (strait), Black Sea, Istanbul (Constantinople)
- Red Sea, Tiber River, Persian Gulf, Indian Ocean

B. Background

- Define BC/AD and BCE/CE
- The legend of Romulus and Remus
- Latin as the language of Rome
- Worship of gods and goddesses, largely based on Greek religion
- The Republic: Senate, Patricians, Plebeians
- Punic Wars: Carthage, Hannibal

C. The Empire

- Julius Caesar
 - Defeats Pompey in civil war, becomes dictator
 - “Veni, vidi, vici” (“I came, I saw, I conquered”)
 - Cleopatra of Egypt, Marc Antony
 - Caesar assassinated in the Senate, Brutus
- Augustus Caesar
- Life in the Roman Empire
 - The Forum: temples, marketplaces, etc.
 - The Colosseum: circuses, gladiator combat, chariot races
 - Roads, bridges, and aqueducts
- Eruption of Mt. Vesuvius, destruction of Pompeii
- Persecution of Christians

D. The “Decline and Fall” of Rome

- Weak and corrupt emperors, legend of Nero fiddling as Rome burns
- Civil wars
- City of Rome sacked
- Social and moral decay

E. The Eastern Roman Empire: Byzantine Civilization

- The rise of the Eastern Roman Empire, known as the Byzantine Empire
- Constantine, emperor who made Christianity the official religion of Rome
- Constantinople (now called Istanbul) merges diverse influences and cultures.
- Justinian, Justinian’s Code

III. The Vikings

- From area now called Scandinavia (Sweden, Denmark, Norway)
- Also called Norsemen
- Skilled sailors and shipbuilders (longships).
- Traders, and sometimes raiders of the European coast

See also Language Arts
Grade 3: More Myths
and Legends of Ancient
Greece and Rome

See also Visual Arts
Grade 3: Art of Ancient
Rome and Byzantine
Civilization.

See also Language
Arts Grade 3: Norse
Myths.

- Viking alphabet
- Norse mythology: Thor, Thor's hammer, Asgard, and Valhalla
- Eric the Red and Leif Ericson (Leif “the Lucky”)
- Earliest Europeans (long before Columbus) we know of to come to North America
 - Locate: Greenland, Canada, Newfoundland



Archaeological discoveries in North and South America, dating back 14,000 to 15,000 years, show that humans arrived on the continent 1,000 or even 2,000 years earlier than previously believed. According to a new theory, known as “Kelp Highway,” massive ice sheets covering western North America retreated allowing the first humans to arrive on the continent not only by foot but by boat. They traveled down the Pacific shore and subsisted on abundant coastal resources.

See also Language Arts Grade 3: “The Hunting of the Great Bear” (an Iroquois legend).

American History and Geography

Teachers: In Grade 3, students begin a more detailed and in-depth chronological investigation of topics, some of which have been introduced in grades K–2. Specific topics include: the early exploration of North America; ways of life of specific Native American peoples; life in colonial America before the Revolution. Use of timelines is encouraged. The following guidelines are meant to complement any locally required studies of the family, community, or region. Note that in fifth grade the American Geography requirements include “fifty states and capitals”; teachers in grades two through four may want to introduce these incrementally to prepare for the fifth grade requirement.

I. The Earliest Americans

A. Crossing from Asia to North America

- Theories that hypothesize how the first humans arrived in North America:
 - Beringian Land Bridge Theory: A land bridge that allowed nomadic hunters cross from Asia to North America during the Ice Age
 - Kelp Highway Theory: Massive ice sheets covering western North America retreated allowing for the first humans to travel to and through the continent not only by foot but by boat
- Different peoples, with different languages and ways of life, eventually spread out over the North and South American continents. These early peoples include:
 - Inuit people, skilled hunters, igloos
 - Anasazi, pueblo builders, skilled weavers and potters, and cliff dwellers
 - Mound builders

B. Native Americans

- In the Southwest
 - Pueblos (Hopi, Zuni)
 - Dine (Navajo)
 - Apaches
- Eastern “Woodland” people
 - Woodland culture: wigwams, longhouses, farming, peace pipe, Shaman and Sachem
 - Major tribes and nations (such as Powhatan, Delaware, Susquehanna, Mohican, Massachusetts, Iroquois Confederacy)
- In the Southeast
 - Cherokee
 - Seminole

II. Early Exploration of North America

Teachers: In fifth grade, students will examine European exploration in a more global context. Third grade teachers should look ahead to the fifth grade World History guidelines (under “European Exploration, Trade, and the Clash of Cultures”) to see how the topics introduced here will be developed and extended later. It is recommended that third grade teachers keep their focus on the explorers and events specified here, and leave for fifth grade the figures and ideas specified for that grade.

A. Early Spanish Exploration and Settlement

- Settlement of Florida
- Ponce de Leon, legend of the Fountain of Youth

- Hernando de Soto
- Founding of St. Augustine (oldest continuous European settlement in what is now the U.S.)
- Geography: Caribbean Sea, West Indies, Puerto Rico, Cuba, Gulf of Mexico, Mississippi River

B. Exploration and Settlement of the American Southwest

- Early Spanish explorers in the lands that are now the states of Texas, New Mexico, Arizona, and California; missionary settlements (missions), especially in Texas and California
- Coronado and the legend of the “Seven Cities of Cibola” (of Gold)
- Geography: Grand Canyon and Rio Grande
- Conflicts between the Spanish and the Pueblos (1680 revolt led by Popé)
- Impact of settlement on indigenous population

C. The Search for the Northwest Passage

- Many explorers undertook the perilous, sometimes fatal, voyage to find a short cut across North America to Asia, including:
 - John Cabot: Newfoundland
 - Champlain: “New France” and Quebec
 - Henry Hudson: the Hudson River
- Geography
 - “New France” and Quebec
 - Canada, St. Lawrence River
 - The Great Lakes: Superior, Michigan, Huron, Erie, Ontario

Note: Students may also be interested to learn about Amerigo Vespucci, the unlikely source of our country’s name

III. The Thirteen Colonies: Life and Times Before the Revolution

Teachers: Discuss with students the definition of “colony” and why countries establish colonies. Help students see that the thirteen English colonies were not alike. Different groups of people came to America with different motivations (hoping to get rich, looking for religious freedom, etc.), and the thirteen colonies developed in different ways.

A. Geography

- The thirteen colonies by region: New England, Middle Atlantic, Southern
- Differences in climate from north to south: corresponding differences in agriculture (subsistence farming in New England, gradual development of large plantations in the South)
- Important cities in the development of trade and government: Philadelphia, Boston, New York, Charleston

B. Southern Colonies

- Southern colonies: Virginia, Maryland, North Carolina, South Carolina, Georgia
- Virginia
 - Chesapeake Bay, James River
 - 1607: three ships of the London Company (later called the Virginia Company) arrive in Virginia, seeking gold and other riches
 - Impact of colonization on Native Americans
 - Establishment of Jamestown, first continuous English colony in the New World
 - Trade with Powhatan Native Americans (see also Eastern Woodland people, above)
 - John Smith
 - Pocahontas, marriage to John Rolfe
 - Diseases kill many people, both colonists and indigenous population.
 - The Starving Time

Note: The question of fact vs. legend regarding the rescue of John Smith by Pocahontas presents a good opportunity to explore what historians know and how they seek to learn about the past.

See also Language Arts
Grade 3: "The People
Who Could Fly" re
slavery in the colonies.

- Clashes between Native Americans and English colonists
- Development of tobacco as a cash crop, development of plantations
- 1619: first enslaved Africans brought to Virginia
- Maryland
 - A colony established mainly as a refuge for Catholics
 - Lord Baltimore
- South Carolina
 - Charleston
 - Plantations (rice, indigo) and enslavement of people to provide labor
- Georgia
 - James Oglethorpe's plan to establish a colony for English debtors
- Enslavement of people in the Southern colonies
 - Economic reasons that the Southern colonies came to rely on the enslavement of people (for example, slave labor on large plantations)
 - The difference between indentured servants and enslaved people: enslaved people seen as property
 - The Middle Passage

C. New England Colonies

- New England colonies: Massachusetts, New Hampshire, Connecticut, Rhode Island
- Gradual development of maritime economy: fishing and shipbuilding
- Massachusetts
 - Colonists seeking religious freedom: in England, an official "established" church (the Church of England), which did not allow people to worship as they chose
 - The Pilgrims
 - From England to Holland to Massachusetts
 - 1620: Voyage of the Mayflower
 - Significance of the Mayflower Compact
 - Plymouth, William Bradford
 - Helped by the Wampanoag people: Massasoit, Tisquantum (Squanto)
 - The Puritans
 - Massachusetts Bay Colony, Governor John Winthrop: "We shall be as a city upon a hill."
 - Emphasis on reading and education, the New England Primer
- Rhode Island
 - Roger Williams: belief in religious toleration
 - Anne Hutchinson

D. Middle Atlantic Colonies

- Middle Atlantic colonies: New York, New Jersey, Delaware, Pennsylvania
- New York
 - Dutch settlements and trading posts in "New Netherland"
 - Dutch West India Company acquires Manhattan Island and Long Island through a (probably misunderstood) purchase from the Native Americans; Dutch establish New Amsterdam (today, New York City).
 - English take over from the Dutch, and rename the colony New York.
- Pennsylvania
 - William Penn
 - Society of Friends, "Quakers"
 - Philadelphia



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

I. Elements of Art

Teachers: The generally recognized elements of art include line, shape, form, space, light, texture, and color. In third grade, build on what the students have learned in earlier grades as you introduce concepts of light, space, and design.

A. Light In Artworks

- Observe how artists use light and shadow (to focus our attention, affect our emotions, etc.) in
 - James Chapin, *Ruby Green Singing*
 - Jan Vermeer, *Milkmaid*
 - John Singer Sargent, *El Jaleo*, 1882
 - Alfred Ramo Martinez, *Florida Mexicana* (1936)
 - Hiroshi Sugimoto, several selections from his 'Movie Theater' series:
 - *Ohio Theater*, Ohio (1980)
 - *Teatro Comunale Masini Faenza* (2015)
 - *Everett Square Theater, Boston* (2015)

B. Space in Artworks

- Understand the following terms: two-dimensional (height, width) and three-dimensional (height, width, depth)
- Observe relationship between two-dimensional and three-dimensional shapes: square to cube, triangle to pyramid, circle to sphere and cylinder
- Observe how artists can make two-dimensional look three-dimensional by creating an illusion of depth, and examine the foreground, middle ground, and background in paintings, including
 - Jean Millet, *The Gleaners*
 - Pieter Bruegel, *Peasant Wedding*
 - Alfred Ramo Martinez, *Florida Mexicana* (1936)

C. Design: How the Elements of Art Work Together

- Become familiar with how these terms are used in discussing works of art:
 - Figure and ground
 - Pattern
 - Balance and symmetry
- Examine design—how the elements of art work together—in
 - Rosa Bonheur, *The Horse Fair*
 - Mary Cassatt, *The Bath*
 - Early American quilts, examples of quilts from Gee's Bend
 - Harriet Powers, *Pictorial quilt*, (1898)
 - Mary Lee Bendolph, *Grandma Strips* (2009)
 - Edward Hicks, *The Peaceable Kingdom*

Note: Students will take a more detailed look at perspective in Grade 5.

See also American History Grade 3: Colonial America, re Early American quilts and *The Peaceable Kingdom*.

- Faith Ringgold, *Tar Beach*
- Henri Matisse, cut-outs: *Icarus*
- Edvard Munch, *The Scream*
- Horace Pippin, *Victorian Interior*
- Romare Bearden, *The Block* (1971), and *Quilting Time* (1981)
- Frank Romero, *Le Monde* (2006)

II. Native American Art

Teachers: Students should be made aware of the spiritual purposes and significance of many Native American works of art.

- Become familiar with Native American works, including
 - Kachina dolls (Hopi, Zuni)
 - Navajo (Dine) blankets and rugs, sand paintings
 - Jewelry
 - Nellie Two Bear Gates (Gathering of Clouds Woman)'s Valise

III. Art of Ancient Rome and Byzantine Civilization

Teachers: The works of art listed here may be introduced as part of your study of ancient Roman civilization; see World History Grade 3

- Become familiar with artworks of ancient Roman and Byzantine civilization, including
 - Le Pont du Gard
 - The Pantheon
 - Byzantine mosaics
 - Hagia Sophia

IV. Architecture

- Become familiar with features of non-monumental architecture of houses built out of wood, mud, and thatch (and maintained locally by the people who live in them), including
 - Jomon, Pit House (10,000 - 300 BCE)
 - Neolithic Long House
 - Plains American Tipi (4000 BCE)
 - Cahokia, Mississippian Culture, (600–1400 CE)
 - Anasazi Pueblo, Chaco Canyon (750–1300 CE)
 - Musgum (or Fali) compound in Cameroon (date unclear)



Teachers: In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines.

The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. Elements of Music

- Through participation, become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
 - Recognize a steady beat, accents, and the downbeat; play a steady beat.
 - Move responsively to music.
 - Recognize short and long sounds.
 - Discriminate between fast and slow; gradually slowing down and getting faster.
 - Discriminate between differences in pitch: high and low.
 - Discriminate between loud and soft; gradually increasing and decreasing volume.
 - Understand that melody can move up and down.
 - Hum the melody while listening to music.
 - Engage in improvisation activities (e.g., “The Rattlin’ Bog” [Ireland], “I Bought Me a Cat”)
 - Participate in call and response activities (e.g., “Day-O”)
 - Sing partner songs (e.g., “Jingle Bells”/“Winter Fantasy”)
 - Participate in play parties (e.g., “Old Brass Wagon,” “Draw Me a Bucket of Water,” “Heel and Toe Polka”)
 - Echo short rhythms and melodic patterns.
 - Play simple rhythms and melodies.
 - Sing unaccompanied, accompanied, and in unison.
 - Recognize harmony; sing rounds
 - Recognize verse and refrain.
 - Continue work with timbre and phrasing.
 - Review names of musical notes; scale as a series of notes; singing the C major scale using “do re mi,” etc.
- Recognize (aurally) the following frequently used Italian terms:
 - Review
 - *adagio* (slow)
 - *moderato* (medium)
 - *allegro* (fast)
 - *piano* (soft)
 - *forte* (loud)
 - Introduce
 - *pianissimo* (very soft)
 - *fortissimo* (very loud)
- Understand the following notation
 - names of lines and spaces in the treble clef
 - treble clef, staff, bar line, double bar line, measure, repeat signs
 - whole note, half note, quarter note, eighth note, sixteenth note
 - whole rest, half rest
 - meter signature: $\frac{4}{4}$ $\frac{2}{4}$ $\frac{3}{4}$
 - soft *p* (piano), very soft *pp* (pianissimo), loud *f* (forte), very loud *ff* (fortissimo)

II. Listening and Understanding

Teachers: Expose students to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

See also below, re brass instruments: Composers and Their Music: Aaron Copland’s *Fanfare for the Common Man*, and John Philip Sousa, “Stars and Stripes Forever.” See also Language Arts Grade 3: *William Tell*.

Note: When you explore woodwinds with students, you may also want to recall Prokofiev’s *Peter and the Wolf*: the duck’s theme (oboe), cat’s theme (clarinet), bird’s theme (flute), and Grandfather’s theme (bassoon).

See below, Songs, “Simple Gifts.”

See also Language Arts Grade 3: Tales from “The Arabian Nights” re *Scheherazade*. Also, re Norse mythology, you may want to introduce Wagner’s “The Ride of the Valkyries.”

Note: Review from earlier grades “The Star-Spangled Banner.”

A. The Orchestra

- Review families of instruments: strings, brass, woodwinds, percussion.
- Become familiar with brass instruments—trumpet, French horn, trombone, tuba—and listen to
 - Gioacchino Rossini, *William Tell Overture*, finale (trumpet)
 - Wolfgang Amadeus Mozart, selections from the *Horn Concertos* (French horn)
- Become familiar with woodwind instruments—flute and piccolo (no reeds); clarinet, oboe, bassoon (with reeds)—and listen to
 - Claude Debussy, *Prelude to the Afternoon of a Faun* (flute)
 - Opening of George Gershwin’s *Rhapsody in Blue* (clarinet)

B. Composers and Their Music

Teachers: Provide brief, child-friendly biographical profiles of the following composers, and listen to representative works:

- Peter Ilich Tchaikovsky, *Suite from Swan Lake*
- John Philip Sousa, “Stars and Stripes Forever”
- Aaron Copland, *Fanfare for the Common Man*; “Hoedown” from *Rodeo*, “Simple Gifts” from *Appalachian Spring*
 - Nadia Boulanger, composer, one of the first woman to conduct a major orchestra, considered to be one of the most influential teachers of musical composition of the 20th century, teacher of Aaron Copland, organist for Copland’s *Symphony for Organ and Orchestra* at Aeolian Hall

C. Musical Connections

Teachers: Introduce students to the following in connection with topics in other disciplines:

- Nikolai Rimsky-Korsakov, *Scheherazade*, part one: “The Sea and Sinbad’s Ship”

III. Songs

“Alouette”

“America the Beautiful”

“Banuwa”

“A Bicycle Built for Two” (chorus only)

“Ding Dong Diggidiggidong”

“Down in the Valley”

“The Earth is Our Mother”

“He’s Got the Whole World in His Hands”

“Hey, Ho, Nobody Home” (round)

“In the Good Old Summertime” (chorus only)

“Li’l Liza Jane”

“My Bonnie Lies Over the Ocean”

“Simple Gifts” (“Tis a gift to be simple”)

“The Man on the Flying Trapeze” (chorus only)

“The Sidewalks of New York” (chorus only)

“This Little Light of Mine”

“You’re a Grand Old Flag”



Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives students a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving “higher order” skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

I. Operations and Algebraic Thinking

- Represent and solve problems involving multiplication and division.
 - Interpret products of whole numbers as the number of objects in groups.
 - Interpret whole-number quotients of whole numbers as the number of objects in each share or the number of shares when partitioned into equal shares.
 - Use multiplication and division within 100 to solve word problems, with a symbol for the unknown number, in situations involving
 - equal groups
 - arrays
 - measurement quantities
 - Determine the unknown whole number, with a symbol for the unknown number, in a multiplication or division equation relating three whole numbers.
- Understand properties of multiplication and the relationship between multiplication and division.
 - Apply properties of operations (commutative, associative, and distributive) as strategies to multiply and divide.
 - Understand division as an unknown-factor problem.
- Multiply and divide within 100.
 - Fluently multiply and divide within 100.
 - Use strategies such as the relationship between multiplication and division or properties of operations.
 - Know all products of two one digit numbers.
- Solve problems involving the four operations.
 - Solve two-step word problems using the four operations.
 - Represent these problems using equations with a letter standing for the unknown quantity.
 - Assess the reasonableness of answers using mental computation and estimation strategies.
 - Identify arithmetic patterns.
 - Describe using properties of operations.
 - Know that the product of an even number multiplied by any number is always even and why an even number multiplied by a number can be decomposed into equal addends.

By the end of Grade 3, know from memory all products of two one-digit numbers.

II. Number and Operations in Base Ten

- Use place value understanding and properties of operations to perform multi-digit arithmetic.
 - Use place value understanding to round whole numbers to the nearest 10 or 100.

- Fluently add and subtract within 1000, using strategies and algorithms based on
 - place value
 - properties of operations
 - the relationship between addition and subtraction
- Multiply one-digit whole numbers by multiples of 10 in the range 10–90.
 - Use strategies based on place value and properties of operations.

III. Number and Operations—Fractions

- Develop understanding of fractions as numbers.
 - Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts.
 - Understand a fraction $\frac{a}{b}$ as the quantity formed by a part of size $\frac{1}{b}$.
 - Understand a fraction as a number on the number line.
 - Represent fractions on a number line diagram.
 - Define the interval between zero and one as the whole and partition into b equal parts.
 - Define $\frac{a}{b}$ on a number line with segment lengths $\frac{1}{b}$ and an interval size $\frac{a}{b}$.
 - Explain equivalence of fractions in special cases.
 - Compare fractions by reasoning about their size.
 - Understand two fractions as equivalent (equal) if
 - they are the same size.
 - they are on the same point on a number line.
 - Recognize and generate simple equivalent fractions.
 - Explain why the fractions are equivalent.
 - Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
 - Compare two fractions with the same numerator or the same denominator by reasoning about their size.
 - Recognize that comparisons are valid only when the two fractions refer to the same whole.
 - Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions.

IV. Measurement and Data

- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
 - Tell and write time to the nearest minute.
 - Measure time intervals in minutes.
 - Solve word problems involving addition and subtraction of time intervals in minutes.
 - Measure and estimate liquid volumes and masses of objects.
 - Use standard units of
 - grams (g)
 - kilograms (kg)
 - liters (l)
 - Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same unit.
- Represent and interpret data.
 - Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories.
 - Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.

Square cm., square m.,
square in., square ft.,
and improvised units.

- Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.
 - Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
 - Recognize area as an attribute of plane figures and understand concepts of area measurement.
 - A square with side length of 1 unit
 - is called “a unit square”
 - is said to have “one square unit” of area
 - can be used to measure area
 - A plane figure which can be covered without gaps or overlaps by “n” unit squares is said to have an area of “n” square units.
 - Measure areas by counting unit squares.
 - Relate area to the operations of multiplication and addition.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
 - Solve real world and mathematical problems involving perimeters of polygons.
 - Recognize area by tiling.
 - Find areas of rectangles by multiplying side lengths.
 - Recognize area as additive.

VI. Geometry

- Reason with shapes and their attributes.
 - Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides).
 - Understand that the shared attributes can define a larger category (e.g., quadrilaterals).
 - Recognize rhombuses, rectangles, and squares as examples of quadrilaterals.
 - Draw examples of quadrilaterals that do not belong to any of these subcategories.
 - Partition shapes into parts with equal areas.
 - Express the area of each part as a unit fraction of the whole.



Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the report from the National Academies of Science, *A Framework for K-12 Science Education*, "...children have surprisingly sophisticated ways of thinking about the world, based in part on their direct experiences with the physical environment, such as watching objects fall or collide and observing plants and animals. They also learn about the world through everyday activities, such as talking with their families, pursuing hobbies, watching television, and playing with friends. As children try to understand and influence the world around them, they develop ideas about their role in that world and how it works. In fact, the capacity of young children—from all backgrounds and socioeconomic levels—to reason in sophisticated ways is much greater than has long been assumed. Although they may lack deep knowledge and extensive experience, they often engage in a wide range of subtle and complex reasoning about the world. Thus, before they even enter school, children have developed their own ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."

While experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge. Only when topics are presented systematically and clearly can students make steady and secure progress in their scientific learning. The child's development of scientific knowledge and understanding is in some ways a very disorderly and complex process, different for each child. But a systematic approach to the exploration of science, one that combines experience with book learning, can help provide essential building blocks for deeper understanding at a later time.

I. Investigating Forces

Teachers: Through reading aloud, observation, and activities such as planning and conducting investigations of colliding objects, explore the following with students:

A. Forces and Motion

- A force is a push or a pull.
- Forces can cause changes in an object's motion.
- Forces can change an object's direction and speed, sometimes starting or stopping the object's motion.
- Gravity is a force that pulls objects toward each other.
- Forces on an object may be balanced or unbalanced.
- If an object is at rest the forces acting on it are balanced.

B. The Force of Friction

- Friction is a force that occurs when objects are in contact with one another.
- Friction opposes motion.
- Friction can create heat (for example, rubbing hands together).
- Friction can be helpful (bicycle brakes) or harmful (in automobile engines).
- Lubricants reduce friction.

C. Predicting Motion

- If an object moves in regular patterns, we can predict the object's future motion.

D. The Force of Magnetism

- Magnetism is a force that can push or pull.
- Only certain metals can be or become magnetic or be affected by magnetism (for example, iron).
- The strength of a magnetic force depends on the distance between the magnet and the object.
- Unlike poles (north and south) attract, like poles repel.
- People use magnets to solve problems (refrigerator magnets, cabinet locks, maglev trains).

Review and extend learning from Kindergarten, Pushes and Pulls.

II. Life Cycles, Traits, and Variations

Teachers: Through reading aloud, observation, and activities such as investigating differences in traits between parents and offspring, help students to explore the following:

Review and extend learning from Grade 2, Organisms and Their Habitats.

A. Organisms have Life Cycles

- Life cycles are the patterns of changes that organisms go through during their lives.
- Different organisms have different life cycles, but all life cycles share common stages: birth, growth, reproduction, death.
- The life cycle of a typical flowering plant:
 - birth (germination of seeds) > growth > reproduction (flowering) > death
- Metamorphosis is the process some animals go through involving a great change in form in becoming an adult, such as:
 - butterfly (egg, larva, pupa, adult)
 - frog (egg, tadpole, adult)

B. Organisms have Traits

- An organism is any individual life form.
- A community of organisms of the same species within an ecosystem is a population.
- Traits can vary to help certain individuals survive and reproduce.
 - Organisms are divided into species, which share specific traits.
 - Traits are the characteristics of living things, including structures, functions, and behaviors; traits we can observe are called physical traits.
 - Offspring and siblings generally look like, but are not identical to, their parents or one another.
 - Inheritance is the traits that are passed from parents to offspring.
 - A population is a group of organisms of the same species that live in the same area.
 - Variations are the differences among specific traits in a population.

C. The Environment Affects Traits

- The environment can influence an organism's traits.
- The environment can affect all stages of an organism's life cycle.
- Cause and effect relationships exist between populations and their ecosystems.

D. Advantages of Specific Traits

- In a changing environment, some traits help some living things (advantageous) while other traits do not help (disadvantageous).
- Some individuals in a population may reproduce more successfully than others if their traits help them thrive in their specific environment.

III. Habitats and Change

Teachers: Through reading aloud, observation, and activities such as developing models of the shapes and kinds of land and water in an area, help students to explore the following:

A. Living Things and Their Environments

- Living things are adapted to the environment in which they live.
- Adaptations promote survival.
- Organisms have traits that indicate they are adapted to live in their environment, and able to survive.
- Organisms have adaptations to specific habitats (tundra, seashore, desert and underground).
- Some animals form groups to help them survive in their habitats.

Collaborate with your fifth grade colleagues regarding future expectations within, Energy and Matter in Ecosystems and Protecting Earth's Resources.

Fossils are explored in more depth in Grade 4, Processes That Shape Earth.

Review and extend learning from Kindergarten, Weather Patterns.

B. Ecosystems and Environmental Change

- An ecosystem is all the biotic and abiotic factors in a specific environment.
- Ecosystems undergo natural and human-induced changes over time.
- When an ecosystem changes, some organisms survive while others may not.
 - Describe specific evidence that shows what a habitat and a specific organism in that habitat were like before and after a significant environmental change.
- Humans can cause threats to the environment (air pollution: emissions, smog; water pollution: industrial waste, run-off from farming).
- Debate the merits of solutions for reconstructing an ecosystem after a significant environmental change.

C. Evidence of How Organisms and Environments have Changed Over Time

- Fossils: Scientists analyze and interpret fossils (bones, amber, traces, impressions) for evidence of how organisms and environments have changed over time.
- As a past environment changed, so did the organisms that continue to live there (coral reefs, grasslands).
- Many organisms that once existed are now extinct.

IV. Weather and Climate

A. Earth's Atmosphere

- Air is a mixture of gases.
- Air is matter and takes up space.
- The most common gases in the atmosphere are nitrogen and oxygen.
- The atmosphere grows thinner as you move upward from Earth's surface.
- Air pressure is the weight of air in the atmosphere.
- Humidity is the amount of water vapor in the air.
- Evaporation is the sun's energy changing liquid water to gas.
- Condensation of water vapor in the atmosphere forms clouds and fog.
- Precipitation is water that falls from clouds, such as rain, snow, sleet, or hail.

B. Wind: The Movement of Air

- Energy from the sun warms Earth unevenly, which creates areas of warm air (lower air pressure) and areas of cool air (higher air pressure).
- Winds are the result of air moving from areas of high air pressure to areas of low air pressure.
- Prevailing winds are regular patterns of wind flow across Earth's surface.

C. Weather and Climate

- Weather is the conditions in the lowest layer of the atmosphere at a specific time and place.
- Weather conditions vary from place to place and over time.
- Meteorologists are scientists who study weather and climate.
- Climate is the pattern of weather conditions in a large area over a long time.
- Climate varies from place to place.
- Climate in one location varies over a year's time.
- Climatologists are scientists who study long-term weather data.

D. Reducing the Impact of Hazardous Weather

- Storms: high winds, heavy rains, lightning, thunder
- Extreme weather events: tornadoes, hurricanes, blizzards, drought

- Flooding can occur during and after storms.
- Extreme weather conditions can endanger people and cause destruction.
- People can plan and take steps to reduce damage and avoid danger from weather hazards (levies, warning systems, lightning rods, special buildings).

V. The Human Body: Systems and How Our Eyes and Ears Work

A. The Muscular System

- Muscles
 - Involuntary and voluntary muscles

B. The Skeletal System

- Skeleton, bones, marrow
 - Skull, cranium, spinal column, vertebrae
 - Joints
 - Ribs, rib cage, sternum
 - Scapula (shoulder blades), pelvis, tibia, fibula
 - Broken bones, x-rays
- Musculo-skeletal connections
 - Ligaments
 - Tendons, Achilles tendon
 - Cartilage

C. The Nervous System

- Brain: medulla, cerebellum, cerebrum, cerebral cortex
- Spinal cord
- Nerves
- Reflexes

D. Vision: How the Eye Works

- Parts of the eye: cornea, iris and pupil, lens, retina
- Optic nerve
- Farsighted and nearsighted vision
- Ways to help those with impaired vision, including corrective lens, assistive animals, and braille

E. Hearing: How the Ear Works

- Sound as vibration
- Outer ear, ear canal
- Eardrum
- Three tiny bones (hammer, anvil, and stirrup) pass vibrations to the cochlea
- Auditory nerve
- Ways to help those with impaired hearing, including sign language, cochlear implants, and other hearing aids.

VI. Science Biographies

Teachers: Through reading aloud and activities, explore with students the stories and accomplishments of these scientists and engineers. This list of science biographies is by no means exhaustive. Other individuals can be incorporated into learning during a corresponding topic of study for this grade level, and should include:

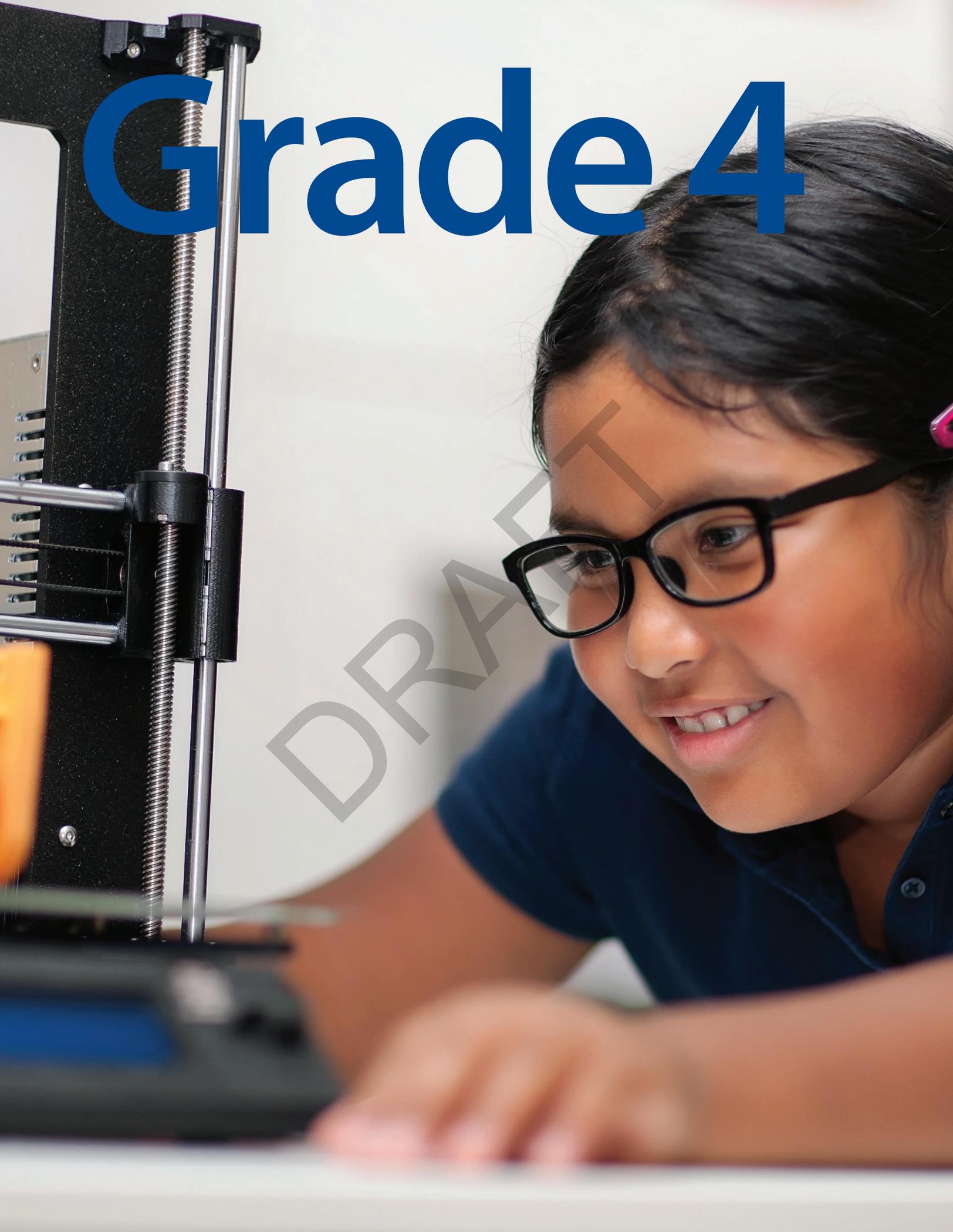
Emphasis at this grade is to build on prior knowledge and to explore how our body systems and senses work together.

Review and extend learning from Kindergarten, Our Five Senses.

- Petrus Peregrinus de Maricourt—French scholar who worked on compasses
- Elijah McCoy—American inventor, invented lubrication devices to improve the efficiency of train travel.
- Gregor Mendel—Austrian monk who studied pea plants, and developed models of simple inheritance.
- Rachel Carson—warned of the environmental impacts of pesticides in her book *Silent Spring*.
- John Muir—studied wilderness areas and worked to convince people to protect them.
- Edward D. Cope and Othniel C. Marsh—paleontologists and competitors whose competition started “the Bone Wars,” also known as the Great Dinosaur Rush of the late 19th century.
- Evangelista Torricelli—invented the barometer and studied air pressure.
- Benjamin Franklin—invented a lightning rod to protect people, buildings, and other structures.
- Tetsuya Fujita and Alan Pearson—researched storms and rated the severity of tornadoes.

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Grade 4



Overview of Topics

Grade 4

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
- II. Reading
 - A. Phonics: Decoding and Encoding
 - B. Oral Reading and Fluency
 - C. Reading Comprehension and Response—All Texts
 - D. Reading Comprehension—Fiction, Drama, Poetry
 - E. Reading Comprehension—Nonfiction and Informational
- III. Writing
 - A. Writing to Reflect Audience, Purpose, and Task
 - B. Writing to Analyze and Understand Text
 - C. Conducting Research
 - D. Narrative Writing
 - E. Informative/Explanatory Writing
 - F. Persuasive Writing/Opinion
- IV. Language Conventions
 - A. Command of Language
 - B. Spelling
 - C. Grammar
 - D. Capitalization and Punctuation
 - E. Vocabulary
- V. Poetry
 - A. Poems
 - B. Terms
- VI. Fiction
 - A. Stories
 - B. Myths and Mythical Characters
 - C. Memoir
 - D. Literary Terms
- VII. Speeches
- VIII. Sayings and Phrases

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. World Geography
 - A. Spatial Sense
 - B. Mountains and Mountain Ranges
- II. Europe in the Middle Ages
 - A. Geography Related to the Development of Western Europe
 - B. Background
 - C. Developments in History of the Christian Church
 - D. Feudalism
 - E. The Norman Conquest
 - F. Growth of Towns
 - G. England in the Middle Ages
- III. The Spread of Islam and the “Holy Wars”
 - A. Islam
 - B. Development of Islamic Civilization
 - C. Wars Between Muslims and Christians

- IV. Early and Medieval African Kingdoms
 - A. Geography of Africa
 - B. Early African Kingdoms
 - C. Medieval Kingdoms of the Sudan
- V. China: Dynasties and Conquerors

AMERICAN HISTORY AND GEOGRAPHY

- I. The American Revolution
 - A. Background: The French and Indian War
 - B. Causes and Provocations
 - C. The Revolution
- II. Making a Constitutional Government
 - A. Main Ideas Behind the Declaration of Independence
 - B. Making a New Government: From the Declaration to the Constitution
 - C. The Constitution of the United States
 - D. Levels and Functions of Government (National, State, Local)
- III. Early Presidents and Politics
- IV. Reformers
- V. Symbols and Figures

VISUAL ARTS

- I. Art and Architecture of the Middle Ages in Europe
- II. Islamic Art and Architecture
- III. The Art of Africa
- IV. The Art of China
- V. The Art and Architecture of a New Nation

MUSIC

- I. Elements of Music
- II. Listening and Understanding
 - A. The Orchestra
 - B. Vocal Ranges
 - C. Composers and Their Music
 - D. Musical Connections
- III. Songs

MATHEMATICS

- I. Operations and Algebraic Thinking
- II. Number and Operations in Base Ten
- III. Number and Operations—Fractions
- IV. Measurement and Data
- V. Geometry

SCIENCE

- I. Energy Transfer and Transformation
 - A. Introduction to Energy
 - B. Energy and Motion
 - C. Energy Transfer
 - D. Collisions
 - E. Energy Transformation and Engineering

- II. Investigating Waves
 - A. Waves Transfer Energy
 - B. Sound Waves Transfer Energy
 - C. Light Waves Transfer Energy
 - D. People use Waves to Transfer Information
- III. Structures and Functions of Living Things
 - A. Structure is Related to Function
 - B. The Structure and Function of The Eyes and Ears
 - C. Stimulus, Response, and Survival
- IV. Processes That Shape Earth
 - A. Features of Earth
 - B. Evidence that Earth's Surface has Changed Over Time
 - C. Processes that Change Earth's Surface
 - D. How Geologic Events can Affect People
- V. Using Natural Resources for Energy
 - A. Natural Resources: Renewable and Nonrenewable
 - B. Using Nonrenewable Resources for Energy
 - C. Using Renewable Resources for Energy
- VI. Human Respiration and Circulation
 - A. The Respiratory System
 - B. The Circulatory System
- VII. Science Biographies

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Grade 4 | English Language Arts



The *Common Core State Standards for English Language Arts* emphasize the critical importance of building nonfiction background knowledge in a coherent and sequenced way within and across grades. This can be accomplished most effectively, at each grade level, by integrating the topics from history, geography, science, and the arts in the *Core Knowledge Sequence* into the language arts block. Note that in the *Sequence*, there are many cross-curricular connections to history and science topics within Language Arts (e.g., poems, stories, and sayings), as well as to visual arts and music, which can and should be integrated into the applicable domain of study.

I. Listening and Speaking

A. Classroom Discussion

- Maintain attention and actively participate in discussions about a variety of topics, ideas, and texts in a variety of settings, including partners, small and large groups, and teacher-led groups.
- Prepare for discussions in advance, including reading about the topic and organizing information for the discussion. Draw on preparations during the discussion.
- Use agreed-upon rules for group discussions, keep discussions on topic, and carry out specific roles appropriate to a discussion, such as an interviewer or historical figure.
- Ask relevant questions to clarify conversations and ideas, and to build upon remarks made by others.
- Understand and restate the key ideas in a discussion and distinguish them from their own ideas.
- Restate or paraphrase information read aloud or delivered visually, quantitatively, or in other formats, such as videos, recordings, etc.
- Determine the evidence and reasons a speaker uses to support their main points.

B. Presentation of Ideas and Information

- Give a presentation about a topic or text, tell a story, or orally relate a personal experience in a logical and organized manner, including relevant details and facts that support main ideas or themes.
- Speak clearly at an understandable volume and pace.
- Develop main ideas and themes by adding displays, images, videos, and recordings to enhance presentations.
- Switch between formal and informal English as appropriate to the situation or task—for example, presentations (formal) and group discussions (informal).

II. Reading

A. Phonics: Decoding and Encoding

- Use grade-level phonics and word analysis skills to decode words.
- Use combined knowledge of letter-sound correspondences, syllabication patterns, and morphology (e.g., roots, prefixes, and suffixes) to read unfamiliar multisyllabic words in context and out of context.

B. Oral Reading and Fluency

- Read grade-level text fluently and accurately to support comprehension.
- Read text with purpose.
- Self-correct and develop understanding by using context and rereading as necessary.

- Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.

C. Reading Comprehension and Response—All Texts

- Independently read and comprehend longer works of fiction (chapter books, stories, plays, and poems) and nonfiction (science, history, social studies, and technical subjects) appropriately written for fourth grade or beyond.

Grasping Specific Details and Key Ideas

- Use details and examples when explaining literal elements in a text or making inferences.
- Use details to summarize texts.
- Identify the topic or theme of a text.

Observing Craft and Structure

- Determine the meaning of words and phrases from a text by using context clues, asking questions, or consulting a reference source such as a dictionary or glossary.
- Understand how text elements (such as chapters and headings) and visual elements (such as photos and illustrations) contribute to the organization and understanding of a text.

Integrating Information and Evaluating Evidence

- Explain how visual elements contribute to the understanding of a text.
- Compare a written text to an oral or visual version.
- Compare and contrast different texts with the same topic or genre.

D. Reading Comprehension—Fiction, Drama, Poetry

- Use details to trace the themes in literary works, such as poems, plays, and fiction.
- Use details to describe and build an in-depth understanding of the elements of fiction or plays, such as setting, dialogue, plot, and character motivations.
- Know the basic structural differences when writing or speaking about different kinds of literary works, such as plays, poems, and novels.
- Know the basic elements of poems, such as verse, rhythm, rhyme, and meter.
- Know the basic elements of plays, such as stage directions, cast lists, and dialogue.
- Recognize allusions to Greek and Roman mythology and use this understanding to determine the meaning of words (e.g., *chronology*, *echo*, *Herculean*).
- Examine different types of stories to compare the points of view of various narrators, including different narrators telling the same story.
- Identify whether a story is told in the first or third person.
- Relate the written versions of stories and plays to oral or visual presentations, including locating specifically in the text any corresponding elements, such as scene descriptions, stage directions, or dialogue.

E. Reading Comprehension—Nonfiction and Informational

- Answer questions about the details of a nonfiction text, indicating which part of the text provides the information needed to answer specific questions.
- Locate the main ideas in a text and identify key details that support them.
- Effectively summarize all types of informational texts.
- Identify and determine the meaning of Tier 2 and Tier 3 vocabulary words in informational text.
- Identify the structure of a text, section of text, paragraph, or sentence (e.g., comparison, cause/effect, problem/solution, compare/contrast, sequence, and main idea and details) and describe how it connects and communicates ideas in the text.
- Understand how historical events, scientific ideas, concepts, or steps in a procedure are

related in a text and use language pertaining to sequence or cause/effect to explain how or why they happened.

- Examine firsthand and secondhand sources for the same topic and explain the differences in perspective, facts, and details between them.
- Understand the characteristics of charts, timelines, bar graphs, animations, and other text features and use them to gather information.
- Explain how charts, time lines, bar graphs, animations, and other visual and quantitative text features enhance a text and/or provide additional information, including on websites.
- Explain how an author supports their claims in a text by giving reasons (opinions) and evidence, such as facts, examples, and expert opinions from reliable sources.
- Synthesize information from two or more sources on the same topic, then speak or write about the topic with mastery of the subject matter.

III. Writing

A. Writing to Reflect Audience, Purpose, and Task

- Write routinely, clearly, and coherently, completing both short and long assignments focused on a range of different tasks, purposes, and audiences.
- Incorporate planning, research, editing, and revision into writing practice.
- Use keyboards, tablets, the Internet, and other technologies to produce and publish writing and collaborate and communicate with others.
- Type a minimum of one page in a single attempt.

B. Writing to Analyze and Understand Text

- Analyze literature in writing:
 - Trace a theme.
 - Show in-depth understanding of characters, setting, and plot events.
 - Describe how different literary elements interact within the text.
- Analyze informational texts in writing by describing how authors make and support their points with reasons and factual evidence.
- Draw upon appropriate literary elements, details, or facts as evidence for writing analysis.

C. Conducting Research

- Conduct short research projects to demonstrate knowledge gathered and learned about a topic.
- Gather information from personal experiences as well as from print and digital sources (such as an encyclopedias, magazines, approved online sources, videos, interviews, and recordings).
- Take notes from sources.
- Provide a rudimentary bibliography.

D. Narrative Writing

- Produce narrative text based on real-life or imagined experiences.
- Introduce a narrator, a situation, and characters, and develop them through dialogue and exposition, including actions, thoughts, feelings, and reactions to events in the plot.
- Organize a logical or natural sequence of plot events following from the situation, using time-order words to indicate event order.
- Include sensory details to make writing vivid and precise; convey a sense of experiences and/or the sensations that accompany experiences.
- Provide a sense of closure that follows logically or artfully from the situation, character responses, and sequence of events.

E. Informative/Explanatory Writing

- Write reports and other types of informational texts that clearly present ideas and information in their own words.
- Introduce a topic with information organized in related sections or paragraphs and developed with facts, definitions, quotations, and details.
- Include visual elements such as photos, drawings, or diagrams to help explain or present ideas or information when appropriate.
- Use linking words to connect ideas (e.g., *also, another, and, more, but, however, therefore, in addition*).
- Use Tier 2 and/or Tier 3 vocabulary to explain or elaborate topics.
- Write a conclusion that wraps up ideas in the text.

F. Persuasive Writing/Opinion

- Introduce a topic and opinion and support a point of view with reasons, details, and evidence.
- Follow through with an organizational structure that supports the purpose of the text, grouping ideas in a logical way.
- Use linking words to connect the opinion with reasons and evidence (e.g., *another, furthermore, but, also, however, therefore, in addition, for example*).
- Write a conclusion that wraps up the argument.

IV. Language Conventions**A. Command of Language**

- Use knowledge of language conventions when reading, writing, speaking, and listening.
- Apply word choices and punctuation to create meaning and effect.
- Identify differences between written and spoken English.
- Switch between formal and informal English as appropriate to the situation or task—for example, presentations (formal) and group discussions (informal).

B. Spelling

- Spell most words correctly or with a highly probable spelling.
- Apply current code knowledge to spelling.
- Spell most grade-level high-frequency words correctly.
- Use dictionaries or glossaries—print and digital—to check and correct spellings about which they are uncertain.

C. Grammar

- Understand the basic rules of English grammar and conventions when writing or speaking.
- Know the following parts of speech and how they are used: nouns, pronouns, verbs (action verbs and auxiliary or helping verbs: *can, could, may, must, ought, shall, should*), adjectives (including articles), adverbs, conjunctions (*and, but, or*), interjections.
- Use relative pronouns (*who, whose, whom, which, that*) and relative adverbs (*where, when, why*).
- Form and use the progressive (e.g., *I was running; I am running; I will be running*) verb tenses.
- Form and use prepositional phrases.
- Understand what a complete sentence is and
 - identify subject and predicate in single-clause sentences.
 - distinguish complete sentences from fragments.
 - identify and correct run-on sentences.

- Produce complete sentences.
- Identify subject and verb in a sentence and understand that they must agree.
- Correctly use frequently confused words (e.g., *to, too, two; there, their, they're*).

D. Capitalization and Punctuation

- Understand and apply the basic rules of capitalization and punctuation when writing or speaking.
- Use capital letters correctly, including at the beginning of sentences, when using proper nouns, and for words in titles.
- Correctly use commas and quotation marks when writing dialogue.
- Correctly use quotation marks when quoting from a source.
- Use a comma before a coordinating conjunction (*and, but, for, nor, or, so, yet*) in a compound sentence.

E. Vocabulary

- Effectively use synonyms and antonyms.
- Use context clues to figure out the meaning of words and phrases in a sentence.
- Know how to look for synonyms and antonyms in nearby words to use as context clues.
- Know how to look for examples and definitions in nearby words to use as context clues.
- Understand words by thinking of them in terms of other words that mean the same (synonyms) or opposite (antonyms); understand degrees of difference, degrees of similarity, and degrees of contrast in word choices.
- Use knowledge of Greek and Latin roots and affixes to figure out the meaning of a new word (e.g., *autograph, photograph*).
- Use a dictionary or glossary, print or digital, to answer questions about the meanings and usage of unfamiliar words.
- Know how to use a dictionary, print or digital, to pronounce words correctly.
- Use a dictionary to find the precise meaning of words and phrases.
- Differentiate between literal and figurative word choices, including basic similes and metaphors, as in the phrases “brave as a lion” and “raining cats and dogs.”
- Recognize and explain the meaning of grade-appropriate idioms, adages, and proverbs.
- Acquire grade-level Tier 3 words related to specific domains or subject areas (e.g., *medieval, hypothesis, import*).
- Acquire grade-level Tier 2 academic words (e.g., *dialogue, narrative, theme*).
- Acquire grade-level words that describe emotional states and actions (e.g., *insist, laughter, lonesome*).

V. Poetry

Teachers: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new, and to have students write their own poems. To bring students into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words. At this grade, poetry should be a source of delight; technical analysis should be delayed until later grades.

A. Poems

- “Afternoon on a Hill” (Edna St. Vincent Millay)
- “Clarence” (Shel Silverstein)
- “Clouds” (Christina Rossetti)
- “Concord Hymn” (Ralph Waldo Emerson)
- “Dreams” (Langston Hughes)
- “the drum” (Nikki Giovanni)

“Fog” (Carl Sandburg)
 “George Washington” (Rosemary and Stephen Vincent Benet)
 “Humanity” (Elma Stuckey)
 “Life Doesn’t Frighten Me” (Maya Angelou)
 “Monday’s Child Is Fair of Face” (traditional)
 “Paul Revere’s Ride” (Henry Wadsworth Longfellow)
 “The Pobble Who Has No Toes” (Edward Lear)
 “The Rhinoceros” (Ogden Nash)
 “Things” (Eloise Greenfield)
 “A Tragic Story” (William Makepeace Thackeray)

B. Terms

- stanza and line

VI. Fiction

Teachers: In fourth grade, students should be fluent, competent readers of appropriate materials. Decoding skills should be automatic, allowing the students to focus on meaning. Regular practice in reading aloud and independent silent reading should continue. Students should read outside of school at least 20 minutes daily.

The titles below constitute a selected core of stories for this grade. Teachers and parents are encouraged to expose students to many more stories, and to encourage students to write their own stories. Students should also be exposed to nonfiction prose: biographies, books about science and history, books on art and music, etc. Also, engage students in dramatic activities, possibly with one of the stories below in the form of a play. Some of the stories below—such as *Gulliver’s Travels*, *Robinson Crusoe*, and the stories by Washington Irving—are available in editions adapted for young readers.

A. Stories

“The Fire on the Mountain” (an Ethiopian folktale)
 from *Gulliver’s Travels*: Gulliver in Lilliput and Brobdingnag (Jonathan Swift)
The Legend of Sleepy Hollow and *Rip Van Winkle* (Washington Irving)
 “The Magic Brocade” (a Chinese folktale)
Robinson Crusoe (Daniel Defoe)
 “Robin Hood”
 “St. George and the Dragon”
Treasure Island (Robert Louis Stevenson)

B. Myths and Mythical Characters

- *Legends of King Arthur and the Knights of the Round Table*
 “How Arthur Became King”
 “The Sword in the Stone”
 “The Sword Excalibur”
 “Guinevere”
 “Merlin and the Lady of the Lake”
 “Sir Lancelot”

C. Memoir

Brown Girl Dreaming (Jacqueline Woodson)

D. Literary Terms

- novel
- plot
- setting

See also American History Grade 4: American Revolution, re stories by Washington Irving.

Note: “The Magic Brocade” is also known as “The Chuang Brocade,” “The Enchanted Tapestry,” “The Magic Tapestry,” and “The Weaving of a Dream.”

See also World History Grade 4: The Middle Ages, re “Robin Hood” and “St. George and the Dragon.”

See also World History Grade 4: The Middle Ages, feudalism and chivalry, re Legends of King Arthur.

VII. Speeches

Teachers: Famous passages from the following speeches should be taught in connection with topics in American History Grade 4.

Patrick Henry: "Give me liberty or give me death"

Sojourner Truth: "Ain't I a woman?"

VIII. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many students, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with students from home cultures that differ from the standard culture of literate American English.

An ounce of prevention is worth a pound of cure.

As the crow flies

Beauty is only skin deep.

The bigger they are, the harder they fall.

Birds of a feather flock together.

Blow hot and cold

Break the ice

Bull in a china shop

Bury the hatchet

Can't hold a candle to

Don't count your chickens before they hatch.

Don't put all your eggs in one basket.

Etc.

Go to pot

Half a loaf is better than none.

Haste makes waste.

Laugh and the world laughs with you.

Lightning never strikes twice in the same place.

Live and let live.

Make ends meet.

Make hay while the sun shines.

Money burning a hole in your pocket

Once in a blue moon

One picture is worth a thousand words.

On the warpath

RSVP

Run-of-the-mill

Seeing is believing.

Shipshape

Through thick and thin

Timbuktu

Two wrongs don't make a right.

When it rains, it pours.

You can lead a horse to water, but you can't make it drink.



Teachers: The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures. Many geographic topics are listed below in connection with historical topics.

World History and Geography

I. World Geography

A. Spatial Sense (Working with Maps, Globes, and Other Geographic Tools)

Teachers: Review as necessary map-reading skills and concepts, as well as geographic terms, from previous grades (see Geography guidelines for Grade 3).

- Measure distances using map scales.
- Read maps and globes using longitude and latitude, coordinates, degrees.
- Time zones, hemisphere, and map scales
- Prime Meridian (0 degrees); Greenwich, England; 180° Line (International Date Line)
- Relief maps: elevations and depressions

B. Mountains and Mountain Ranges

- Plates, folded mountains, fault block mountains, dome mountains, and volcanic mountains
- Major mountain ranges
 - South America: Andes
 - North America: Rockies and Appalachians
 - Asia: Himalayas and Urals
 - Africa: Atlas Mountains
 - Europe: Alps
- High mountains of the world
 - Asia: Everest
 - North America: Denali
 - South America: Aconcagua
 - Europe: Mont Blanc, Mount Elbrus
 - Africa: Kilimanjaro
 - Antarctica: Vinson Massif
 - Australia: Mount Kosciuszko
 - Australia/Oceania: Jaya Peak (Mount Carstensz)

See also Language Arts
Grade 4: Legends of
King Arthur.

See also Visual Arts
Grade 4: Art of the
Middle Ages in Europe:
Medieval Madonnas
and Gothic architecture.
And see Music Grade 4,
Gregorian chant.

II. Europe in the Middle Ages

A. Geography Related to the Development of Western Europe

- Rivers: Danube, Rhine, Rhone, and Oder
- Mountains: Alps, Pyrenees
- Iberian Peninsula: Spain and Portugal, proximity to North Africa
- France: the region known as Normandy
- Mediterranean Sea, North Sea, Baltic Sea
- British Isles: England, Ireland, Scotland, Wales; the English Channel

While the term “Dark Ages” is a colloquial reference to the Middle Ages, this term is now considered to be outdated.

B. Background

- Beginning about AD 200, nomadic, warlike tribes began moving into western Europe, attacking the western Roman Empire; city of Rome sacked by Visigoths in AD 410
 - The Huns: Attila the Hun
- Peoples settling in old Roman Empire included Vandals (cf. English word “vandalism”), Franks in Gaul (now France), Angles (in England: cf. “Angle-land”) and Saxons.
- The “Middle Ages” are generally dated from about AD 450 to 1400. Approximately the first three centuries after the fall of Rome (AD 476) are sometimes called the “Dark Ages.”

C. Developments in History of the Christian Church

- Growing power of the pope (Bishop of Rome)
- Disagreements among Christians: split into Roman Catholic Church in Rome and Eastern Orthodox Church in Constantinople
- Conversion of many Germanic peoples to Christianity
- Rise of monasteries, preservation of classical learning as an important part of feudal society
- Charlemagne
 - Temporarily unites the western Roman Empire
 - Crowned Emperor by the pope in AD 800, the idea of a united “Holy Roman Empire”
 - Charlemagne’s love and encouragement of learning

D. Feudalism

- Life on a manor, castles
- Lords, vassals, knights, freedmen, serfs
- Farming and three-field system
- Code of chivalry
- Knight, squire, page

E. The Norman Conquest

- Locate the region called Normandy.
- William the Conqueror
 - Battle of Hastings, 1066
 - Domesday Book

F. Growth of Towns

- Towns as centers of commerce, guilds and apprentices
- Weakening of feudal ties

G. England in the Middle Ages

- Henry II
 - Beginnings of trial by jury
 - Murder of Thomas Becket in Canterbury Cathedral
 - Eleanor of Aquitaine
- Significance of the Magna Carta, King John, 1215
- The Crusades
- Parliament: beginnings of representative government
- The Hundred Years’ War
 - Joan of Arc
- The Black Death sweeps across Europe

See also Visual Arts Grade 4: Islamic Art and Architecture.

Note: In older sources you may find these formerly used spellings: Mohammed, Mecca, Koran.

III. The Spread of Islam and the “Holy Wars”

Teachers: Since religion is a shaping force in the story of civilization, the Core Knowledge Sequence introduces students in the early grades to major world religions, beginning with a focus on geography and major symbols and figures. In the fourth grade the focus is on history, geography, and the development of a civilization. The purpose is not to explore matters of theology but to understand the place of religion and religious ideas in history. The goal is to familiarize, not proselytize; to be descriptive, not prescriptive. The tone should be one of respect and balance: no religion should be disparaged by implying that it is a thing of the past. A review of major religions introduced in earlier grades in the Core Knowledge Sequence is recommended: Judaism/Christianity/Islam (Grade 1) and Hinduism/Buddhism (Grade 2).

A. Islam

- Muhammad: the last prophet
- Allah, Qur’an, jihad
- Sacred city of Makkah (Mecca), mosques
- “Five pillars” of Islam:
 - Declaration of faith
 - Prayer (five times daily), facing toward Makkah
 - Fasting during Ramadan
 - Help the needy Pilgrimage to Makkah
- Arab peoples unite to spread Islam in northern Africa, through the eastern Roman empire, and as far west as Spain.
- Islamic Turks conquer region around the Mediterranean; in 1453, Constantinople becomes Istanbul.
- The first Muslims were Arabs, but today diverse people around the world are Muslims.

B. Development of Islamic Civilization

- Contributions to science and mathematics: Avicenna (Ibn Sina), Arabic numerals
- Muslim scholars translate and preserve writings of Greeks and Romans
- Thriving cities as centers of Islamic art and learning, such as Cordoba (Spain)

C. Wars Between Muslims and Christians

- The Holy Land, Jerusalem
- The Crusades
- Saladin and Richard the Lion-Hearted
- Growing trade and cultural exchange between east and west

IV. Early and Medieval African Kingdoms

A. Geography of Africa

- Mediterranean Sea and Red Sea, Atlantic and Indian Oceans
- Cape of Good Hope
- Madagascar
- Major rivers: Nile, Niger, Congo
- Atlas Mountains, Mt. Kilimanjaro
- Contrasting climate in different regions:
 - Deserts: Sahara, Kalahari
 - Tropical rain forests (along lower West African coast and Congo River)
 - Savanna (grasslands)
 - The Sahel (the fertile region below the Sahara)

See also Visual Arts Grade 4: The Art of Africa.

See also Language Arts Grade 4: “The Fire on the Mountain.”

B. Early African Kingdoms

- Kush (in a region also called Nubia): once ruled by Egypt, then ruled of Egypt
- Aksum (also spelled Axum): a trading kingdom in what is now Ethiopia

C. Medieval Kingdoms of the Sudan

- Trans-Saharan trade led to a succession of flourishing kingdoms: Ghana, Mali, and Songhai
 - Camel caravans
 - Trade in gold, iron, salt, ivory, and slaves
 - The city of Timbuktu: center of trade and learning
 - Spread of Islam into West Africa through merchants and travelers
 - Ibn Batuta (also spelled Battutah), world traveler and geographer
- Mali: Sundiata Keita, Mansa Musa
- Songhai: Askia Muhammad

Note: In older sources you are likely to find Chinggis Khan spelled as Genghis Khan, and Khubilai Khan spelled as Kublai Khan. See also Visual Arts Grade 4: The Art of China; and Language Arts Grade 4: “The Magic Brocade.”

V. China: Dynasties and Conquerors

- Qin Shihuangdi, first emperor, begins construction of Great Wall.
 - Terracotta Warriors
- Han dynasty: trade in silk and spices, the Silk Road, invention of paper
- Tang and Song dynasties: highly developed civilization, extensive trade, important inventions (including compass, gunpowder, paper money)
- Mongol invasions and rule
 - Chinggis Khan and the “Golden Horde”
 - Khubilai (Kublai) Khan: establishes capital at what is now Beijing.
 - Marco Polo
- Ming dynasty
 - The “Forbidden City”
 - Explorations of Zheng He

American History and Geography

Teachers: The following guidelines are meant to complement any locally required studies of the family, community, state, or region. Note that in fifth grade the American Geography requirements include “fifty states and capitals”; teachers in grades two through four may want to introduce these incrementally to prepare for the fifth grade requirement.



I. The American Revolution

A. Background: The French and Indian War

- Also known as the Seven Years’ War, part of an ongoing struggle between Britain and France for control of colonies in various regions around the world (in this case, in North America)
- Alliances with Native Americans
- The Battle of Quebec
- British victory gains territory but leaves Britain financially weakened.

B. Causes and Provocations

- British taxes, “No taxation without representation”
- Boston Massacre, Crispus Attucks
- Boston Tea Party
- The Intolerable Acts close the port of Boston and require Americans to provide quarters for British troops.

See also Language Arts Grade 4: stories by Washington Irving, and speech by Patrick Henry, "Give me liberty. . ."

- First Continental Congress protests to King George III.
- Thomas Paine's Common Sense
- Patrick Henry, "Give me liberty or give me death"

C. The Revolution

- Paul Revere's ride, "One if by land, two if by sea"
- Lexington and Concord
 - The "shot heard 'round the world"
 - Redcoats and Minutemen
- Bunker Hill
- Second Continental Congress: George Washington appointed commander in chief of Continental Army
- Declaration of Independence
 - Primarily written by Thomas Jefferson
 - Adopted July 4, 1776
 - "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness."
- Women in the Revolution: Elizabeth Freeman, Deborah Sampson, Phillis Wheatley, Molly Pitcher
- Loyalists (Tories)
- Victory at Saratoga, alliance with France
- European helpers (Lafayette, the French fleet, Bernardo de Galvez, Kosciusko, von Steuben)
- Valley Forge
- Benedict Arnold

Note: The National Standards for Civics and Government recommend that students address the issue of power vs. authority: "Where do people in government get the authority to make, apply, and enforce rules and laws and manage disputes about them?" "Identify examples of authority, e.g., the authority of teachers and administrators to make rules for schools, the authority of a crossing guard to direct traffic, the authority of the president to represent the United States in dealing with other nations." "Identify examples of power without authority, e.g., a neighborhood bully forcing younger children to give up their lunch money, a robber holding up a bank, a gang leader ordering members to injure others." Available from the Center for Civic Education, www.civiced.org

II. Making a Constitutional Government

Teachers: Examine some of the basic values and principles of American democracy, in both theory and practice, as defined in the Declaration of Independence and the U. S. Constitution, both in historical context and in terms of present-day practice. In examining the significance of the U. S. Constitution, introduce students to the unique nature of the American experiment, the difficult task of establishing a democratic government, the compromises the framers of the Constitution were willing to make, and the persistent threats to success. In order to appreciate the boldness and fragility of the American attempt to establish a republican government based on a constitution, students should know that republican governments were rare at this time. Discuss with students basic questions and issues about government, such as: Why do societies need government? Why does a society need laws? Who makes the laws in the United States? What might happen in the absence of government and laws?

A. Main Ideas Behind the Declaration of Independence

- The proposition that "All men are created equal"
- The responsibility of government to protect the "unalienable rights" of the people
- Natural rights: "Life, liberty, and the pursuit of happiness"
- The "right of the people ... to institute new government"

B. Making a New Government: From the Declaration to the Constitution

- Definition of "republican" government: republican = government by elected representatives of the people
- Articles of Confederation: weak central government
- "Founding Fathers": James Madison as "Father of the Constitution"
- Constitutional Convention
 - Arguments between small and large states
 - The divisive issue of slavery, "three-fifths" compromise

C. The Constitution of the United States

- Preamble to the Constitution: “We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.”
- The separation and sharing of powers in American government: three branches of government
 - Legislative branch: Congress = House of Representatives and Senate, makes laws.
 - Executive branch: headed by the president, carries out laws.
 - Judicial branch: a court system headed by the Supreme Court (itself headed by the Chief Justice), deals with those who break laws and with disagreements about laws.
- Checks and balances, limits on government power, veto
- The Bill of Rights: first ten amendments to the Constitution, including:
 - Freedom of religion, speech, and the press (First Amendment)
 - Protection against “unreasonable searches and seizures”
 - The right to “due process of law”
 - The right to trial by jury
 - Protection against “cruel and unusual punishments”

D. Levels and Functions of Government (National, State, Local)

- Identify current government officials, including
 - President and vice-president of the U.S.
 - State governor
- State governments: established by state constitutions (which are subordinate to the U.S. Constitution, the highest law in the land), like the national government, each state government has its legislative, executive, and judicial branches.
- Local governments: purposes, functions, and officials
- How government services are paid for (taxes on individuals and businesses, fees, tolls, etc.)
- How people can participate in government

III. Early Presidents and Politics

- Define: cabinet and administration
- George Washington as first President, Vice-President John Adams
- John Adams, second president, Abigail Adams
- National capitol established at Washington, D.C.
- Growth of political parties
 - Arguments between Thomas Jefferson and Alexander Hamilton: two opposed visions of America, as an agricultural or industrial society
 - Present-day system: two main parties (Democrats and Republicans), and independents
- Thomas Jefferson, third president
 - Correspondence between Jefferson and Benjamin Banneker
 - Jefferson as multifaceted leader (architect, inventor, musician, etc.)
 - The Louisiana Purchase (review from Grade 1) doubles the nation’s size and gains control of Mississippi River.
- James Madison, fourth president
 - War of 1812 (briefly review from Grade 2)
- James Monroe, fifth president, the Monroe Doctrine
- John Quincy Adams, sixth president

See also Visual Arts
Grade 4: The Art and
Architecture of a New
Nation, Monticello

- Andrew Jackson, seventh president
 - Popular military hero, Battle of New Orleans in War of 1812
 - Presidency of “the common man”
 - Native American removal policies

See also Language Arts
Grade 4: Speeches,
Sojourner Truth’s “Ain’t I
a woman?”

IV. Reformers

Teachers: Introduce students to some prominent people and movements in the ferment of social change in America prior to the Civil War:

- Abolitionists
- Dorothea Dix and the treatment of the insane
- Horace Mann and public schools
- Women’s rights and the Seneca Falls convention
 - Elizabeth Cady Stanton
 - Lucretia Mott
 - Amelia Bloomer
 - Sojourner Truth
 - Angelina and Sarah Grimké

V. Symbols and Figures

- Recognize and become familiar with the significance of
 - *Spirit of ’76* (painting)
 - White House and Capitol Building
 - Great Seal of the United States



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

In studying the works of art specified below, and in creating their own art, students should review, develop, and apply concepts introduced in previous grades, such as line, shape, form, space, texture, color, light, design, and symmetry

I. Art and Architecture of the Middle Ages in Europe

Teachers: Study of the following works of art may be integrated with study of related topics in fourth grade World History: Europe in the Middle Ages.

- Note the generally religious nature of European art in the Middle Ages, including
 - Examples of medieval Madonnas (such as *Madonna and Child on a Curved Throne*—13th century Byzantine)
 - Illuminated manuscripts (such as the Chi Rho Page from *The Book of Kells*)
 - Tapestries (such as the Unicorn in Captivity from the Unicorn tapestries)
- Become familiar with features of Gothic architecture (spires, pointed arches, flying buttresses, rose windows, gargoyles and statues) and famous cathedrals, including
 - Notre Dame (Paris)
 - Chartres Cathedral

II. Islamic Art and Architecture

Teachers: Study of the following ancient works of art may be integrated with study of related topics in Grade 4 World History: The Spread of Islam.

- Become familiar with examples of Islamic art, including illuminated manuscript and
 - illumination of the Qur'an (Koran)
 - Handwritten Qur'an
 - The Sultan with His Court
 - Court of the Lions
 - The Ardabil Carpet, unknown artist, Safavid Dynasty
- Become familiar with examples of contemporary Islamic Art, including
 - Madiha Omar, *Untitled* (1966)
 - Shahzia Sikander, *Mirrat I* (1996)
- Note characteristic features of Islamic architecture, such as
 - Domes and minarets, in Dome of the Rock Jerusalem and Great Mosque of Damascus
 - Taj Mahal, India

III. The Art of Africa

Teachers: Study of the following works of art may be integrated with study of related topics in Grade 4 World History: Early and Medieval African Kingdoms.

- Note the spiritual purposes and significance of many African works of art, such as masks used in ceremonies for planting, harvesting, or hunting.
- Become familiar with examples of art from specific regions and peoples in Africa, such as
 - Antelope headdresses of Mali, African Bamana Headdress

When introducing the Dome of the Rock, explain how Islamic architecture is another interpretation of Christian and Byzantine architecture. This is the first sacred Islamic structure and was inspired by Christian architecture, such as the Church of San Vitale in Ravenna. Lead students in comparing and contrasting the two.

- Sculptures by Yoruba artists in the city of Ife
 - Portrait Head of an Ife King
- Ivory carvings and bronze sculptures of Benin
 - Benin Bronze Head
 - Face Mask
 - Ivory Mask
- Become familiar with examples of contemporary African art, including
 - Wangechi Mutu, *Second born* (2013)
 - Yinka Shonibare, *Girl Balancing Knowledge*, (2018)

IV. The Art of China

Teachers: Study of the following ancient works of art may be integrated with study of related topics in fourth grade World History, *China: Dynasties and Conquerors*.

- Become familiar with examples of Chinese art, including
 - Silk scrolls
 - Tang Dynasty Scroll
 - Emperor Ming Huang’s Journey to Shu
 - Calligraphy (the art of brush writing and painting)
 - Porcelain
 - Ming Dynasty Vase
- Become familiar with examples of contemporary Chinese art, including
 - Liu Guosong, *Which is Earth, no. 7* (1969)
 - Ai Weiwei, *Dropping a Han Dynasty Urn* (1995)

V. The Art and Architecture of a New Nation

Teachers: Study of the following works of art may be integrated with study of related topics in Grade 4 American History.

- Become familiar with famous portraits and paintings, including
 - John Singleton Copley, *Paul Revere*
 - Gilbert Stuart, *George Washington*
 - *Washington Crossing the Delaware*
 - Patience Wright, *Bust of Benjamin Franklin*
- Become familiar with the architecture of Thomas Jefferson’s Monticello

Note: While *Washington Crossing the Delaware* is not in origin an American work of art—it was painted by Emanuel Leutze, a German, some seventy-five years after the event it depicts—it has become widely recognized and embraced as a symbol of the American Revolution.



Teachers: In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines.

The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. Elements of Music

- Through participation, become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
 - Recognize a steady beat, accents, and the downbeat; play a steady beat and a simple rhythm pattern.
 - Discriminate between fast and slow; gradually slowing down and getting faster.
 - Discriminate between differences in pitch: high and low.
 - Discriminate between loud and soft; gradually increasing and decreasing volume.
 - Understand legato (smoothly flowing progression of notes) and staccato (crisp distinct notes).
 - Sing unaccompanied, accompanied, and in unison.
 - Recognize harmony; sing simple rounds (e.g., *I Love the Mountains, Ah, Poor Bird*) and canons.
 - Recognize verse and refrain; also, introduction and coda.
 - Partner songs
 - Continue work with timbre and phrasing.
 - Recognize theme and variations, and listen to Mozart, *Variations on "Ah! vous dirai-je Maman"* (famously known as "Twinkle Twinkle Little Star").
 - Sing or play simple melodies.
- Recognize (aurally) frequently used Italian terms:
 - Review
 - *adagio* (slow)
 - *moderato* (medium)
 - *allegro* (fast)
 - *piano* (soft)
 - *forte* (loud)
 - *pianissimo* (very soft)
 - *fortissimo* (very loud)
 - Introduce
 - *mezzo-forte* (moderately loud)
 - *mezzo-piano* (moderately soft)
- Understanding the following notation:
 - names of lines and spaces in the treble clef; middle C
 -  treble clef,  staff, bar line, double bar line, measure, repeat signs
 -  whole note  half note  quarter note  eighth note
 -  grouped sixteenth notes
 - whole rest, half rest, quarter rest
 - tied notes and dotted notes
 - # sharps ♭ flats
 - *Da capo* [*bc.*] *al fine*

- *Da Segno* [*ds*]
- meter signature: $\frac{4}{4}$ $\frac{2}{4}$ $\frac{3}{4}$
 - very soft *pp* (pianissimo), soft *p* (piano), moderately soft *mp* (mezzo-piano),
 - very loud *ff* (fortissimo), loud *f* (forte), moderately loud *mf* (mezzo-forte)

II. Listening and Understanding

Teachers: Expose students to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

A. The Orchestra

- Review the orchestra, including families of instruments and specific instruments, by listening to Benjamin Britten, *The Young Person’s Guide to the Orchestra*

B. Vocal Ranges

Teachers: Students should learn to recognize and name the different vocal ranges, and apply their knowledge by beginning part singing.

- Recognize vocal ranges of the female voice:
 - high = soprano
 - middle = mezzo soprano
 - low = alto
- Recognize vocal ranges of the male voice:
 - high = tenor
 - middle = baritone
 - low = bass
- Listening to Famous Voices
 - Renee Fleming
 - Maria Callas
 - Marian Anderson
 - Luciano Pavarotti, Caruso
 - Paul Robeson

C. Composers and Their Music

Teachers: Provide brief, child-friendly biographical profiles of the following composers, and listen to representative works.

- George Frederick Handel, “Hallelujah Chorus” from *The Messiah*
- Franz Joseph Haydn, *Symphony No. 94* (“*Surprise*”)
- Wolfgang Amadeus Mozart, *The Magic Flute*, selections, including:
 - Overture; Introduction, “Zu Hilfe! Zu Hilfe!” (Tamino, Three Ladies); Aria, “Der Vogelfänger bin ich ja” (Papageno); Recitative and Aria, “O zittre nicht, mein lieber Sohn!” (Queen of the Night); Aria, “Ein Mädchen oder Weibchen” (Papageno); Duet, “Pa-pa-gena! Pa-pa-geno!” (Papageno and Papagena); Finale, Recitative and Chorus, “Die Strahlen der Sonne” (Sarastro and Chorus)
- Hildegard von Bingen, “O virga ac diadema”

D. Musical Connections

Teachers: Introduce students to the following in connection with topics in other disciplines:

- Gregorian chant

See below, Composers and Their Music: Mozart, *Magic Flute*.

Note: Students were introduced to Mozart and the first movement of *A Little Night Music* in Grade 1.

See also World History Grade 4: The Middle Ages, re Gregorian chant.

III. Songs

Auld Lang Syne
Blow the Man Down
Cockles and Mussels
Comin' Through the Rye
Loch Lomond
My Grandfather's Clock
Taps
Deep in the Heart of Texas
Waltzing Matilda

Songs of the U.S. Armed Forces:

Air Force Song
Navy Song (Anchors Aweigh)
The Army Song (The Caissons Go Rolling Along)
The Marine's Hymn

DRAFT



Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives students a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving “higher order” skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

I. Operations and Algebraic Thinking

- Use the four operations with whole numbers to solve problems.
 - Interpret a multiplication equation as a comparison.
 - Represent verbal statements of multiplicative comparisons as multiplication equations.
 - Multiply or divide to solve word problems with a symbol for the unknown number, involving multiplicative comparison.
 - Solve multistep word problems.
 - posed with whole numbers
 - having whole-number answers using the four operations
 - including problems in which remainders must be interpreted
 - Represent multistep word problems using equations with a letter standing for the unknown quantity.
 - Use mental computation and estimation strategies to assess the reasonableness of answers.
- Gain familiarity with factors and multiples.
 - Find all factor pairs for a whole number in the range 1–100.
 - Recognize that a whole number is a multiple of each of its factors.
 - Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
 - Determine whether a given whole number in the range 1–100 is prime or composite.
- Generate and analyze patterns.
 - Generate a number or shape pattern that follows a given rule.
 - Identify apparent features of the pattern that were not explicit in the rule itself.

II. Number and Operations in Base Ten

- Generalize place value understanding for multi-digit whole numbers.
 - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
 - Read and write multi-digit whole numbers, using
 - base-ten numerals
 - number names
 - expanded form
 - Compare two multi-digit numbers based on meanings of the digits in each place.
 - Use $>$, $=$, and $<$ symbols to record their results of comparisons.
 - Use place value understanding to round multi-digit whole numbers to any place.

- Use place value understanding and properties of operations to perform multi-digit arithmetic.
 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
 - Multiply a whole number of up to four digits by a one-digit whole number.
 - Multiply two two-digit numbers, using strategies based on
 - place value
 - properties of operations
 - Illustrate and explain the calculation, by using
 - equations
 - rectangular arrays
 - area models
 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on
 - place value
 - properties of operations
 - relationship between multiplication and division
 - Illustrate and explain the calculation, by using
 - equations
 - rectangular arrays
 - area models

III. Number and Operations—Fractions

- Extend understanding of fraction equivalence and ordering.
 - Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(n \times a)}{(n \times b)}$ by using visual fraction models, with attention to how the number and size of the parts differ.
 - Use this principle to generate equal fractions.
 - Compare two fractions with different numerators and different denominators.
 - Recognize that comparisons are valid only when the two fractions refer to the same whole.
 - Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions.
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
 - Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$.
 - Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
 - Decompose a fraction into a sum of fractions with the same denominator in more than one way.
 - Add and subtract mixed numbers with like denominators by replacing mixed numbers with equivalent fractions and by using properties of operations.
 - Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.
 - Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
 - Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.
 - Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.
 - Use this understanding to multiply a fraction by a whole number.
 - Solve word problems involving multiplication of a fraction by a whole number.
- Understand decimal notation for fractions, and compare decimal fractions.
 - Express a fraction with denominator 10 as an equivalent fraction with denominator 100.
 - Use this technique to add two fractions with respective denominators 10 and 100.

- Use decimal notation for fractions with denominators 10 or 100.
- Compare two decimals to hundredths by reasoning about their size.
- Recognize that comparisons are valid only when the two decimals refer to the same whole.
- Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions.

IV. Measurement and Data

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
 - Know relative sizes of measurement units within one system of units, including
 - kilometer
 - meter
 - centimeter
 - kilogram
 - gram
 - pound
 - ounce
 - liter
 - milliliter
 - hour
 - minute
 - second
 - Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.
 - Use the four operations to solve word problems involving
 - distances
 - intervals of time
 - liquid volumes
 - masses of objects
 - money
 - Solve problems that involve simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
 - Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
 - Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
- Represent and interpret data.
 - Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$).
 - Solve problems involving addition and subtraction of fractions by using information presented in line plots.
 - Geometric measurement: understand concepts of angle and measure angles.
 - Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
 - An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.
 - An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.
 - An angle that turns through “n” one-degree angles is said to have an angle measure of “n” degrees.

When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.

- Measure angles in whole-number degrees using a protractor.
 - Sketch angles of specified measure.
- Recognize angle measure as additive.
 - Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.

VI. Geometry

- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
 - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.
 - Identify these in two-dimensional figures.
 - Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size.
 - Recognize right triangles as a category, and identify right triangles.
 - Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts.
 - Identify line-symmetric figures and draw lines of symmetry.

DRAFT



Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the report from the National Academies of Science, *A Framework for K-12 Science Education*, "...children have surprisingly sophisticated ways of thinking about the world, based in part on their direct experiences with the physical environment, such as watching objects fall or collide and observing plants and animals. They also learn about the world through everyday activities, such as talking with their families, pursuing hobbies, watching television, and playing with friends. As children try to understand and influence the world around them, they develop ideas about their role in that world and how it works. In fact, the capacity of young children—from all backgrounds and socioeconomic levels—to reason in sophisticated ways is much greater than has long been assumed. Although they may lack deep knowledge and extensive experience, they often engage in a wide range of subtle and complex reasoning about the world. Thus, before they even enter school, children have developed their own ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."

While experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge. Only when topics are presented systematically and clearly can students make steady and secure progress in their scientific learning. The child's development of scientific knowledge and understanding is in some ways a very disorderly and complex process, different for each child. But a systematic approach to the exploration of science, one that combines experience with book learning, can help provide essential building blocks for deeper understanding at a later time.

I. Energy Transfer and Transformation

Teachers: The emphasis in Grade 4 should be on observation, description, and explanation of real world applications of energy; technical explanations of energy transfer and transformation should be taken up in later grades; see Grades 5, 6, and 8 for an increasingly detailed study of energy:

A. Introduction to Energy

- Energy is the ability to cause change.
- Energy has many forms, including mechanical, light, sound, thermal (heat), and electrical.
- Stored energy is the potential to cause change (holding a ball at a height, or the stored chemical energy of a battery).

B. Energy and Motion

- All moving objects possess energy of motion.
- The faster an object is moving, the greater its energy.
- People use motion energy to cause changes that accomplish useful tasks.

C. Energy Transfer

- Energy can be transferred.
 - Sound is transferred from a faraway bell or siren.
 - Light is transferred from the Sun to Earth.
 - Thermal energy (heat) is transferred from a campfire to a camper.
- Electrical currents establish the energy that is then converted into sound, light, or thermal energy.
- Hydroelectric power plants convert the energy of moving water into electrical energy.

D. Collisions

- Moving objects transfer energy from place to place.
- When objects collide, the energy of motion can be transferred or transformed.
 - In a collision, some energy is transferred from the objects to the air as sound or heat.

Review and extend learning from Grade 2: Electricity and Magnetism.

E. Energy Transformation and Engineering

- One form of energy can be converted into another form of energy.
- Many useful devices convert one form of energy into another.
 - For example, toasters convert electrical energy to heat energy, and solar panels convert light energy to electrical energy.

II. Investigating Waves

Teachers: Through reading aloud, observation, and activities such as planning and conducting investigations of light and sound, help students to explore the following:

A. Waves Transfer Energy

- Waves carry energy from one place to another.
- Waves are characterized by amplitude, frequency, and wavelength.

B. Sound Waves Transfer Energy

- Sound waves transfer energy from one place to another and can cause changes (musical instruments, whale calls).
- Sound waves are produced when objects vibrate.
- Sound waves can travel through most solids, liquids, and gases.
- Properties of sound waves are pitch and intensity.
- Animals have specialized structures for detecting sound waves (the ears of bats, the lateral line in fish).

C. Light Waves Transfer Energy

- Light waves transfer energy from one place to another and can cause changes.
- Sources of light include the sun and electrical devices.
- Light waves can travel through empty space and through matter.
- Light waves are characterized by amplitude, frequency, and wavelength.
- Animals have specialized structures for detecting light (eyes of a hawk).

D. People use Waves to Transfer Information

- Patterns of sound waves can transfer information (Morse code, drum signals).
- Patterns of light waves can transfer information (smoke signals, ship-to-ship signals).
- Sound and light waves can be converted to digital signals for information transfer (radio, television, cell phones).

III. Structures and Functions of Living Things

Teachers: Through reading aloud, observation, and activities such as developing models of the shapes and kinds of land and water in an area, help students to explore the following:

A. Structure is Related to Function

- Cells are the smallest unit of life.
- Unicellular organisms have only one cell.
- Multicellular organisms are made up of many cells.
- Cells make up tissues; tissues make up organs.
- Organs work together in organ systems.
- Different structures work together in systems to support survival, growth, behavior, and reproduction.
- At any level of organization, each internal and external structure of an organism reflects its function.

Review and extend learning regarding engineering design, which is introduced in grades K–2:

- Pushes and Pulls (K)
- Weather Patterns (K)
- Exploring Light and Sound (Grade 1)
- Simple Machines (Grade 1)
- Exploring Land and Water (Grade 2)
- Electricity and Magnetism (Grade 2)
- Structure of Living Things (Grade 3)

Review and extend learning from third grade regarding how the eyes and ears work to include new understandings of light and sound waves as forms of energy.

- Different structures work together in systems to support survival (heart and lungs in many animals; roots and stems in many plants).
- Some animals form groups to help them survive in their habitat.

B. The Structure and Function of The Eyes and Ears

- Light enters through the eye after being reflected off objects.
 - Structures in the eyes focus and receive the light.
 - The optic nerve carries electrical signals to the brain.
- The outer ear captures sound waves.
 - In the middle ear, sound waves hit the eardrum and are passed to three small bones.
 - In the inner ear, vibrations move tiny hairs that create nerve signals.
 - Auditory nerve sends signals to the brain.

C. Stimulus, Response, and Survival

- Stimulus is something that causes living tissue to respond.
- Response is the reaction an organism has to a stimulus.
- Organisms have sensory organs that detect different kinds of information about the environment.
- In most animals, sensory organs transmit information to the brain.
- The brain processes this information as perceptions and stores them as memories.
- Plants also respond to stimuli.
- Response to stimuli helps survival, growth, reproduction, and behavior.

IV. Processes That Shape Earth

A. Features of Earth

- Geologists are scientists who study Earth's surface and its interior, and the processes that change it.
- Earth's layers: crust, mantle, outer core, and inner core.
- Features of Earth's surface: mountains and ranges, seamounts and ocean trenches, volcanoes.
- Geologists use maps to study patterns of Earth's changing surface.

B. Evidence that Earth's Surface has Changed Over Time

- Rocks and rock layers provide evidence of how Earth's surface has changed over time.
- Geologists study evidence in rocks and rock layers to create models of what Earth was like in the past.
- Rock classification: sedimentary, metamorphic, and igneous
- Fossils are often found in and among rock layers.
- Fossils provide evidence that Earth's surface has changed over time.

C. Processes that Change Earth's Surface

- Different processes create and break down different types of mountains.
- Mountains form when plates of Earth's surface press against one another.
- Weathering is the breaking down of rocks on Earth's surface.
- Agents of weathering: wind, water, ice, plants, and animals
- Erosion: movement of rocks and soil primarily caused by wind, water, or glaciers

D. How Geologic Events can Affect People

- Geologic events that can affect humans include:
 - Earthquakes and tsunamis

Students should engage with and discuss possible design solutions that prepare for geologic events and processes.

- Volcanoes: ash clouds and lava flows
- Avalanches and mudslides
- People build hazard-resistant structures to prepare for possible danger.
- People use data and tools to predict disasters and minimize damage.

V. Using Natural Resources for Energy

Teachers: Through reading aloud and activities, introduce students to examples of how humans use the natural world to meet our needs and create sources for energy such as fuel. Help students to explore:

A. Natural Resources: Renewable and Nonrenewable

- Humans use natural resources to provide energy for much of modern life, (coal, oil, and gasoline).
- Renewable resources can be replaced relatively quickly.
- Nonrenewable resources cannot be replaced quickly.
- Renewable resources:
 - wind energy
 - water behind dams
 - geothermal energy
 - sunlight
 - biofuels
- Nonrenewable resources:
 - fossil fuels (including coal, oil, and natural gas)
 - nuclear fuels

B. Using Nonrenewable Resources for Energy

- Fuel: material burned to produce heat
- Fossil fuels are formed from the remains of once-living organisms.
- Fossil fuels must be extracted from beneath Earth's surface (mining, drilling, fracking).
- Crude oil must be refined into products that are usable.
- Much of our electricity is generated by burning coal.
- Air pollution often results from burning fossil fuels.
- Major sources of pollution include cars and trucks, coal-fired power plants, large industries, and ships and airplanes.
- Nuclear power plants use heat released from splitting uranium atoms to make electricity.
- Environmental benefits include lower emissions than those from fossil fuels.
- Environmental risks include escape of dangerous nuclear waste and risk of catastrophic disasters.

C. Using Renewable Resources for Energy

- New and evolving technologies for using renewable resources for energy:
 - hydroelectric power plants
 - wind turbines
 - solar panels
- Environmental benefits of using renewable resources for energy:
 - reduced need for fossil fuels
 - less need for major construction such as oil fields, offshore platforms, or refineries and storage facilities
 - reduced cost of the transportation of fossil fuels
- Environmental risks: building dams for hydroelectric energy affects water habitats; wind turbines may be harmful to birds that fly into them

Note: The lymphatic system will be studied in Grade 6.

VI. Human Respiration and Circulation

A. The Respiratory System

- The respiratory system functions to bring oxygen gas into the body and release carbon dioxide from the body.
- Strenuous activity causes changes in respiration and heart rate.
- Upper parts of the respiratory system: nose, throat, voice box, and the trachea
- Lower parts of the respiratory system: lungs, bronchi, bronchial tubes, diaphragm, ribs, and alveoli
- Damage to the respiratory system can occur because of smoking and breathing polluted air.

B. The Circulatory System

- The circulatory system functions to bring oxygen gas from the lungs to the body cells and release carbon dioxide from the lungs to the environment.
- The circulatory system transports important chemicals throughout the body.
- Parts of the respiratory system: the heart and blood vessels, including arteries, veins, and capillaries
- Circulation: the movement of blood through vessels caused by contractions of the heart
- Blood pressure: measure of the stress blood places on the vessels
- The structure of heart, its chambers and valves, reflect the function of the heart.
- People can make lifestyle-related decisions that positively affect the respiratory and circulatory systems.

VII. Science Biographies

Teachers: Through reading aloud and activities, explore with students the stories and accomplishments of these scientists and engineers. This list of science biographies is by no means exhaustive. Other individuals can be incorporated into learning during a corresponding topic of study for this grade level, and should include:

- Thomas Edison—invented an electric light bulb and investigated storing energy for practical uses.
- Lewis H. Latimer—electrical engineer who, among other things, secured patents that improved Edison's lightbulb.
- Helen Keller—led a remarkable life as an author and champion of those with disabilities, although she could not see or hear.
- Louis Braille—French inventor of the Braille systems, which allowed blind people to read by touching a pattern of dots.

DRAFT

Grade 5



Overview of Topics

Grade 5

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
- II. Reading
 - A. Phonics: Decoding and Encoding
 - B. Oral Reading and Fluency
 - C. Reading Comprehension and Response—All Texts
 - D. Reading Comprehension—Fiction, Drama, Poetry
 - E. Reading Comprehension—Nonfiction and Informational
- III. Writing
 - A. Writing to Reflect Audience, Purpose, and Task
 - B. Writing to Analyze and Understand Text
 - C. Conducting Research
 - D. Narrative Writing
 - E. Informative/Explanatory Writing
 - F. Persuasive Writing/Opinion
- IV. Language Conventions
 - A. Command of Language
 - B. Spelling
 - C. Grammar
 - D. Capitalization and Punctuation
 - E. Vocabulary
- V. Poetry
 - A. Poems
 - B. Terms
- VI. Fiction and Drama
 - A. Fiction
 - B. Drama
 - C. Literary Terms
- VII. Speeches

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. World Geography
 - A. Spatial Sense
 - B. Great Lakes of the World
- II. Early American Civilizations
 - A. Geography
 - B. Maya, Aztec and Inca Civilizations
 - C. Spanish Conquerors
- III. European Exploration, Trade, and the Clash of Cultures
 - A. Background
 - B. European Exploration, Trade, and Colonization
 - C. Trade and Slavery
- IV. The Renaissance and the Reformation
 - A. The Renaissance
 - B. The Reformation
- V. England from the Golden Age to the Glorious Revolution
 - A. England in the Golden Age
 - B. From the English Revolution to the Glorious Revolution

- VI. Russia: Early Growth and Expansion
 - A. Geography
 - B. History and Culture

- VII. Feudal Japan
 - A. Geography
 - B. History and Culture

AMERICAN HISTORY AND GEOGRAPHY

- I. Westward Expansion
 - A. Westward Expansion before the Civil War
 - B. Westward Expansion after the Civil War
- II. The Civil War: Causes, Conflicts, Consequences
 - A. Toward the Civil War
 - B. The Civil War
 - C. Reconstruction
- III. Native Americans: Cultures and Conflicts
 - A. Culture and Life
 - B. American Government Policies
 - C. Conflicts
- IV. U. S. Geography

VISUAL ARTS

- I. Art and Architecture of the Renaissance
- II. Baroque Art and Architecture
- III. American Art: Nineteenth-Century United States
- IV. Native American Art
- V. Art of Japan
- VI. Russian Art and Architecture

MUSIC

- I. Elements of Music
- II. Listening and Understanding
 - A. Composers and Their Music
 - B. Musical Connections
- III. American Musical Traditions
- IV. Songs

MATHEMATICS

- I. Operations and Algebraic Thinking
- II. Number and Operations in Base Ten
- III. Number and Operations—Fractions
- IV. Measurement and Data
- V. Geometry

SCIENCE

- I. Investigating Matter
 - A. Properties of Matter
 - B. Structure of Matter
 - C. Physical Changes in Matter
 - D. Chemical Changes in Matter
 - E. The Language of Chemistry

- II. Energy and Matter in Ecosystems
 - A. Organisms Need and Use Energy
 - B. Plants and Animals
 - C. Matter Cycles Through Ecosystems
- III. Modeling Earth's Systems
 - A. Spheres of Earth
 - B. Modeling Earth's Interacting Spheres
- IV. Protecting Earth's Resources
 - A. Protecting Earth's Water
 - B. Protecting Earth's Air
 - C. Protecting Earth's Land
 - D. Protecting Ecosystems
- V. Astronomy: Space Systems
 - A. Introduction to Astronomy
 - B. Evidence of Earth's Movement
 - C. Stars
 - D. Gravity
- VI. The Human Body: Human Hormones and Reproduction
 - A. The Endocrine System
 - B. The Reproductive System
- VII. Science Biographies

DRAFT

Grade 5 | English Language Arts



The *Common Core State Standards for English Language Arts* emphasize the critical importance of building nonfiction background knowledge in a coherent and sequenced way within and across grades. This can be accomplished most effectively, at each grade level, by integrating the topics from history, geography, science, and the arts in the *Core Knowledge Sequence* into the language arts block. Note that in the *Sequence*, there are many cross-curricular connections to history and science topics within Language Arts (e.g., poems, stories, and sayings), as well as to visual arts and music, which can and should be integrated into the applicable domain of study.

I. Listening and Speaking

A. Classroom Discussion

- Maintain attention and actively participate in discussions about a variety of topics, ideas, and texts in a variety of settings, including partners, small and large groups, and teacher-led groups.
- Prepare for discussions in advance, including reading about the topic and organizing information for the discussion. Draw on preparations during the discussion.
- Use agreed-upon rules for group discussions, keep discussions on topic, and carry out specific roles appropriate to a discussion.
- Ask relevant questions to clarify conversations and ideas and to build upon remarks made by others.
- Understand and summarize the key ideas in a discussion or oral presentation and draw conclusions from new information introduced during discussions.
- Restate or paraphrase information read aloud or delivered visually, quantitatively, or in other formats, such as videos, recordings, and multimedia.
- Determine the evidence and reasons a speaker uses to support their main claim.

B. Presentation of Ideas and Information

- Give a presentation about a topic or text, tell a story, or orally relate a personal experience in a logical and organized manner, including relevant details and facts that support main ideas or themes.
- Speak clearly at an understandable volume and pace.
- Develop main ideas and themes by adding displays, images, videos, and recordings to enhance presentations.
- Switch between formal and informal English as appropriate to the situation or task—for example, presentations (formal) and group discussions (informal).

II. Reading

A. Phonics: Decoding and Encoding

- Use grade-level phonics and word analysis skills to decode words.
- Use combined knowledge of letter-sound correspondences, syllabication patterns, and morphology (e.g., roots, prefixes, and suffixes) to read unfamiliar multisyllabic words in context and out of context.

B. Oral Reading and Fluency

- Read grade-level text fluently and accurately to support comprehension.
- Read text with purpose.
- Self-correct and develop understanding by using context and rereading as necessary.
- Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.

C. Reading Comprehension and Response—All Texts

- Independently and proficiently read and comprehend longer works of fiction (chapter books, stories, plays, and poems) and nonfiction (science, history, social studies, and technical subjects) written at the high end of fourth to fifth grade or beyond.

Grasping Specific Details and Key Ideas

- Use details and examples when explaining a text, making inferences, or drawing conclusions.
- Quote from a text with accuracy when explaining or making inferences from works of literature or informational texts.
- Use details to summarize texts.
- Identify the topic or theme of a text.

Observing Craft and Structure

- Determine the meaning of words and phrases in a text, including
 - Tier 2 academic vocabulary.
 - Tier 3 subject-area vocabulary.
- Analyze the structure of a text and how the parts (sentences, paragraphs, chapters, and sections) relate to the whole.
- Explain how the point of view of a narrator or speaker affects how events are described in a text.

Integrating Information and Evaluating Evidence

- Compare a written text to an oral or visual version.
- Compare and contrast different texts with the same topic, themes, or genre.
- Trace arguments and claims and determine whether the reasoning, evidence, and logic are adequate.
- Use information from multiple sources (e.g., print or digital) to find answers and solve problems.

D. Reading Comprehension—Fiction, Drama, Poetry

- Use details to trace the themes in literary works, such as poems, plays, and fiction.
- Effectively summarize works of literature, such as poems, plays, and fiction.
- Use details to describe and build an in-depth understanding of the elements of fiction or plays, such as setting, dialogue, plot, and character motivations.
- Use details to describe how characters respond to problems and challenges.
- Use details to compare and contrast the settings, events, and characters in stories and dramas, including how characters interact.
- Use details to examine how the speaker of a poem reflects or comments on the topic of the poem.
- Examine how the point of view of a speaker (poem) or narrator (fiction) affects how events are described.
- Determine the meaning of words and phrases in a text, including figurative language, such as metaphors and similes.
- Examine how the basic structures of plays, poems, and fiction, such as scenes, stanzas, and chapters, work together to create an overall cohesive structure.
- Explain how visual and multimedia elements create tone or add beauty to literary works, such as graphic novels, fiction, myths, and poetry.
- Compare and contrast stories across genres, such as mystery and adventure, including their topics and themes.

E. Reading Comprehension—Nonfiction and Informational

- Answer questions about the details of a nonfiction text, indicating which part of the text provides the information needed to answer specific questions.
- Locate the main ideas in a text and identify key details that support them.
- Effectively summarize all types of informational texts.
- Understand and explain the relationships and interactions between two or more individuals, events, ideas, concepts, or steps in a procedure in historical, scientific, and technical texts.
- Identify and determine the meaning of grade-appropriate Tier 2 and Tier 3 vocabulary words in informational texts.
- Identify the structure of two or more texts (e.g., comparison, cause/effect, problem/solution, compare/contrast, sequence, and main idea and details) and compare and contrast them.
- Examine multiple accounts of the same topics and events and explain the differences in their perspectives.
- Explain how an author supports their claims in a text by giving reasons (opinions) and evidence, such as facts, examples, and expert opinions from reliable sources.
- Understand how specific evidence supports specific claims.
- Synthesize information from two or more sources on the same topic, then speak or write about the topic with mastery of the subject matter.

III. Writing

A. Writing to Reflect Audience, Purpose, and Task

- Write routinely, clearly, and coherently, completing both short and long assignments focused on a range of different tasks, purposes, and audiences.
- Produce a variety of types of writing—including reports, summaries, letters, descriptions, research essays, essays that explain a process, stories, and poems—with a coherent structure or story line.
- Incorporate planning, research, editing, rewriting, and revision into writing practice.
- Incorporate trying a new approach as part of the editing process.
- Use keyboards, tablets, the Internet, and other technologies to produce and publish writing and collaborate and communicate with others.
- Type a minimum of two pages in a single attempt.

B. Writing to Analyze and Understand Text

- Analyze literature in writing:
 - Trace a theme.
 - Show in-depth understanding of characters, setting, and plot events.
 - Describe how different literary elements interact within the text.
 - Compare and contrast two or more settings, events, or characters, drawing upon specific evidence, such as details of the setting or how characters interact.
- Analyze informational texts in writing:
 - Describe how authors make and support particular points with reasons and factual evidence.
 - Identify how specific reasons and evidence support specific claims.
- Draw upon appropriate literary elements, details, or facts as evidence for writing analysis.

C. Conducting Research

- Conduct short research projects to gather information from several different sources (such as an encyclopedia, magazines, interviews, observations, an atlas, or approved online sources) and write short reports that synthesize the information.

- Build knowledge through researching and investigating multiple topics.
- Gather information from personal experiences as well as from print and digital sources (such as an encyclopedia, magazines, approved online sources, videos, interviews, and recordings).
- Take notes from sources and condense them by paraphrasing and/or summarizing.
- Paraphrase and summarize completed reports and other written assignments.
- Provide a rudimentary bibliography.

D. Narrative Writing

- Produce narrative pieces that reflect real-life or imagined experiences.
- Introduce a narrator, a situation, and characters, and develop them through dialogue, pacing, and exposition, including actions, thoughts, feelings, and reactions to events in the plot.
- Organize a logical or natural sequence of plot events following from the situation, using time-order and transitional words, phrases, and clauses to indicate and manage the event order.
- Include concrete and sensory details to make writing vivid and precise; convey a sense of experiences and/or the sensations that accompany experiences.
- Provide a sense of closure that follows logically or artfully from the situation, character responses, and sequence of events.

E. Informative/Explanatory Writing

- Write reports and other types of informational texts that clearly focus ideas and information, and make general observations.
- Introduce a topic with information organized in related sections or paragraphs and developed with facts, definitions, quotations, and details.
- Group related information logically and incorporate formatting features, such as headings.
- Include visual elements such as photos, drawings, or diagrams to help explain or present ideas or information when appropriate.
- Use linking words, phrases, and clauses to connect ideas from distinct categories (e.g., *in contrast, especially*).
- Use Tier 2 and/or Tier 3 vocabulary to explain or elaborate topics.
- Write a conclusion that wraps up ideas in the text.

F. Persuasive Writing/Opinion

- Introduce a topic and opinion clearly and support a point of view with reasons, details, and evidence.
- Follow through with an organizational structure that supports the purpose of the text, grouping ideas, reasons, and evidence in a logical way.
- Use linking words, phrases, and clauses to connect opinions with reasons and evidence (e.g., *consequently, specifically*).
- Write a conclusion that wraps up the argument.

IV. Language Conventions

A. Command of Language

- Use knowledge of language conventions when reading, writing, speaking, and listening.
- Rework sentences by shortening, combining, and lengthening them to
 - create meaning and interest for readers or listeners
 - engage the interest of readers or listeners
 - create a desired style

- Identify a variety of similarities and differences in how the English language is portrayed in stories, dramas, and poems by examining dialects, accents, and registers (i.e., styles and modes of speaking and other variations).

B. Spelling

- Spell most words correctly or with a highly probable spelling.
- Apply current code knowledge to spelling.
- Spell most grade-level high-frequency words correctly.
- Use dictionaries or glossaries—print and digital—to check and correct spellings about which they are uncertain.

C. Grammar

- Understand the basic rules of English grammar and conventions when writing or speaking.
- Know the following parts of speech and how they are used: conjunctions, interjections, and prepositions.
- Form and use the perfect (e.g., *I had jogged*; *I have jogged*; *I will have jogged*) verb tenses.
- Identify subject and verb in a sentence and understand that they must agree.
- Use verb tenses correctly in a variety of ways, including times, sequences, states, and conditions.
- Identify and correct erroneous tense shifts.
- Use correlative conjunctions (e.g., *either/or*, *neither/nor*).

D. Capitalization and Punctuation

- Understand and apply the basic rules of capitalization and punctuation when writing or speaking.
- Correctly use commas after introductory words (e.g., *After you bake the cake, let it cool before applying the icing* Or, *In 1920, the League of Nations was established.*)
- Correctly use punctuation when separating words in a series, including colons before a list, commas, and semicolons.
- Use underlining, quotation marks, or italics for titles.
- Use a comma to set off the words *yes* and *no* (e.g., *Yes, I would like a glass of water.*), to set off a tag question from the rest of the sentence (e.g., *That can't possibly be true, could it?*), and to indicate direct address (e.g., *What are your thoughts on the matter, Derek?*).

E. Vocabulary

- Apply a variety of strategies to figure out the meaning of words and phrases, such as the following:
 - context clues
 - examples
 - definitions
 - cause-and-effect relationships
 - comparisons
 - synonyms and antonyms
- Use knowledge of Greek and Latin roots and affixes to figure out the meaning of a new word (e.g., *photograph*, *photosynthesis*).
- Use a dictionary or glossary—print or digital—to answer questions about the meanings and usage of unfamiliar words.
- Know how to use a dictionary—print or digital—to pronounce words correctly.
- Use a dictionary to find the precise meaning of words and phrases.
- Make accurate interpretations of similes and metaphors and other types of figurative language based on context.

- Discern nuances in word meanings.
- Understand word relationships, such as synonyms, antonyms, and homographs, and use word relationships to better understand words.
- Recognize and explain the meaning of grade-appropriate idioms, adages, and proverbs.
- Acquire grade-level Tier 3 words and phrases related to specific domains or subject areas.
- Acquire grade-level Tier 2 words and phrases, including words that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).

V. Poetry

Teachers: The poems listed here constitute a selected core of poetry for this grade. Expose students to more poetry, old and new, and have students write their own poems. To bring students into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words. At this grade, poetry should be primarily a source of delight. This is also an appropriate grade at which to begin looking at poems in more detail, asking questions about the poet's use of language, noting the use of devices such as simile, metaphor, alliteration, etc.

A. Poems

- "To the Snake" (Denise Levertov)
- "This Is Just To Say" (William Carlos Williams)
- "Variations On A Theme By William Carlos Williams" (Kenneth Koch)
- "When I Heard the Learn'd Astronomer" (Walt Whitman)
- "The Copper Beech" (Marie Howe)
- "My Father and the Figtree" (Naomi Shihab Nye)
- "Snow Dust" (Robert Frost)
- "#359 A bird came down the walk" (Emily Dickinson)
- "Advice" (Dan Gerber)
- "Travelling" (Simon Ortiz)
- "One Art" (Elizabeth Bishop)
- "Strange Patterns" (Carrie Allen McCray)
- "Isla" (Virgil Suárez)
- "Constantly Risking Absurdity (#15)" (Lawrence Ferlinghetti)
- "The Echoing Green" (William Blake)

B. Terms

- onomatopoeia
- alliteration

Note: See also below, VI. D. Literary Terms: Literal and figurative language

VI. Fiction and Drama

Teachers: In fifth grade, students should be fluent, competent readers of appropriate materials. Regular independent silent reading should continue. Students should read outside of school at least 25 minutes daily.

The titles below constitute a selected core of stories for this grade. Expose students to many more stories, and encourage students to write their own stories. Students should also be exposed to nonfiction prose: biographies, books about science and history, books on art and music, etc.

Some of the works below, such as *Don Quixote* or *A Midsummer Night's Dream* are available in editions adapted for young readers.

A. Fiction

- Stories
 - episodes from *Don Quixote* (Miguel de Cervantes)
 - Little Women* (Part First) (Louisa May Alcott)

See also World History Grade 5: The Renaissance, re *Don Quixote*

See also World History Grade 5: Feudal Japan, re “A Tale of the Oki Islands.”

See also World History Grade 5: The Renaissance, re *A Midsummer Night’s Dream*.
See also American History Grade 5: Native American Cultures, re “Morning Star and Scarface” and Native American trickster stories.

See also American History Grade 5: Civil War; and, Native Americans: Cultures and Conflicts.

Tales of Sherlock Holmes, including “The Red-Headed League” (Arthur Conan Doyle)

They Call Me Guero (David Bowles)

The Science of Breakable Things (Tae Keller)

- Myths and Legends

 - A Tale of the Oki Islands (a legend from Japan, also known as “The Samurai’s Daughter”)

 - Morning Star and Scarface: the Sun Dance (a Plains Native American legend, also known as “The Legend of Scarface”)

 - Native American trickster stories (for example, tales of Coyote, Raven, or Grandmother Spider)

B. Drama

- Plays

 - A Midsummer Night’s Dream* (William Shakespeare)

- Terms:

 - tragedy and comedy
 - act, scene
 - Globe Theater

C. Literary Terms

- Pen name (pseudonym)
- Literal and figurative language
 - imagery
 - metaphor and simile
 - symbol
 - personification

VII. Speeches

Abraham Lincoln: The Gettysburg Address

Chief Joseph (Highh’moot Tooyalakekt): “I will fight no more forever”



See also below, II.A. Geography of Early American Civilizations; III.C. Trade and Slavery; VI.A. Geography of Russia; VII.A. Geography of Japan

Teachers: The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures. Many geographic topics are listed below in connection with historical topics.

World History and Geography

I. World Geography

A. Spatial Sense (Working With Maps, Globes, and Other Geographic Tools)

- Read maps and globes using longitude and latitude, coordinates, degrees.
- Tropic of Cancer and Tropic of Capricorn: relation to seasons and temperature
- Climate zones: Arctic, Tropical, Temperate
- Time zones (review from Grade 4): Prime Meridian (0 degrees); Greenwich, England; 180° Line (International Date Line)
- Arctic Circle (imaginary lines and boundaries) and Antarctic Circle
- From a round globe to a flat map: Mercator projection, conic and plane projections

B. Great Lakes of the World

- Eurasia: Caspian Sea, Lake Baikal
- Asia: Aral Sea
- Africa: Victoria, Tanganyika, Chad
- North America: Superior, Huron, Michigan, Erie, Ontario
- South America: Maracaibo, Titicaca

II. Early American Civilizations

Teachers: Discuss with students: How do we know about these ancient civilizations? (Through archaeological findings; ancient artifacts and writings; writings by European missionaries and conquerors, etc.).

A. Geography

- Identify and locate Central America and South America on maps and globes.
 - Largest countries in South America: Brazil and Argentina
- Amazon River
- Andes Mountains

B. Maya, Aztec, and Inca Civilizations

- The Mayas
 - Ancient Mayas lived in what is now southern Mexico and parts of Central America; their descendants still live there today.
 - Accomplishments as architects and artisans: pyramids and temples
 - Development of a system of hieroglyphic writing
 - Knowledge of astronomy and mathematics; development of a 365-day calendar; early use of concept of zero

- The Aztecs
 - A warrior culture, at its height in the 1400s and early 1500s, the Aztec empire covered much of what is now central Mexico.
 - The island city of Tenochtitlan: aqueducts, massive temples, etc.
 - Moctezuma (also spelled Montezuma)
 - Ruler-priests; practice of human sacrifice
- The Inca
 - Ruled an empire stretching along the Pacific coast of South America
 - Built great cities (Machu Picchu, Cuzco) high in the Andes, connected by a system of roads

C. Spanish Conquerors

- Conquistadors: Cortés and Pizzaro
 - Advantage of Spanish weapons (guns, cannons)
 - Diseases devastate native peoples.

Note: Place the great wave of exploration by Europeans in the context of various peoples exploring beyond their own borders, including Islamic traders and (recall from Grade 4) Zheng He of China.

Note: Briefly review from American History Grade 3: Early Spanish Exploration and Settlement.

Also, see above, II.C. Spanish Conquerors.

Note: Briefly review from American History Grade 3: The Search for the Northwest Passage. You may also want to introduce other explorers, such as Verrazano.

III. European Exploration, Trade, and the Clash of Cultures

Teachers: It is recommended that you use timelines to place these people and events in the context of the students' previous studies (especially in Grade 3) of the early exploration and settlement of North America. Fifth grade teachers should examine the third grade guidelines for American History in order to use the familiar topics as a foundation upon which to build knowledge of the new topics.

A. Background

- Beginning in the 1400s, Europeans set forth in a great wave of exploration and trade.
- European motivations
 - Muslims controlled many trade routes.
 - Profit through trade in goods such as gold, silver, silks, sugar, and spices
 - Spread of Christianity: missionaries
- Geography of the spice trade
 - The Moluccas, also called the "Spice Islands": part of present-day Indonesia
 - Locate: the region known as Indochina, the Malay Peninsula, the Philippines
 - Definition of "archipelago"
 - "Ring of Fire": earthquakes and volcanic activity

B. European Exploration, Trade, and Colonization

- Portugal
 - Prince Henry's exploration of the West African coast
 - Bartolomeu Dias rounds the Cape of Good Hope.
 - Vasco da Gama: spice trade with India, exploration of East Africa
 - Portuguese conquer East African Swahili city-states.
 - Cabral claims Brazil.
- Spain
 - Two worlds meet: Christopher Columbus and the Tainos
 - Bartolomé de las Casas speaks out against enslavement and mistreatment of native peoples.
 - Treaty of Tordesillas between Portugal and Spain
 - Balboa reaches the Pacific.
 - Magellan crosses the Pacific, one of his ships returns to Spain, making the first round-the-world voyage.
- England and France
 - Search for Northwest Passage (review from Grade 3)
 - Colonies in North America and West Indies
 - Trading posts in India

- Holland (The Netherlands)
 - The Dutch take over Portuguese trade routes and colonies in Africa and the East Indies.
 - The Dutch in South Africa, Cape Town
 - The Dutch in North America: New Netherland (review from Grade 3), later lost to England

C. Trade and Slavery

- The sugar trade
 - Enslaved Africans on Portuguese sugar plantations on islands off West African coast, such as São Tomé
 - Sugar plantations on Caribbean islands
 - West Indies: Cuba, Puerto Rico, Bahamas, Dominican Republic, Haiti, Jamaica
- Transatlantic slave trade: the “triangular trade” from Europe to Africa to colonies in the Caribbean and the Americas
 - The “Slave Coast” in West Africa
 - The Middle Passage

See also Visual Arts Grade 5: The Art of the Renaissance; and Language Arts Grade 5: Shakespeare, A Midsummer Night’s Dream; Cervantes, Don Quixote.

IV. The Renaissance and the Reformation

A. The Renaissance

- Islamic scholars translate Greek works and so help preserve classical civilization.
- A “rebirth” of ideas from ancient Greece and Rome
- New trade and new wealth
- Italian city states: Venice, Florence, Rome
- Patrons of the arts and learning
 - The Medici Family and Florence
 - The Popes and Rome
- Leonardo da Vinci, Michelangelo
- Renaissance ideals and values as embodied in
 - *The Courtier* by Castiglione: the “Renaissance man”
 - *The Prince* by Machiavelli: real-world politics

B. The Reformation

- Gutenberg’s printing press: the Bible made widely available
- The Protestant Reformation
 - Martin Luther and the 95 Theses
 - John Calvin
- The Counter-Reformation
- Copernicus and Galileo: Conflicts between science and the church: Ptolemaic (earth-centered) vs. sun-centered models of the universe

See also Language Arts Grade 5: Shakespeare.

V. England from the Golden Age to the Glorious Revolution

A. England in the Golden Age

- Henry VIII
 - Wives and children
 - the Church of England
- Elizabeth I
 - William Shakespeare
- British naval dominance

- Defeat of the Spanish Armada
- Sir Francis Drake
- British exploration and North American settlements

B. From The English Revolution to the Glorious Revolution

- The English Revolution
 - King Charles I, Puritans and Parliament
 - Civil War: Cavaliers and Roundheads
 - Execution of Charles I
 - Oliver Cromwell and the Puritan regime
 - The Restoration (1660): Charles II restored to the English throne, many Puritans leave England for America
- The “Glorious Revolution” (also called the Bloodless Revolution)
 - King James II replaced by William and Mary
 - Bill of Rights: Parliament limits the power of the monarchy.

VI. Russia: Early Growth and Expansion

A. Geography

- Moscow and St. Petersburg
- Ural Mountains, Siberia, steppes
- Volga and Don Rivers
- Black, Caspian, and Baltic Seas
- Search for a warm-water port

B. History and Culture

- Russia as successor to Byzantine Empire: Moscow as new center of Eastern Orthodox Church and of Byzantine culture (after the fall of Constantinople in 1453)
- Ivan III (the Great), czar (from the Latin “Caesar”)
- Ivan IV (the Terrible)
- Peter the Great: modernizing and “Westernizing” Russia
- Catherine the Great
 - Reforms of Peter and Catherine make life even harder for peasants

VII. Feudal Japan

A. Geography

- Pacific Ocean, Sea of Japan
- Four main islands: Hokkaido, Honshu (largest), Shikoku, Kyushu
- Tokyo
- Typhoons, earthquakes
- The Pacific Rim

B. History and Culture

- Emperor as nominal leader, but real power in the hands of shoguns
- Samurai, code of Bushido
- Rigid class system in feudal Japanese society
- Japan closed to outsiders
- Religion
 - Buddhism: the four Noble Truths and the Eightfold Path, Nirvana
 - Shintoism: reverence for ancestors, reverence for nature, kami

See also Language Arts Grade 5: “A Tale of the Oki Islands.”

Note: Review from Grade 2: Buddhism’s origins in India, spread throughout Asia.



Note: Fifth grade students who have been through earlier grades of the Core Knowledge Sequence have been introduced to exploration and pioneers in Grades 1 and 2.

American History and Geography

Teachers: Guidelines for the study of Westward Expansion are divided into two parts, with part A focusing on the decades before the Civil War, and part B focusing on the years after the Civil War. You may wish to plan a single unit on Westward Expansion, or divide your studies with a unit on the Civil War (see II below).

I. Westward Expansion

A. Westward Expansion before the Civil War

- Geography
 - Rivers: James, Hudson, St. Lawrence, Mississippi, Missouri, Ohio, Columbia, Rio Grande
 - Erie Canal connecting the Hudson River and Lake Erie
 - Appalachian and Rocky Mountains
 - Continental Divide and the flow of rivers: east of Rockies to the Arctic or Atlantic Oceans, west of Rockies to the Pacific Ocean
 - Great Plains stretching from Canada to Mexico
- Early exploration of the west, the Louisiana Purchase
 - Daniel Boone, Cumberland Gap, Wilderness Road. Lewis and Clark, Sacagawea.
 - "Mountain men," fur trade Zebulon Pike, Pike's Peak
- Pioneers
 - Getting there in wagon trains, flatboats, steamboats, Oregon Trail, Erie Canal, railroads
 - Many pioneers set out from St. Louis (where the Missouri and Mississippi Rivers meet).
 - Land routes: Santa Fe Trail and Oregon Trail
 - Mormons (Latter-day Saints) settle in Utah, Brigham Young, Great Salt Lake
 - Gold Rush, '49ers
- Native American resistance
 - More and more settlers move onto Native American lands; treaties made and broken.
 - Forced migration, Indian Removal Act, Trail of Tears
 - Tecumseh (Shawnee): attempted to unite tribes in defending their land
 - Battle of Tippecanoe
 - Osceola, Seminole leader
- "Manifest Destiny" and conflict with Mexico
 - The meaning of "manifest destiny"
 - Early settlement of Texas: Stephen Austin
 - General Antonio Lopez de Santa Anna, Battle of the Alamo ("Remember the Alamo"), Davy Crockett, Jim Bowie
- The Mexican-American War
 - General Zachary Taylor ("Old Rough and Ready")
 - Some Americans strongly oppose the war, Henry David Thoreau's "Civil Disobedience."
 - Mexican lands ceded to the United States (California, Nevada, Utah, parts of Colorado, New Mexico, Arizona).

B. Westward Expansion after the Civil War

- Homestead Act (1862), many thousands of Americans and immigrants start farms in the West.
- "Go west, young man" (Horace Greeley's advice).
- Oklahoma land rush and further displacement of Native American lands
- Railroads, Transcontinental Railroad links east and west, immigrant labor
- Cowboys, cattle drives

- The “wild west,” reality versus legend: Billy the Kid, Jesse James, Annie Oakley, Buffalo Bill
- “Buffalo Soldiers,” Black American troops in the West
- U. S. purchases Alaska from Russia, “Seward’s folly”
- 1890: the closing of the American frontier (as acknowledged in the U. S. Census), the symbolic significance of the frontier

See also Language Arts Grade 8: *Narrative of the Life of Frederick Douglass*

See also Language Arts / Music Grade 5: “The Battle Hymn of the Republic”; and Language Arts Grade 5: Gettysburg Address.

Note: Those who wish to examine other battles may want to include Vicksburg (and Lincoln’s famous words, “The Father of Waters again goes unvexed to the sea”) and the Battle of Mobile Bay (with Admiral David Farragut’s famous words, “Damn the torpedoes, full speed ahead!”).

See also Language Arts Grade 5: Walt Whitman’s poem “O Captain! My Captain!” re the assassination of Lincoln.

II. The Civil War: Causes, Conflicts, Consequences

A. Toward the Civil War

- Abolitionists: William Lloyd Garrison and *The Liberator*, Frederick Douglass
- Life of enslaved people and rebellions
- Industrial North versus agricultural South
- Mason-Dixon Line
- Harriet Tubman and the Underground Railroad
- Controversy over whether to allow the enslavement of people in territories and new states
 - Missouri Compromise of 1820
 - Dred Scott decision allows enslavement of people in the territories
- Importance of Harriet Beecher Stowe’s *Uncle Tom’s Cabin*
- John Brown, Harper’s Ferry
- Lincoln: “A house divided against itself cannot stand.”
 - Lincoln-Douglas debates
 - Lincoln elected president; Southern states secede.

B. The Civil War

- Fort Sumter
- Confederacy, Jefferson Davis
- Yankees and Rebels, Blue and Gray
- Women’s role in the war, such as Clara Barton
- First Battle of Bull Run
- Robert E. Lee and Ulysses S. Grant
- General Stonewall Jackson
- Ironclad ships, battle of the USS Monitor and the CSS Virginia (formerly the USS Merrimack)
- Battle of Antietam Creek
- The Emancipation Proclamation
- Gettysburg and the Gettysburg Address
- African-American troops, Massachusetts Regiment led by Colonel Shaw
- Sherman’s march to the sea, burning of Atlanta
- Lincoln re-elected, concluding words of the Second Inaugural Address (“With malice toward none, with charity for all. . .”)
- Richmond (Confederate capital) falls to Union forces.
- Surrender at Appomattox Court House
- Assassination of Lincoln by John Wilkes Booth

C. Reconstruction

- The South in ruins
- Struggle for control of the South, Radical Republicans vs. Andrew Johnson, impeachment

- Carpetbaggers and scalawags
- Freedmen’s Bureau, “40 acres and a mule”
- 13th, 14th, and 15th Amendments to the Constitution
- Black Codes, the Ku Klux Klan and “vigilante justice”
- End of Reconstruction, Compromise of 1877, all federal troops removed from the South

See also Language Arts Grade 5: Native American trickster myths; and, Chief Joseph, “I will fight no more forever.”

Note: Forced migration, Indian Removal Act, Trail of Tears studied in Grade 5, “Westward Expansion before the Civil War”

III. Native Americans: Cultures and Conflicts

A. Culture and Life

- Great Basin (e.g., Nez Perce)
- Plateau (e.g., Shoshone and Ute)
- Plains (e.g., Arapaho, Cheyenne, Lakota [Sioux], Blackfeet, Crow)
 - Extermination of bison (review from Grade 2)
- Pacific Northwest (e.g., Chinook, Kwakiutl, Yakima)

B. American Government Policies

- Bureau of Indian Affairs
- Forced removal to reservations
- Attempts to break down tribal life, assimilation policies, Carlisle School

C. Conflicts

- Sand Creek Massacre
- Little Big Horn: Chief Crazy Horse, Chief Sitting Bull, Custer’s Last Stand
- The Nez Perce War and Chief Joseph
- Apache battles and Geronimo
- Wounded Knee
 - Ghost Dance

IV. U. S. Geography

- Locate: Western Hemisphere, North America, Caribbean Sea, Gulf of Mexico
- The Gulf Stream, how it affects climate
- Regions and their characteristics: New England, Mid-Atlantic, South, Midwest, Great Plains, Rocky Mountain, Southwest, West Coast, Alaska and Hawaii
- Fifty states and capitals



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

In studying the works of art specified below, and in creating their own art, students should review, develop, and apply concepts introduced in previous grades, such as line, shape, form, space, texture, color, light, design, and symmetry

I. Art and Architecture of the Renaissance

Teachers: Study of the following artists and works of art may be integrated with study of related topics in World History Grade 5: The Renaissance.

- The shift in world view from medieval to Renaissance art, a new emphasis on humanity and the natural world
- The influence of Greek and Roman art on Renaissance artists (classical subject matter, idealization of human form, balance and proportion)
 - The development of linear perspective during the Italian Renaissance
- The vantage point or point-of-view of the viewer
- Convergence of lines toward a vanishing point, the horizon line
- Observe and discuss works in different genres—such as portrait, fresco, Madonna—by Italian Renaissance artists, including
 - Sandro Botticelli, *The Birth of Venus*
 - Leonardo da Vinci: *The Proportions of Man*, *Mona Lisa*, *The Last Supper*
 - Michelangelo, Ceiling of the Sistine Chapel, especially the detail known as *The Creation of Adam*
 - Raphael: *The Marriage of the Virgin*, examples of his Madonnas (such as *Madonna and Child with the Infant St. John*, *The Alba Madonna*, or *The Small Cowper Madonna*)
- Become familiar with Renaissance sculpture, including
 - Donatello, *Saint George*
 - Michelangelo, *David*
- Observe and discuss paintings of the Northern Renaissance, including
 - Pieter Bruegel, *Peasant Wedding*
 - Albrecht Durer, *Self-Portrait* (such as from 1498 or 1500)
 - Jan van Eyck, *Giovanni Arnolfini and His Wife* (also known as *Arnolfini Wedding*)
 - Sofonisba Anguissola, *The Chess Game* (1555)
- Become familiar with Renaissance architecture, including
 - The Florence Cathedral, dome designed by Filippo Brunelleschi
 - St. Peter's in Rome
 - Andrea Palladio, *Villa Pisani* (1545)

Note: When you study perspective, review from Grade 3 foreground, middle ground, and background; and, for contrast, examine paintings that do not attempt to create an illusion of depth, for example, *Madonna and Child on a Curved Throne* (see Visual Arts Grade 4: Art of the Middle Ages).

When studying Palladio's *Villa Pisani*, ask students to think about how Palladio was inspired by Ancient Roman architecture. The "Palladian Window" at the back of the house was derived from the Baths of Diocletian. The design of the front of the house mirrored an ancient Roman Temple.

II. Baroque Art and Architecture

- Note the dramatic use of light and shade, turbulent compositions, and vivid emotional expression in (ca. 17th century)
 - El Greco, *View of Toledo* (also known as *Toledo in a Storm*)
 - Rembrandt: a self-portrait, such as *Self-Portrait, 1659*
 - Artemisia Gentileschi, *Esther before Ahasuerus* (1628–1635)
 - Judith Leyster, *Self-Portrait* (1630)

- Become familiar with Baroque architecture, including
 - San Carlo alle Quattro Fontane (1634) by Francesco Borromini
 - Sant'Andrea al Quirinale, Rome, (1658-70) by Gianlorenzo Bernini

III. American Art: Nineteenth-Century United States

- Become familiar with the Hudson River School of landscape painting, including
 - Robert Seldon Duncanson, *Landscape with Rainbow*, (1859)
 - Thomas Cole, *The Oxbow (The Connecticut River Near Northampton)* (also known as *View from Mount Holyoke, Northampton, Massachusetts, after a Thunderstorm*)
 - Albert Bierstadt, *Rocky Mountains, Lander's Peak*
- Become familiar with genre paintings, including
 - George Caleb Bingham, *Fur Traders Descending the Missouri*
 - William Sidney Mount, *Eel Spearing at Setauket*
- Become familiar with art related to the Civil War, including
 - Civil War photography of Mathew Brady and his colleagues
 - *The Shaw Memorial* sculpture of Augustus Saint-Gaudens
- Become familiar with popular prints by Currier and Ives
 - *Central Park in Winter*
- Joshua Johnston, *The Westwood Children* (1807)
- Mary Nimmo Moran, *My Neighbors Home* (1883)
- Aaron Douglas, *Into Bondage* (1936)
- Jacob Lawrence, image from his book 'Harriet and the Promised Land' (1940)
- Kara Walker, *Exodus of Confederates from Atlanta* from *Harper's Pictorial History of the Civil War* (Annotated) (2005)

See also American History Grade 5: Civil War, re photographs by Brady; and African American troops in the Civil War: Shaw and the Massachusetts 54th, re Saint-Gaudens's Shaw Memorial.

IV. Native American Art

- Become familiar with contemporary Native American work, including
 - Freda Diesing, *Mask, Old Woman with Labret*, (1974)
 - Joan Hill, *Women's Voices at the Council*, (1990)
 - Christi Belcourt, *The Wisdom of the Universe*, (2014)

See also World History Grade 5: Feudal Japan.

A mirrored room was intended to be occupied and viewed by only one person at a time

This celebrates the coronation Tsar Nicholas II, who was the last emperor of Russia

St. Basil's Cathedral was built as a symbol of the new Russia. Previous architecture in the Kremlin in Moscow had been inspired by the Renaissance. St Basil's Cathedral was an attempt to make a uniquely Russian style. It referred back to traditional timber architecture from the 9th and 10th centuries an incorporated onion style domes.

V. Art of Japan

- Become familiar with
 - The Great Buddha (also known as the Kamakura Buddha)
 - Landscape gardens
 - Sesshū Tōyō, *Landscapes of Autumn and Winter* (15th c.)
 - Andō Hiroshige, *Number 52 One Hundred Famous Views of Edo* (1856)
 - Shinoda Toko, *Sound* (1913)
- Become familiar with contemporary Japanese art, including
 - Yayoi Kusama, *All the Eternal Love I Have for the Pumpkins* (2016)

VI. Russian Art and Architecture

- Andrey Rublev, *Old Testament Trinity* (1408–25)
- Fabergé egg, Imperial Coronation
- St Basil's Cathedral Moscow



Teachers: In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines.

The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. Elements of Music

- Through participation, become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
 - Recognize a steady beat, accents, and the downbeat; play a steady beat, a simple rhythm pattern, simultaneous rhythm patterns, and syncopation patterns.
 - Discriminate between fast and slow; gradually slowing down and getting faster; *accelerando* and *ritardando*.
 - Discriminate between differences in pitch: high and low.
 - Discriminate between loud and soft; gradually increasing and decreasing volume; *crescendo* and *decrescendo*.
 - Understand *legato* (smoothly flowing progression of notes) and *staccato* (crisp, distinct notes).
 - Sing unaccompanied, accompanied, and in unison.
 - Recognize harmony; sing rounds and canons; two- and three-part singing.
 - Recognize introduction, interlude, and coda in musical selections.
 - Recognize verse and refrain.
 - Continue work with timbre and phrasing.
 - Recognize theme and variations.
 - Sing or play simple melodies while reading scores.
- Recognize (aurally) frequently used Italian terms:
 - Review
 - *very soft* (*pianissimo*)
 - *moderately soft* (*mezzo-piano*)
 - *moderately loud* (*mezzo-forte*)
 - *very loud* (*fortissimo*)
 - Introduce
 - *largo* (very slow)
 - *andante* (moderate; “walking”)
 - *presto* (very fast)
- Understand the following notation and terms:
 - names of lines and spaces in the treble clef; middle C
 -  treble clef,  staff, bar line, double bar line, measure, repeat signs
 -  whole note  half note  quarter note  eighth note
 - whole rest, half rest, quarter rest, eighth rest
 -  grouped sixteenth notes
 - tied notes and dotted notes
 - # sharps ♭ flats
 - *Da capo* [*dc*] *al fine*
 - *Dal segno* [*ds*] *al Fine*
 - *Dal segno* [*ds*] *al Coda*

- meter signature $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$
- common time $\frac{4}{4}$
 - very soft *pp* (pianissimo), soft *p* (piano), moderately soft *mp* (mezzo-piano)
 - moderately loud *mf* (mezzo-forte), loud *f* (forte), very loud *ff* (fortissimo)

II. Listening and Understanding

Teachers: Expose students to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

A. Composers and Their Music

Teachers: Provide brief, child-friendly biographical profiles of the following composers, and listen to representative works:

- Ludwig van Beethoven, *Symphony No. 5*
- Modest Mussorgsky, *Pictures at an Exhibition* (as orchestrated by Ravel)
- Alice Parker, prolific choral and operatic composer, arranger of American folk songs and hymns
- Joy Harjo-Sapulpa, first Native American US Poet Laureate, composer and performer, “Trail of Tears Song, We Will Go Together”

B. Musical Connections

Teachers: Introduce students to the following works in connection with topics in other disciplines:

- Music from the Renaissance (such as choral works of Josquin Desprez; lute songs by John Dowland)
- Felix Mendelssohn, “Overture,” “Scherzo,” and “Wedding March” from *A Midsummer Night’s Dream*

III. American Musical Traditions

- Spirituals
 - Originated by African-Americans, many spirituals go back to the days of slavery. Familiar spirituals, such as:
 - “Down by the Riverside”
 - “Sometimes I Feel Like a Motherless Child”
 - “Wayfaring Stranger”
 - “We Shall Overcome”
 - “Go Down Moses”
- Performers
 - Mahalia Jackson, “Amazing Grace,” “Silent Night”
 - Pete Seeger, “If I Had a Hammer”
 - Bob Dylan, “Blowin’ in the Wind”

IV. Songs

- “Battle Hymn of the Republic”
- “Danny Boy”
- “Dona Nobis Pacem” (round)
- “Git Along Little Dogies”
- “God Bless America”
- “Greensleeves”
- “The Happy Wanderer”

Note: Students were introduced to Beethoven in Grade 2.

See also below, Songs, “Greensleeves”; and see World History Grade 5: The Renaissance.

See also Language Arts Grade 5: Shakespeare’s *A Midsummer Night’s Dream*.

Note: Spirituals introduced in earlier grades include “Swing Low, Sweet Chariot,” “He’s Got the Whole World in His Hands,” and “This Little Light of Mine.”

Mahalia Jackson sang “I Been Boked and I Been Scorned” just prior to Martin Luther King, Jr. delivering his famous speech, “I Have a Dream.”

See also American History Grade 5: Civil War, re “Battle Hymn of the Republic.” Also, you may wish to recall songs from Grade 2: “Follow the Drinking Gourd,” and “When Johnny Comes Marching Home.”

See also above, III. American Musical Traditions, Spirituals.

For "Que Sera, Sera," see sayings and phrases, "Whatever will be, will be".

"Havah Nagilah"

"If I Had a Hammer"

"Red River Valley"

"Sakura"

"Shenandoah"

"Tenting Tonight"

"Que Sera, Sera"

"Pastime with Good Company" by Henry VIII

"Fifty Nifty United States" (Ray Charles)

"Siyahamba"

"The Elements Song" (Tom Lehrer)

DRAFT



Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives students a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving “higher order” skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

I. Operations and Algebraic Thinking

- Write and interpret numerical expressions.
 - Use parentheses, brackets, or braces in numerical expressions.
 - Evaluate expressions with these symbols.
 - Write simple expressions.
 - Record calculations with numbers.
 - Interpret numerical expressions without evaluating them.
- Analyze patterns and relationships.
 - Generate two numerical patterns using two given rules.
 - Identify apparent relationships between corresponding terms.
 - Form ordered pairs consisting of corresponding terms from the two patterns.
 - Graph the ordered pairs on a coordinate plane.

II. Number and Operations in Base Ten

- Understand the place value system.
 - Recognize that in a multi-digit number, a digit in the one place represents
 - 10 times as much as it represents in the place to its right
 - $\frac{1}{10}$ of what it represents in the place to its left
 - Explain patterns in the number of zeros of the product when multiplying a number by powers of 10.
 - Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.
 - Use whole number exponents to denote powers of 10.
 - Read, write, and compare decimals to thousandths.
 - Read and write decimals to thousandths, using
 - base-ten numerals
 - number names
 - expanded form
 - Compare two decimals to thousandths based on meanings of the digits in each place.
 - Use $>$, $=$, and $<$ symbols to record the results of comparisons.
 - Use place value understanding to round decimals to any place.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.
 - Fluently multiply multi-digit whole numbers using the standard algorithm.
 - Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.
 - Use strategies based on
 - place value
 - properties of operations

- the relationship between multiplication and division
- Illustrate and explain the calculation by using
 - equations
 - rectangular arrays
 - area models
- Add, subtract, multiply, and divide decimals to hundredths.
 - Use concrete models or drawings and strategies based on
 - place value
 - properties of operations
 - the relationship between addition and subtraction
 - Relate the strategy to a written method and explain the reasoning used.

III. Number and Operations—Fractions

- Use equivalent fractions as a strategy to add and subtract fractions.
 - Add and subtract fractions with unlike denominators (including mixed numbers) by replacing with equivalent fractions.
 - Produce an equivalent sum.
 - Determine the difference of fractions with like denominators.
 - Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators.
 - Use benchmark fractions and number sense of fractions to mentally estimate and assess the reasonableness of answers.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
 - Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a \div b$).
 - Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers.
 - Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
 - Interpret the product ($\frac{a}{b} \times q$) as a parts of a partition of q into b equal parts.
 - Find the area of a rectangle with fractional side lengths by tiling with unit squares of the appropriate unit fraction side lengths.
 - Interpret multiplication as scaling (resizing), by:
 - Comparing the size of a product to the size of one factor.
 - Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number.
 - Explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number;
 - Relating the principle of fraction equivalence $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$ to the effect of multiplying $\frac{a}{b}$ by 1.
 - Solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations.
 - Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.
 - Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
 - Interpret division of a whole number by a unit fraction, and compute such quotients.
 - Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions.

Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

IV. Measurement and Data

- Convert like measurement units within a given measurement system.
 - Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step, real world problems.
- Represent and interpret data.
 - Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$).
 - Use operations on fractions for this grade to solve problems involving information presented in line plots.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
 - Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
 - A cube with side length of 1 unit is called a “unit cube,”
 - It has “one cubic unit” of volume
 - Can be used to measure volume
 - A solid figure which can be packed without gaps or overlaps using “n” unit cubes has a volume of n cubic units.
 - Measure volumes by counting unit cubes, using
 - cubic centimeters
 - cubic inches
 - cubic feet
 - improvised units
 - Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
 - Find the volume of a right rectangular prism with whole-number side lengths.
 - Represent threefold whole number products as volumes.
 - Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths.
 - Recognize volume as additive.
 - Find volumes of solid figures composed of two non-overlapping right rectangular prisms.

Pack right rectangular prism with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Add the volumes of the non-overlapping parts, applying this technique to solve real world problems.

VI. Geometry

- Graph points on the coordinate plane to solve real-world and mathematical problems.
 - Use a pair of perpendicular number lines (axes), to define a coordinate system.
 - Understand that the first number indicates how far to travel from the origin in the direction of one axis.
 - Understand that the second number indicates how far to travel in the direction of the second axis.
 - Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane.
 - Interpret coordinate values of points in the context of the situation.
- Classify two-dimensional figures into categories based on their properties.
 - Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
 - Classify two-dimensional figures in a hierarchy based on properties.

The intersection of the lines (the origin) are arranged to coincide with the 0 on each line and a given point in the plane can be located by using an ordered pair of numbers (coordinates).

The names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).



Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the report from the National Academies of Science, *A Framework for K-12 Science Education*, "...children have surprisingly sophisticated ways of thinking about the world, based in part on their direct experiences with the physical environment, such as watching objects fall or collide and observing plants and animals. They also learn about the world through everyday activities, such as talking with their families, pursuing hobbies, watching television, and playing with friends. As children try to understand and influence the world around them, they develop ideas about their role in that world and how it works. In fact, the capacity of young children—from all backgrounds and socioeconomic levels—to reason in sophisticated ways is much greater than has long been assumed. Although they may lack deep knowledge and extensive experience, they often engage in a wide range of subtle and complex reasoning about the world. Thus, before they even enter school, children have developed their own ideas about the physical, biological, and social worlds and how they work. By listening to and taking these ideas seriously, educators can build on what children already know and can do."

While experience counts for much, book learning is also important, for it helps bring coherence and order to a child's scientific knowledge. Only when topics are presented systematically and clearly can children make steady and secure progress in their scientific learning. The child's development of scientific knowledge and understanding is in some ways a very disorderly and complex process, different for each child. But a systematic approach to the exploration of science, one that combines experience with book learning, can help provide essential building blocks for deeper understanding at a later time.

I. Investigating Matter

Teachers: Through reading aloud, observation, and activities such as planning and conducting investigations of interacting types of matter, explore the following with students:

A. Properties of Matter

- Matter is anything that has mass.
- Basic properties of matter include its mass, volume, and weight.
- Materials can be identified and described in terms of many properties, such as hardness, color, malleability, and density.

B. Structure of Matter

- Matter is made of particles too small to be seen.
- Observations that demonstrate and model that matter is made of particles:
 - Sugar cubes dissolve in water.
 - A balloon expands when air is blown into it.
 - Salt water can be evaporated when boiled.

C. Physical Changes in Matter

- Physical change: a physical characteristic of the matter is changes but the type of matter remains the same.
- Solid matter has definite shape and volume.
- A liquid takes the shape of its container.
- A gas has no definite shape; it fills its container.
- Matter can change states; water is a common example.
- Other physical changes: dividing an object into pieces, dissolving a substance, and mixing substances.
- When substances undergo physical change, the total weight of matter is conserved.

Review and extend learning from Science Grade 2, Properties of Matter.

D. Chemical Changes in Matter

- Chemical change: two types of matter interact to form a new substance
- Evidence that a chemical change has occurred:
 - formation of a gas, and changes in odor, color, or temperature.
- Examples of chemical changes:
 - burning wood, rusting metal, and digesting foods
- When substances undergo chemical change, the total weight of matter is conserved.

E. The Language of Chemistry

- Chemistry: the scientific study of what matter is made of and how matter changes
- Matter is made of particles too small to be seen (atoms).
- Atoms can join to form molecules.
- Models of common molecules (such as water and carbon dioxide)

II. Energy and Matter in Ecosystems

Teachers: Through reading aloud, observation, and activities such as creating models of food webs, help students to explore the following:

Review and extend learning about the life cycles of particular organisms from Science Grade 3, Life Cycles, Traits, and Variations.

A. Organisms Need and Use Energy

- Living things need chemical energy from food for all life processes.
- The energy in animals' food originated as energy from the sun.
 - Producers: use energy from the sun to make their own food
 - Consumers: get their food by eating other organisms
 - Decomposers: break down the tissues of dead organisms for food and function as recyclers
- Life cycles are the patterns of changes that organisms go through during their lives.

B. Plants and Animals

- Plants need sunlight, water, and air to grow.
- Plants get the substances they need for growth mainly from air and water.
- Photosynthesis: Plants use air, water, and the energy of sunlight to make glucose.
- Plants use glucose as the fundamental food for all life processes.
- Animals get their food energy by eating other organisms.
 - Herbivores: animals that eat only plants
 - Carnivores: animals that eat other animals
 - Omnivores: animals that eat both plants and animals

C. Matter Cycles Through Ecosystems

- Energy is transferred from the sun to producers and then to consumers.
- Ecosystems: the living and nonliving things in an area
- Producers make food; the chemical energy of food cycles moves from producers to consumers.
- Food chain and food web: models of how matter and energy flows through an ecosystem
- As matter cycles through an ecosystem, the interactions of producers, consumers, and decomposers meet the needs of living things in the ecosystem.
- Anything that disrupts food webs may harm an ecosystem.
 - Invasive plants and animals (zebra mussels or kudzu)
 - Humans
 - Environmental changes

III. Modeling Earth's Systems

Teachers: Through reading aloud, observation, and activities such as creating models of the different spheres of Earth, help students to explore the following:

This topic draws upon background knowledge developed across all previous grades. This is an opportunity for students to demonstrate their cumulative knowledge within the context of systems thinking.

A. Spheres of Earth

- Hydrosphere: all the water in all its forms
 - Oceans hold nearly all of Earth's water.
 - Ocean water is salt water, not suitable for drinking.
 - Brackish water: a mix of salt water and fresh water
 - Earth's fresh water is in glaciers or underground; much less is found in streams, lakes, wetlands, and the atmosphere.
- Geosphere: All rocks, minerals, and landforms
 - Earth's crust and upper mantle move slowly over time.
 - Evidence of changes to Earth's surface can be found in rocks and rock layers.
- Atmosphere is all the air around us and all that it contains.
 - The air is a mixture of gases, including nitrogen, oxygen, carbon dioxide, and water vapor.
 - Nitrogen makes up the most abundant gas in our atmosphere (approximately 78%).
- Biosphere: All living things
 - Biome: a large region with a specific climate and with living things adapted to that climate
 - Major biomes include tundra, forests, grasslands, and desert.
 - Living things rely on their habitats to meet their needs.

B. Modeling Earth's Interacting Spheres

- Hydrosphere interactions
 - Water shapes Earth's surface over time (erosion by rivers, oceans, and weather).
 - The sun's energy evaporates water into the atmosphere.
 - Oceans influence climate and weather.
- Atmosphere interactions
 - Wind and weather cause the weathering and erosion of rock.
 - Weather and climate affect habitats and ecosystems.
 - Water vapor forms rain, which falls to the ground and forms freshwater reservoirs for living things to use.
 - Nitrogen gas in the air enters the ground and is chemically transformed by bacteria for plant use.
- Geosphere interactions
 - Mountain ranges affect the formation of clouds and other weather events.
 - Living things can cause erosion in a specific environment.
 - Certain rock layers provide the necessary space for the formation of aquifers.
- Biosphere interactions
 - Freshwater lakes provide a habitat for fish and algae.
 - Minerals in soils are absorbed into plants through their roots to provide important chemicals for life.

IV. Protecting Earth's Resources

A. Protecting Earth's Water

- All living things depend on water (fresh or salt water) to survive.
- Water pollution can be harmful to living things.
- Unlimited use of fresh water sources may result in shortages (including during droughts) resulting in:

Using the models created in the previous topic, Modeling Earth's Systems, work with students to create scientific arguments about Earth's resources.

- Destruction of ecosystems
- Reduction of biodiversity
- Loss of recreational and living space
- Conservation practices include:
 - Using only as much water as necessary
 - Protecting river systems and watersheds by managing the use of water by industries, agriculture, and residential areas
 - Regulations to prevent and reduce water pollution (Clean Water Act)

B. Protecting Earth’s Air

- Many organisms depend on the atmosphere to survive.
- Air pollution includes:
 - Emissions from automobiles and other forms of transportation (nitrogen oxides and carbon monoxide)
 - Emissions from industry and burning fossil fuels sulfur dioxide)
- Consequences:
 - Acid rain
 - Ozone destruction
 - Average temperature changes
- Solutions:
 - Smog reduction and transportation incentives
 - Technologies to reduce emission of harmful gases in automotive exhaust
 - Regulations to prevent and reduce air pollution (Clean Air Act)

C. Protecting Earth’s Land

- Many living things depend on the land around them to meet their needs.
- Sources of land pollution: solid waste, pesticides, construction and mining waste
- Consequences:
 - Habitat destruction
 - Chemical pollution
- Solutions:
 - Reducing waste in landfills
 - Chemical testing of hazardous waste
 - Satellite tracking of soil erosion
 - Environmental Impact Assessments

D. Protecting Ecosystems

- Overuse or misuse of water, air, and land resources can harm living organisms and the environment.
- Monitoring is needed to detect ecosystem changes.
- Endangered species and extinction
- Community activism: applying knowledge about how ecosystems interact with other systems of Earth to help protect them
- Regulations to protect and conserve ecosystems and wildlife: the Endangered Species Act and The Clean Air Act

V. Astronomy: Space Systems

A. Introduction to Astronomy

- The universe is all matter and energy.
 - Astronomical distance is measured in light years.

Review and extend learning from Grade 3, Habitats and Change.

Review and extend learning from Grade 1, Sun, Moon, and Stars.

- Galaxies: huge collections of stars, dust, and gas
 - There are hundreds of billions of galaxies in the universe.
 - Our galaxy is the Milky Way.
 - Andromeda Galaxy is near the Milky Way.
- Our solar system includes:
 - Sun: source of energy
 - The eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune
 - Other objects in space: dwarf planets, asteroids, meteors, comets
- The ways we know about our solar system and the universe include:
 - Earth-based observations
 - Space probes and space-based telescopes (the Hubble Space Telescope, Mars rovers)
 - Human space flights (Apollo 11, the first landing on the moon)

B. Evidence of Earth's Movement

- Earth-moon-sun make a system.
- Earth rotates around its axis, resulting in:
 - Sun appears to move east to west across the sky.
 - Stars appear to move in the night sky.
 - Shadows change in length and direction throughout the day.
- Earth orbits the sun, resulting in:
 - Changing seasons
 - Seasonal changes in the length and direction of shadows

C. Stars

- Stars give off their own light.
- Stars vary in size and brightness.
- The perceived brightness of a star depends on:
 - size
 - energy (actual brightness)
 - distance from Earth
 - The sun appears brighter than other stars because it is the closest star to Earth.
 - Stars brighter and bigger than the sun appear dimmer and smaller because they are farther away.
- Constellations: recognizable patterns of stars
- Some stars and constellations are only visible in certain seasons because of the position of Earth as it orbits the sun.

D. Gravity

- Gravity: a universal force that pulls objects towards each other
- A gravitational force is an attraction force that two masses exert on each other (the Sun and Earth; Earth and Moon; Earth and all objects close to its mass).
- Earth's gravitational force is perceived as pulling "down."
- Predictable orbits of the planets is the result of the sun's gravity pulling on all the objects in our solar system.
- The earth-moon-sun gravitational forces cause ocean tides on Earth.

VI. The Human Body: Human Hormones and Reproduction

A. The Endocrine System

- Humans undergo changes from infancy to adulthood.
- Puberty involves changes in glands and hormones.

Review and extend learning from Grade 3, Investigating Forces.

- The human body has two types of glands: duct glands (salivary glands), and ductless glands (endocrine glands).
- Endocrine gland: secrete (give off) chemicals called hormones;
 - Different hormones control different body processes
 - Pituitary gland: secretes hormones that control other glands, and hormones that regulate growth
 - Thyroid gland: secretes a hormone that controls the rate at which the body burns and uses food
 - Pancreas: secretes a hormone called insulin that regulates how the body uses and stores sugar
 - Diabetes is a condition caused by the pancreas not producing enough insulin.
 - Adrenal gland: secretes a hormone called adrenaline; occurs when a person experiences heightened emotion (fear, anger), causing rapid heartbeat and breathing.

B. The Reproductive System

- Female reproductive organs: ovaries, fallopian tubes, uterus, and vagina,
 - Menstruation: the monthly release of an unfertilized egg and associated uterine tissue (after puberty)
- Male reproductive organs: testes, scrotum, penis
 - Semen is the fluid that contains sperm cells.
- Sexual reproduction involves intercourse, fertilization, zygote, implantation of zygote in the uterus, pregnancy, embryo, fetal development, and birth.

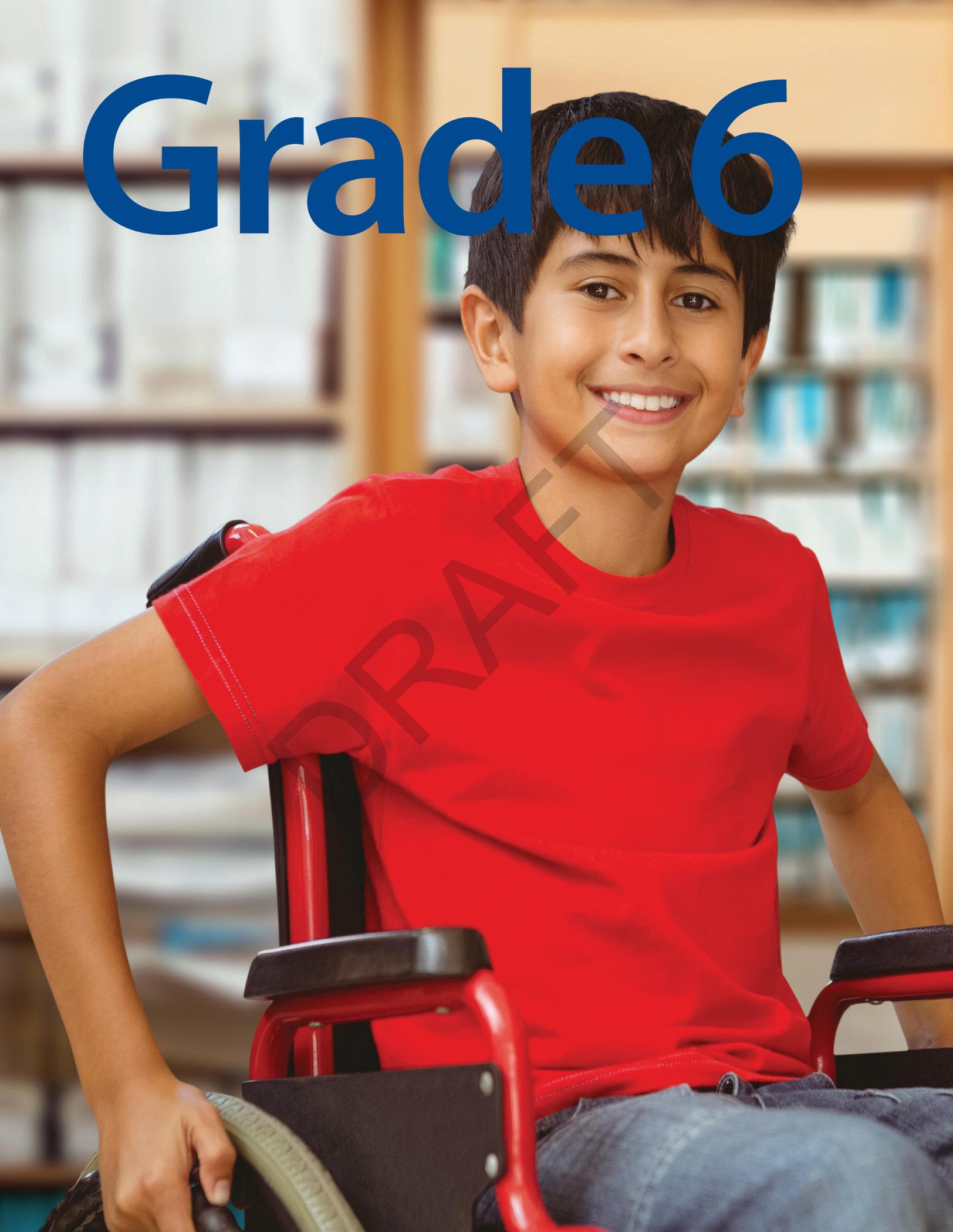
VIII. Science Biographies

Teachers: Through reading aloud and activities, explore with students the stories and accomplishments of these scientists and engineers. This list of science biographies is by no means exhaustive. Other individuals can be incorporated into learning during a corresponding topic of study for this grade level, and should include:

- Democritus—ancient philosopher who argued that there are small indivisible bodies from which everything else is composed
- John Dalton—developed the theory of atomism
- Eugene Odum—pioneered studies on the ecology of ecosystems
- Charles Elton—ecologist and expert in the role of invasive species
- Beatrix Potter—author of *The Tales of Peter Rabbit*, was also a respected illustrator and naturalist specializing in mushrooms and other fungi.
- E.O. Wilson—a leading authority on the ecology of ants
- Robert T. Paine—developed the concept of keystone species in ecosystems
- Henry A. Gleason—known for his work in ecological succession
- Boyan Slat—Dutch inventor, developed a system for removing floating garbage from the ocean surface.
- Valentina Tereshkova—Russian cosmonaut who was the first woman in space
- Sally Ride—astronaut who was the first American woman in space
- Mae Jemison—physician and biologist who was the first African American woman astronaut
- Nancy Grace Roman—one of the first female executives at NASA, particularly known for her planning of the Hubble Space Telescope
- Katherine Johnson—African American mathematician who was critical to the success of NASA's early orbital missions

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Grade 6



Overview of Topics

Grade 6

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
- II. Reading
 - A. Reading Comprehension and Response—All Texts
 - B. Reading Comprehension—Fiction, Drama, Poetry
 - C. Reading Comprehension—Nonfiction and Informational
- III. Writing
 - A. Writing to Reflect Audience, Purpose, and Task
 - B. Writing to Analyze and Understand Text
 - C. Conducting Research
 - D. Narrative Writing
 - E. Informative/Explanatory Writing
 - F. Persuasive Writing/Opinion
- IV. Language Conventions
 - A. Command of Language
 - B. Spelling
 - C. Grammar
 - D. Capitalization and Punctuation
 - E. Vocabulary
- V. Poetry
 - A. Poems
 - B. Terms
- VI. Fiction and Drama
 - A. Fiction
 - B. Essays and Speeches
 - C. Drama
 - D. Literary Terms
- VII. Sayings and Phrases

HISTORY AND GEOGRAPHY

WORLD HISTORY AND GEOGRAPHY

- I. World Geography
 - A. Spatial Sense
 - B. Great Deserts of the World
- II. Lasting Ideas from Ancient Civilizations
 - A. Ancient Greece
 - B. Ancient Rome
- III. The Enlightenment
- IV. The French Revolution
- V. Romanticism
- VI. Industrialism, Capitalism, and Socialism
 - A. The Industrial Revolution
 - B. Capitalism
 - C. Socialism
- VII. Latin American Independence Movements
 - A. History
 - B. Geography of Latin America

AMERICAN HISTORY AND GEOGRAPHY

- I. Immigration, Industrialization, and Urbanization
 - A. Immigration
 - B. Industrialization and Urbanization
- II. Reform

VISUAL ARTS

- I. Art History: Periods and Schools
 - A. Classical Art: The Art of Ancient Greece and Rome
 - B. Gothic Art and Architecture
 - C. Rococo
 - D. Neoclassical Art and Architecture
 - E. Romantic
 - F. Realism
 - G. Impressionism
 - H. Post-Impressionism
 - I. Architecture in the Age of the Industrial Revolution

MUSIC

- I. Elements of Music
- II. Classical Music: From Baroque to Romantic
 - A. Baroque
 - B. Classical
 - C. Romantic
- III. Songs

MATHEMATICS

- I. Ratios and Proportional Relationships
- II. The Number System
- III. Expressions and Equations
- IV. Geometry
- V. Statistics and Probability

SCIENCE

- I. Light and Matter
 - A. Electromagnetic Waves
 - B. Characteristics of Light
 - C. Light and Matter
- II. Thermal Energy
 - A. Energy
 - B. Thermal Energy
 - C. Heat in Physical Changes
 - D. Thermal Energy and Currents
- III. Weather, Climate, and Water Cycling
 - A. Weather
 - B. Climate
 - C. The Water Cycle
- IV. Rock Cycling and Plate Tectonics
 - A. Layered Structure of the Earth
 - B. Plate Tectonics
 - C. Evidence of Plate Tectonics

- V. Natural Hazards
 - A. Hazardous Weather Conditions
 - B. Earthquakes and Volcanoes
 - C. Landslides and Floods
- VI. Cells and Systems
 - A. Cells
 - B. Cell Division
 - C. Cells, Organs, Organ Systems
- VII. The Human Body: Circulatory, Lymphatic, and Immune Systems
 - A. Circulatory System
 - B. Lymphatic System
 - C. Immune System
- VIII. Science Biographies

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I. Listening and Speaking

A. Classroom Discussion

- Actively participate in discussions about a variety of Grade 6 topics, ideas, and texts in a variety of settings, including partners, small and large groups, and teacher-led groups.
- Prepare for discussions in advance, including reading about the topic and organizing information for the discussion. Draw on preparations during the discussion.
- Set goals, deadlines, and specific roles appropriate to a discussion; set and follow rules for productive social engagement among peers.
- Ask relevant questions to clarify conversations and ideas and to build upon remarks made by others.
- Use details to elaborate and comment on a topic, text, or issue being discussed; add insight to discussions or move discussions forward.
- Restate the key ideas in a discussion and draw conclusions that show a range of complexities, including understanding multiple perspectives relevant to the topic, text, or issue.
- Interpret information from an array of media formats, such as visual (paintings, pictures, and animations), quantitative (graphs, charts, and diagrams), videos, and recordings.
- Explain how information from media formats reflects, enhances, or is otherwise suitable for the discussion, issue, or topic at hand.
- Explain a speaker's argument, distinguishing the claims, evidence, and reasons speakers give and whether the claims are adequately supported.

B. Presentation of Ideas and Information

- Give a presentation about a topic or text, tell a story, or orally relate a personal experience in a logical and organized manner, including relevant descriptions, details, and facts that support main ideas or themes.
- Orally present a claim-based argument supported by research/findings.
- Speak clearly at an understandable volume and pace; maintain eye contact.
- Enhance presentations by adding relevant multimedia such as displays, images, videos, graphics, music, and recordings.
- Switch between formal and informal English as appropriate to the situation or task; adapt speech to a variety of contexts.
- Show proficiency when using formal English, such as standard pronunciation when giving speeches or speaking to large groups and in formal circumstances, such as a job interview.

II. Reading

A. Reading Comprehension and Response—All Texts

- Independently and proficiently read and comprehend longer works of fiction (stories, plays, and poems) and literary nonfiction written at the high end of Grades 6 through 8.

Grasping Specific Details and Key Ideas

- Draw evidence from texts when explaining them or making inferences.
- Quote or cite accurately from texts when explaining them or making inferences.
- Use details to summarize texts objectively without personal opinions or judgments.
- Identify the central ideas or themes in a text and explain how details help develop big ideas.

Observing Craft and Structure

- Determine the meaning of words and phrases in a text, including
 - Tier 2 academic vocabulary
 - Tier 3 subject-area vocabulary
 - figurative language, such as metaphors and similes
 - connotative meanings
- Consider the impact of word choices on meaning and tone.
- Analyze the structure of a text and how the parts (sentences, stanzas, paragraphs, chapters, scenes, and sections) relate to the whole.
- Analyze how a text’s structure helps build on themes and big ideas.

Integrating Information and Evaluating Evidence

- Compare a written text to an oral, visual, or audio version, focusing on the explicit difference in what is read, seen, or heard.
- Examine the different experiences and perceptions readers, listeners, and viewers might have of written, visual, or audio versions of the same texts.
- Compare and contrast different texts with the same topic, themes, or genre.
- Trace arguments and claims and determine whether the reasoning, evidence, and logic are adequate.
- Synthesize information from multiple sources (e.g., print or digital) and formats (e.g., visual or quantitative) to develop a deep understanding of a topic or issue.

B. Reading Comprehension—Fiction, Drama, Poetry

- Understand how the plots in stories and dramas build episodically or serially.
- Examine how characters respond to circumstances and how they change as a plot unfolds and moves toward its resolution.
- Examine how the basic structures of plays, poems, and fiction, such as scenes, stanzas, and chapters, work together to create an overall cohesive structure.
- Examine how the structure of a literary work helps develop the settings, plot, and themes.
- Explain how authors develop the points of view of narrators or speakers.
- Examine how an author develops the point of view of a speaker (poem) or narrator (fiction) over the course of a literary work.
- Compare and contrast the experience of reading a text versus hearing an audio version or seeing a performance of the same story.
- Compare and contrast how different literary genres, such as poems, historical novels, and fantasies, approach similar topics and themes.

C. Reading Comprehension—Nonfiction and Informational

- Locate the central ideas in a text and identify key details that support them.
- Effectively summarize all types of informational texts; differentiate between an objective summary and one’s opinions and judgments.
- Understand and explain in depth how a topic is introduced, illustrated, and elaborated.
- Understand and explain the relationships and interactions between two or more individuals, events, or ideas in a text (e.g., examples and anecdotes).
- Identify and determine the meaning of grade-appropriate Tier 2 and Tier 3 vocabulary words in informational texts, including connotative, figurative, and technical meanings.
- Identify the structure of a text (e.g., sentences, paragraphs, chapters, and text and graphic features) and how the structure helps develop big ideas.
- Identify an author’s point of view and purpose in a text.
- Explain how an author conveys their point of view and purpose in a text.

- Recognize how visual information (illustrations, photographs, maps, and charts) adds to the text, and integrate this information with the written information to gain a deeper understanding.
- Explain how an author supports arguments or claims in a text by giving reasons (opinions) and evidence, such as facts, examples, and expert opinions from reliable sources.
- Distinguish between claims that are supported and those that are not.
- Compare and contrast different authors' approaches to the same subject matter (e.g., a memoir versus a biography).

III. Writing

Teachers: Students should be given many opportunities for writing, both imaginative and expository, with teacher guidance that strikes a balance between encouraging creativity and requiring correct use of conventions. In sixth grade, it is appropriate to emphasize revision, with the expectation that students will revise and edit to produce (in some cases) a finished product that is thoughtful, well-organized, and reasonably correct in grammar, mechanics, and spelling.

A. Writing to Reflect Audience, Purpose, and Task

- Write routinely, clearly, and coherently, completing both short-term and long-term assignments focused on a range of different tasks, purposes, and audiences.
- Strengthen existing writing skills (sentences, paragraphs, transitions, introductions, and conclusions) by applying them to longer and genre-specific writing assignments.
- Use the steps of the writing process to develop and strengthen writing: plan, draft, share, evaluate, revise, edit, and publish.
- Use conventional language standards when editing.
- Maintain a consistent style and tone appropriate to the genre of writing and audience.
- Use keyboards, tablets, the Internet, and other technologies to produce and publish writing and collaborate and communicate with others.
- Type a minimum of three pages in a single sitting.

B. Writing to Analyze and Understand Text

- Analyze literature in writing: compare and contrast authors' approaches in literary works across genres (e.g., stories and poems, historical novels, and fantasies).
- Compare and contrast, in writing, themes and topics across genres (e.g., stories and poems, historical novels, and fantasies).
- Use literary elements as evidence for analyzing literature to strengthen reflection and analysis skills.
- Describe an analysis of informational texts in writing:
 - Explain how authors make and support their points or claims with reasons and factual evidence.
 - Explain how specific pieces of evidence support specific claims.
 - Distinguish, in writing, between claims that are supported and those that are not.

C. Conducting Research

- Conduct short research projects focused on answering a specific research question.
- Gather relevant information from several different print and digital sources and use it to support research.
- Adjust the research question as appropriate throughout the information-gathering process.
- Determine the credibility of information gathered from print and digital sources.
- Accurately quote or paraphrase from sources without plagiarizing.
- Cite sources and provide a basic bibliography.

D. Narrative Writing

- Produce narrative pieces that reflect real-life or imagined experiences.
- Introduce a narrator, a situation, and characters, and develop them through dialogue, pacing, and exposition, including actions, thoughts, feelings, and reactions to events in the plot.
- Organize a well-structured logical or natural sequence of plot events following from the situation, using time-order and transitional words, phrases, and clauses to indicate and manage the event order.
- Incorporate shifts in time and multiple settings.
- Include concrete and sensory details to make writing vivid and precise; convey a sense of experiences and/or the sensations that accompany experiences.
- Provide a sense of closure that follows logically or artfully from the situation, character responses, and sequence of events.

E. Informative/Explanatory Writing

- Write reports and other types of informational texts that clearly focus ideas and information.
- Introduce a topic with information organized in related sections or paragraphs and developed with facts, definitions, quotations, examples, and details.
- Organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect.
- Group related information logically and incorporate formatting features, such as headings, graphics, charts, and other multimedia.
- Include visual elements such as photos, drawings, or diagrams to help explain or present ideas or information when appropriate.
- Use transitions to connect ideas and concepts from distinct categories and to clarify relationships.
- Establish and maintain a formal style.
- Use Tier 2 and/or Tier 3 domain-specific vocabulary to explain or elaborate topics.
- Write a conclusion that wraps up ideas in the text.
- Apply informative/explanatory writing skills to writing standard business communication.

F. Persuasive Writing/Opinion

- Write persuasive essays with well-defined theses and arguments that use clear reasons, examples, and evidence to support claims.
- Follow through with an organizational structure that supports the purpose of the text, grouping ideas, reasons, and evidence in a logical way.
- Distinguish evidence from opinion.
- Demonstrate a clear understanding of the topic and argument.
- Use linking words, phrases, and clauses to connect opinions with reasons and evidence.
- Establish and maintain a formal style and reasonable tone.
- Anticipate and answer counterarguments.
- Identify and use credible sources.
- Write a conclusion that effectively and logically wraps up the argument.

IV. Language Conventions

A. Command of Language

- Use knowledge of language conventions when reading, writing, speaking, and listening.

- Rework sentences by shortening, combining, and lengthening them to
 - create meaning and effect for readers or listeners
 - engage the interest of readers or listeners
 - create a desired style
 - maintain consistency in tone and style

B. Spelling

- Apply known morphology skills (roots, prefixes, suffixes, and spelling changes) to correctly spell words.
- Continue work with spelling, with special attention to commonly misspelled words.

C. Grammar

- Understand the basic rules of English grammar and conventions when writing or speaking.
- Use pronouns correctly, including
 - the proper case (objective, subjective, or possessive)
 - intensive pronouns (e.g., *myself, ourselves*)
- Recognize incorrect use of pronouns, including
 - inappropriate shifts (numbers and persons)
 - unclear pronouns with ambiguous antecedents
- Know how to correct erroneous pronouns.
- Understand what a complete sentence is and
 - identify subject and predicate
 - identify independent and dependent clauses
 - correct fragments and run-ons
- Identify different sentence types and write for variety by using
 - simple sentences
 - compound sentences
 - complex sentences
 - compound-complex sentences
- Recognize verbs in active voice and passive voice, and avoid unnecessary use of passive voice.
- Recognize troublesome verbs and how to use them correctly (e.g., *sit/set; rise/raise*).
- Correctly use frequently confused words (e.g., *good/well; accept/except; principle/principal; affect/effect; who/whom; their/there/they're*).
- Recognize incorrect usage of standard English in one's own writing and speaking.
- Recognize incorrect usage of standard English in others' writing and speaking.
- Apply various strategies in conventional language usage to improve expression.

D. Capitalization and Punctuation

- Understand the basic rules of capitalization and punctuation when writing or speaking.
- Correctly use punctuation introduced in earlier grades and learn how to use a semicolon or comma with *and, but, or* to separate the sentences that form a compound sentence.
- Correctly use commas, parentheses, and dashes to set off nonrestrictive phrases.

E. Vocabulary

- Apply a variety of strategies to figure out the meaning of Grade 6 words and phrases, such as the following:
 - context clues
 - examples
 - definitions

- cause-and-effect relationships
- comparisons
- synonyms and antonyms
- Use the overall meaning of a sentence as a clue to the meaning of words within a sentence.
- Figure out the meaning of words based on the word's position and function within a sentence, such as part of speech, subject, predicate, object, etc.
- Use a dictionary, thesaurus, or glossary—print or digital—to answer questions about the meanings and usage of unfamiliar words.
- Know how to use a dictionary—print or digital—to pronounce words correctly and determine a word's part of speech.
- Use a dictionary to find the precise meaning of words and phrases.
- Check hunches about the meaning of words by using inferences based on context or a dictionary.
- Make accurate interpretations of similes and metaphors and other types of figurative language, such as personification, based on context.
- Interpret figures of speech based on context.
- Discern nuances in word meanings.
- Use word relationships such as cause/effect, part/whole, and item/category to better understand the meaning of known and unknown words.
- Distinguish connotations, or shades of meaning, among words with similar denotations (e.g., *cranky*, *grumpy*, *grouchy*, and *mean*).
- Acquire grade-level Tier 2 general academic and Tier 3 domain-specific words and phrases and use them with accuracy.
- Use knowledge of Greek and Latin roots and affixes to figure out the meaning of a new word, such as

Note: More Latin and Greek words and roots are listed in Grades 7 and 8. In the listings here, L = Latin, G = Greek. No single form of the Latin or Greek words is consistently used here, but rather the form that is most similar to related English words.

Latin/Greek Word

annus [L]

ante [L]

aqua [L]

astron [G]

bi [L]

bios [G]

centum [L]

decem [L]

dico, dictum [L]

duo [G, L]

ge [G]

hydor [G]

magnus [L]

mega [G]

mikros [G]

minus [L]

monos [G]

omnis [L]

phileo [G]

phone [G]

photo [from G *phos*]

poly [G]

Meaning

year

before

water

star

two

life

hundred

ten

say, thing said

two

earth

water

large, great

large, great

small

smaller

single

all

to love

sound, voice

light

many

Examples

annual, anniversary

antebellum, antecedent

aquarium

astronaut, astronomy

bisect, bipartisan

biology, biography

cent, percent

decade, decimal

dictation, dictionary

duplicate

geology, geography

hydrant, hydroelectric

magnificent, magnify

megaphone, megalomania

microscope, microfilm

diminish, minor

monologue, monarch, monopoly

omnipotent, omniscient

philosophy, philanthropist

phonograph, telephone

photograph, photocopy

polygon

<u>Latin/Greek Word</u>	<u>Meaning</u>	<u>Examples</u>
<i>post</i> [L]	after	posthumous, posterity
<i>pre</i> [L]	before	predict, prepare
<i>primus</i> [L]	first	primary, primitive
<i>protos</i> [G]	first	prototype, protozoa
<i>psyche</i> [G]	soul, mind	psychology
<i>quartus</i> [L]	fourth	quadrant, quarter
<i>tele</i> [G]	at a distance	telephone, television, telepathy
<i>thermos</i> [G]	heat	thermometer, thermostat
<i>tri</i> [G, L]	three	trilogy, triangle
<i>unus</i> [L]	one	unanimous, unilateral
<i>video, visum</i> [L]	see, seen	evident, visual

V. Poetry

A. Poems

Teachers: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new, and to have students write their own poems. To bring students into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words. At this grade, poetry should be a source of delight, and, upon occasion, the subject of close attention. Students should examine some poems in detail, discussing what the poems mean as well as asking questions about the poet's use of language.

"All the world's a stage" [from *As You Like It*] (William Shakespeare)

"Apostrophe to the Ocean" [from *Childe Harold's Pilgrimage*, Canto 4, Nos. 178-184] (George Gordon Byron)

"I Wandered Lonely as a Cloud" (William Wordsworth)

"If" (Rudyard Kipling)

"Mother to Son" (Langston Hughes)

"Lift Ev'ry Voice and Sing" (James Weldon Johnson)

"A narrow fellow in the grass" (Emily Dickinson)

"A Psalm of Life" (Henry Wadsworth Longfellow)

"The Raven" (Edgar Allan Poe)

"A Song of Greatness" (a Chippewa song, trans. Mary Austin)

"Stopping by Woods on a Snowy Evening" (Robert Frost)

"Sympathy" (Paul Laurence Dunbar)

"There is no frigate like a book" (Emily Dickinson)

"The Walloping Window-blind" (Charles E. Carryl)

"Woman Work" (Maya Angelou)

B. Terms

- meter
- iamb
- couplet
- rhyme scheme
- free verse

VI. Fiction and Drama

Teachers: *The Iliad*, *The Odyssey*, and *Julius Caesar* are available in editions adapted for young readers.

See also World History Grade 6: Romanticism, re "Apostrophe to the Ocean" and "I Wandered Lonely as a Cloud."

See also World History
Grade 6: Ancient
Greece, re *The Iliad* and
The Odyssey

See also World History
Grade 6: Ancient Rome,
re Julius Caesar.

See also World History
Grade 6: Ancient
Greece and Rome.
Students who are not
familiar with classical
myths specified in
Grades 2 and 3 of
the *Core Knowledge
Sequence* should read
those selections as well.

A. Fiction

- Stories
The Iliad and *The Odyssey* (Homer)
Flying Lessons and Other Stories (edited by Ellen Oh)
Calling All Minds: How to Think and Create Like an Inventor (Temple Grandin)
90 Miles to Havana (Enrique Flores-Galbis)
- Classical Mythology
Apollo and Daphne
Orpheus and Eurydice
Narcissus and Echo
Pygmalion and Galatea

B. Essays and Speeches

- *The Blessings of Liberty – Voices for Equality and Justice*

C. Drama

Julius Caesar (William Shakespeare)

D. Literary Terms

- Epic
- Literal and figurative language (review from Grade 5) imagery metaphor and simile
symbol personification

VII. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many students, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with children from home cultures that differ from the standard culture of literate American English.

All for one and one for all.

All's well that ends well.

Bee in your bonnet

The best-laid plans of mice and men oft go awry.

A bird in the hand is worth two in the bush.

Bite the dust

Catch-as-catch-can

Don't cut off your nose to spite your face.

Don't lock the stable door after the horse is stolen.

Don't look a gift horse in the mouth.

Eat humble pie

A fool and his money are soon parted.

A friend in need is a friend indeed.

Give the devil his due.

Good fences make good neighbors.

He who hesitates is lost.

He who laughs last laughs best.

Hitch your wagon to a star.

If wishes were horses, beggars would ride.

The leopard doesn't change his spots.

Little strokes fell great oaks.

Money is the root of all evil
Necessity is the mother of invention.
It's never over till it's over.
Nose out of joint
Nothing will come of nothing.
Once bitten, twice shy.
On tenterhooks
Pot calling the kettle black
Procrastination is the thief of time.
The proof of the pudding is in the eating.
RIP
The road to hell is paved with good intentions.
Rome wasn't built in a day.
Rule of thumb
A stitch in time saves nine.
Strike while the iron is hot.
Tempest in a teapot Tenderfoot
There's more than one way to skin a cat.
Touché!
Truth is stranger than fiction

DRAFT



Teachers: The World History guidelines for sixth grade begin with a study of ancient civilizations introduced in earlier grades in the Core Knowledge Sequence. Topics include Judaism, Christianity, and the civilizations of ancient Greece and Rome. The focus in sixth grade should be on the legacy of enduring ideas from these civilizations—ideas about democracy and government, for example, or about right and wrong. After this study of lasting ideas from ancient civilizations, the World History guidelines pick up the chronological thread from earlier grades with a study of the Enlightenment. You are encouraged to use timelines and engage students in a brief review of some major intervening events in order to help students make a smooth transition across the gap in centuries between the ancient civilizations and the Enlightenment. In sixth grade, the World History guidelines catch up chronologically with the American History guidelines. The World History guidelines take students up to the consequences of industrialization in the mid-nineteenth century, and this is where the American History guidelines begin.

Note: In earlier grades, students were introduced to major rivers (see Geography Grade 3), mountains (see Geography Grade 4), and lakes (see Geography Grade 5) of the world.

See also English Grade 6: Homer, *The Iliad* and *The Odyssey* and Classical Mythology.

See also Visual Arts Grade 6: *Raphael's School of Athens*. You may also want to examine David's *Death of Socrates*.

World History and Geography

I. World Geography

Teachers: By sixth grade, students should have a good working knowledge of map-reading skills, as well as geographic terms and features introduced in earlier grades. The study of geography embraces many topics throughout the Core Knowledge Sequence, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures. Many geographic topics are listed below in connection with historical topics.

A. Spatial Sense (Working with Maps, Globes, and Other Geographic Tools)

Teachers: As necessary, review and reinforce topics from earlier grades, including:

- Continents and major oceans
- How to read maps and globes using longitude and latitude, coordinates, degrees
- Tropic of Cancer and Tropic of Capricorn: relation to seasons and temperature
- Climate zones: Arctic, Tropic, Temperate
- Time zones (review from Grade 4): Prime Meridian (0 degrees); Greenwich, England; 180° Line (International Date Line)
- Arctic Circle (imaginary lines and boundaries) and Antarctic Circle

B. Great Deserts of the World

- What is a desert? Hot and cold deserts, oasis
- Major deserts in Africa:
 - Sahara, Kalahari
- Australia: a mostly desert continent, the outback
- Asia: Gobi; much of Arabian Peninsula
- North America: Mojave, Chihuahuan, Sonoran
- South America: Atacama Desert

II. Lasting Ideas from Ancient Civilizations

A. Ancient Greece

Teachers: Briefly review from Grade 2: religion, art, architecture, daily life of ancient Greece.

- The Greek polis (city-state) and patriotism
- Beginnings of democratic government: Modern American democratic government has its roots in Athenian democracy (despite the obvious limitations on democracy in ancient Greece, for example, slavery, vote denied to women).

- The Assembly
- Suffrage, majority vote
- The “classical” ideal of human life and works
 - The ideal of the well-rounded individual and worthy citizen
 - Pericles and the “Golden Age”
 - Architecture: the Parthenon
 - Games: The Olympics
- Greek wars: victory and hubris, defeat and shame
 - Persian Wars: Marathon, Thermopylae, Salamis
 - The Peloponnesian War: Sparta defeats Athens
- Socrates and Plato
 - Socrates was Plato’s teacher; we know of him through Plato’s writings.
 - For Socrates, wisdom is knowing that you do not know.
 - The trial of Socrates
- Plato and Aristotle
 - Plato was Aristotle’s teacher.
 - They agreed that reason and philosophy should rule our lives, not emotion and rhetoric.
 - They disagreed about where true “reality” is: Plato says it is beyond physical things in ideas (cf. the “allegory of the cave”); Aristotle says reality is only in physical things.
- Alexander the Great and the spread of Greek (“Hellenistic”) culture: the library at Alexandria

See also English
Grade 6: Shakespeare’s
Julius Caesar

B. Ancient Rome

Teachers: Briefly review from Grade 3: *Romulus and Remus, Roman gods, legends, daily life, etc.*

- The Roman Republic
 - Builds upon Greek and classical ideals
 - Class and status: patricians and plebeians, slaves
 - Roman government: consuls, tribunes, and senators
- The Punic Wars: Rome vs. Carthage, Hannibal
- Julius Caesar
- Augustus Caesar
 - Pax Romana
 - Roman law and the administration of a vast, diverse empire
 - Virgil, *The Aeneid*: epic on the legendary origins of Rome
- Christianity under the Roman Empire
 - Jesus’s instruction to “Render unto Caesar the things which are Caesar’s, and unto God the things that are God’s” [Matthew 22:21]
 - Roman persecution of Christians
 - Constantine: first Christian Roman emperor
- The “decline and fall” of the Roman Empire
 - Causes debated by historians for many hundreds of years (outer forces such as shrinking trade, attacks and invasions vs. inner forces such as disease, jobless masses, taxes, corruption and violence, rival religions and ethnic groups, weak emperors).
 - Rome’s “decline and fall” perceived as an “object lesson” for later generations and societies.

See also Science Grades
K, 3, 4, and 5: Science
Biographies: Isaac
Newton.

III. The Enlightenment

Teachers: You are encouraged to use timelines and engage students in a brief review of some major intervening events in order to help students make a smooth transition across the gap in centuries between the ancient civilizations and the Enlightenment. Place the Enlightenment (17th and 18th centuries) in chronological context, in relation to eras and movements studied in earlier grades (Middle Ages, Age of Exploration & Renaissance, American Revolution, etc.).

- Faith in science and human reason, as exemplified by
 - Isaac Newton and the laws of nature
 - Descartes: “cogito ergo sum”
- Two ideas of “human nature”: Thomas Hobbes and John Locke
 - Hobbes: the need for a strong governing authority as a check on “the condition of man . . . [which] is a condition of war of everyone against everyone”
 - Locke: the idea of man as a “tabula rasa” and the optimistic belief in education; argues against doctrine of divine right of kings and for government by consent of the governed
- Influence of the Enlightenment on the beginnings of the United States
 - Thomas Jefferson: the idea of “natural rights” in the Declaration of Independence
 - Montesquieu and the idea of separation of powers in government
 - Voltaire and idea of limited monarchy

See also Visual Arts Grade 6: David, *Oath of the Horatii*; Delacroix, *Liberty Leading the People*.

IV. The French Revolution

Teachers: While the focus here is on the French Revolution, make connections with what students already know about the American Revolution, and place the American and French Revolutions in the larger global context of ideas and movements.

- The influence of Enlightenment ideas and of the English Revolution on revolutionary movements in America and France
 - French aristocrat Marquis de Lafayette
- The American Revolution: the French alliance and its effect on both sides
- The Old Regime in France (L’Ancien Régime)
 - The social classes: the three Estates
 - Louis XIV, the “Sun King”; Versailles Louis XV: “Après moi, le déluge”
 - Louis XVI: the end of the Old Regime
 - Marie Antoinette: the famous legend of “Let them eat cake”
- 1789: from the Three Estates to the National Assembly
 - July 14, Bastille Day
 - Declaration of the Rights of Man
 - October 5, Women’s March on Versailles
 - “Liberty, Equality, Fraternity”
- Louis XVI and Marie Antoinette to the guillotine
- Reign of Terror: Robespierre, the Jacobins, and the “Committee of Public Safety”
- Revolutionary arts and the new classicism
- Napoleon Bonaparte and the First French Empire
 - Napoleon as military genius
 - Crowned Emperor Napoleon I: reinventing the Roman Empire
 - The invasion of Russia
 - Exile to Elba
 - Wellington and Waterloo

V. Romanticism

- Beginning in early nineteenth century Europe, Romanticism refers to the cultural movement characterized by:
 - The rejection of classicism and classical values
 - An emphasis instead on emotion and imagination (instead of reason)
 - An emphasis on nature and the private self (instead of society and man in society)
- The influence of Jean-Jacques Rousseau’s celebration of man in a state of nature (as opposed to man in society): “Man is born free and everywhere he is in chains”; the idea of the “noble savage”
- Romanticism in literature, the visual arts, and music

See also English Grade 6: Wordsworth, “I Wandered Lonely as a Cloud”; Byron, “Apostrophe to the Ocean” (from *Childe Harold’s Pilgrimage*); Visual Arts Grade 6, Romantic Art; and Music Grade 6, Romantic Music.

Note: In Grade 6, the World History guidelines catch up chronologically with the American History guidelines. The World History guidelines take students up to the consequences of industrialization in the mid-nineteenth century, and this is where the American History guidelines begin. See American History Grade 6, Industrialization and Urbanization.

See also American History Grade 6: Labor, International Workers of the World; Eugene Debs

VI. Industrialism, Capitalism, and Socialism

A. The Industrial Revolution

- Beginnings in Great Britain
 - Revolution in transportation: canals, railroads, new highways
 - Steam power: James Watt
- Revolution in textiles: Eli Whitney and the cotton gin, factory production
- Iron and steel mills
- The early factory system
 - Families move from farm villages to factory towns
 - Unsafe, oppressive working conditions in mills and mines
 - Women and child laborers
 - Low wages, poverty, slums, disease in factory towns
 - Violent resistance: Luddites

B. Capitalism

- Adam Smith and the idea of laissez faire vs. government intervention in economic and social matters, division of labor
- Law of supply and demand
- Growing gaps between social classes: Disraeli's image of "two nations" (the rich and the poor)

C. Socialism

- An idea that took many forms, all of which had in common their attempt to offer an alternative to capitalism.
 - For the public ownership of large industries, transport, banks, etc., and the more equal distribution of wealth
- Marxism: the Communist form of Socialism
 - Karl Marx and Friedrich Engels, *The Communist Manifesto*: "Workers of the world, unite!"
 - Class struggle: bourgeoisie and proletariat, workers' rights
 - Communists, in contrast to Socialists, opposed all forms of private property.

VII. Latin American Independence Movements

A. History

- The name "Latin America" comes from the Latin origin of the languages now most widely spoken (Spanish and Portuguese).
- Haitian revolution
 - Toussaint L'Ouverture
 - Abolition of West Indian slavery
- Mexican revolutions
 - Miguel Hidalgo
 - José María Morelos
 - Santa Anna vs. the United States
 - Benito Juárez
 - Pancho Villa, Emiliano Zapata
- Liberators
 - Simon Bolivar
 - José de San Martín
 - Bernardo O'Higgins
- New nations in Central America: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua
- Brazilian independence from Portugal

B. Geography of Latin America

- Mexico: Yucatan Peninsula, Mexico City
- Panama: isthmus, Panama Canal
- Central America and South America: locate major cities and countries including
 - Caracas (Venezuela)
 - Bogota (Colombia)
 - Quito (Ecuador)
 - Lima (Peru)
 - Santiago (Chile)
 - La Paz (Bolivia)
- Andes Mountains
- Brazil: largest country in South America, rain forests, Rio de Janeiro, Amazon River
- Argentina: Rio de la Plata, Buenos Aires, Pampas



See below, Reform: Jane Addams, settlement houses; Jacob Riis, ghettos in the modern city.

See also World History Grade 6: Industrial Revolution.

See also World History Grade 6: Capitalism, laissez-faire.

American History and Geography

Teachers: The sixth grade American History guidelines pick up chronologically with the World History guidelines on mid-nineteenth century industrialism and its consequences.

I. Immigration, Industrialization, and Urbanization

A. Immigration

- Waves of new immigrants from about 1830 onward
 - Great migrations from Ireland (potato famine), Germany, and Russia (pogroms)
 - From about 1880 on, many immigrants arrive from southern and eastern Europe.
 - Immigrants from Asian countries, especially China
 - Ellis Island, “The New Colossus” (poem on the Statue of Liberty, written by Emma Lazarus)
 - Large populations of immigrants settle in major cities, including New York, Chicago, Philadelphia, Detroit, Cleveland, Boston, San Francisco.
- The tension between ideals and realities
 - The metaphor of America as a “melting pot” or “mosaic”
 - America perceived as “land of opportunity” vs. resistance, discrimination, and “nativism”
 - Resistance to Catholics and Jews
 - Chinese Exclusion Act

B. Industrialization and Urbanization

- The post-Civil War industrial boom
 - The “Gilded Age”
 - The growing gap between social classes
 - Horatio Alger and the “rags to riches” story
 - Growth of industrial cities: Chicago, Cleveland, Pittsburgh
 - Many thousands of African-Americans move north.
 - Urban corruption, “machine” politics: “Boss” Tweed in New York City, Tammany Hall
- The condition of labor
 - Factory conditions: “sweat shops,” long work hours, low wages, women and child laborers
 - Unions: American Federation of Labor, Samuel Gompers
 - Strikes and retaliation: Haymarket Square; Homestead, Pennsylvania
 - Labor Day

- The growing influence of big business: industrialists and capitalists
 - “Captains of industry” and “robber barons”: Andrew Carnegie, J. P. Morgan, Cornelius Vanderbilt
 - New inventions and patents
 - John D. Rockefeller and the Standard Oil Company as an example of the growing power of monopolies and trusts
 - Capitalists as philanthropists (funding museums, libraries, universities, etc.)
- “Free enterprise” vs. government regulation of business: Interstate Commerce Act and Sherman Antitrust Act attempt to limit power of monopolies

See also Language Arts Grade 6: Poetry, Paul Laurence Dunbar, “Sympathy.”

Note: Briefly review people and ideas studied in Grade 4, American History, Reformers: Women’s Rights.

See also World History Grade 6: Socialism and Capitalism.

See Language Arts Grade 6: “A More Perfect Union,” which expands on key people during this era and beyond to civil rights movement of the 1950s and 1960s.

II. Reform

- Populism
 - Discontent and unrest among farmers
 - The gold standard vs. “free silver”
 - William Jennings Bryan
- The Progressive Era “Muckraking”: Ida Tarbell on the Standard Oil Company; Upton Sinclair, *The Jungle*, on the meat packing industry
 - Jane Addams: settlement houses
 - Jacob Riis, *How the Other Half Lives*: tenements and ghettos in the modern city
 - President Theodore (Teddy) Roosevelt: conservation and trust-busting
- Reform for African-Americans
 - Ida B. Wells: campaign against lynching
 - Booker T. Washington: Tuskegee Institute, Atlanta Exposition Address, “Cast down your bucket where you are”
 - W. E. B. DuBois: founding of NAACP, “The problem of the twentieth century is the problem of the color line,” *The Souls of Black Folk*
- Women’s suffrage
 - Susan B. Anthony
 - Nineteenth Amendment (1920)
 - The Socialist critique of America: Eugene V. Debs



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

In studying the works of art specified below, and in creating their own art, students should review, develop, and apply concepts introduced in previous grades, such as line, shape, form, space, texture, color, light, design, and symmetry.

I. Art History: Periods and Schools

Teachers: The focus here is intended to combine art history with analysis of specific illustrative works. Introduce the idea of classifying Western art by periods and schools, with major characteristics of each period and school. Timelines may help students situate the periods and schools. Note that the periods and characteristics are not absolute distinctions but generally helpful categories (to which there are always exceptions) often used in discussions of art. The following topics extend to the mid-nineteenth century. In later grades, students will examine late-nineteenth and twentieth-century art movements.

A. Classical Art: The Art of Ancient Greece and Rome

- Observe characteristics considered “classic”—emphasis on balance and proportion, idealization of human form—in
 - The Parthenon and the Pantheon
 - *The Discus Thrower*
 - *Apollo Belvedere*
 - *The School of Athens*

B. Gothic Art and Architecture

- Briefly review the religious inspiration and characteristic features of Gothic cathedrals (ca. 12th – 15th centuries).
- Look at examples of Gothic Revival architecture (18th and 19th century).
 - Charles Barry and AWN Pugin, Palace of Westminster Rebuilt between 1835 and 1870
 - Giuseppe Sacconi, Vittorio Emanuele II monument in Rome, (1911)

C. Rococo (ca. mid- to late-1700’s)

- Note the decorative and “pretty” nature of Rococo art, the use of soft pastel colors, and the refined, sentimental, or playful subjects in
 - Jean Honore Fragonard, *The Swing*
 - Adélaïde Labille-Guiard, *Self-Portrait with Two Pupils* (1785)

D. Neoclassical Art and Architecture (ca. late 18th – early 19th century)

- Note as characteristic of Neoclassical art the reaction against Baroque and Rococo, the revival of classical forms and subjects, belief in high moral purpose of art, and balanced, clearly articulated forms in
 - Jacques Louis David, *Oath of the Horatii*
 - Élisabeth Louise Vigée-LeBrun, *Marie-Antoinette de Lorraine-Habsbourg, Queen of France, and Her Children* (1787)
- Review examples of Neoclassical architecture
 - Jacques-Germain Soufflot, Church of Ste- Geneviève (now Le Panthéon), Paris, France (1755–90)
 - Etienne-Louis Boullée, Cenotaph to Isaac Newton (1784)

See also World History Grade 6: Lasting Ideas from Greece and Rome, re Classical art.

See Visual Arts Grade 5 for more detailed guidelines on Renaissance art. See also World History Grade 6: Lasting Ideas from Greece and Rome, re Raphael’s *School of Athens*.

See Visual Arts Grade 4 for more detailed guidelines on Gothic architecture.

See also World History Grade 6: Romanticism, re Romantic art; and French Revolution, re Delacroix's *Liberty Leading the People*

E. Romantic (ca. late 18th – 19th century)

- Note how Romantic art is in part a reaction against Neoclassicism, with a bold, expressive, emotional style, and a characteristic interest in the exotic or in powerful forces in nature, in
 - Francisco Goya, *The Bullfight*
 - Eugene Delacroix, *Liberty Leading the People*
 - Caspar David Friedrich, *The Chalk Cliffs on Rugen*

F. Realism (ca. mid- to late-19th century)

- Note the Realist's characteristic belief that art should represent ordinary people and activities, that art does not have to be uplifting, edifying, or beautiful, in
 - Jean Millet, *The Gleaners*
 - Gustave Courbet, *The Stone Breakers*
- Become familiar with examples of American realism, including
 - Winslow Homer, *Northeaster*
 - Thomas Eakins, *The Gross Clinic*
 - Henry O. Tanner, *The Banjo Lesson*
 - Rosa Bonheur, *The Horse Fair* (1852–55)

G. Impressionism

- Examine characteristics of Impressionism
 - Edgar Degas, a ballet painting such as *Dancing Class* (1874)
 - Eva Gonzales, *The Italian Music Hall Box* (1874)
 - Berthe Morisot, *Young Woman Seated on a Sofa* (1879)
 - Pierre Auguste Renoir, *Luncheon of the Boating Party* (1881)
 - Mary Cassatt, *The Boating Party* (1893)
 - Claude Monet: *Impression: Sunrise*, *Bridge Over a Pool of Lilies* (1899)
 - Cecilia Beaux, *Mrs. Theodore Roosevelt and Her Daughter Ethel* (1902)

H. Post-Impressionism (1886–1905, roughly)

- Examine characteristics of Post-Impressionism
 - Paul Cezanne: a still life such as *Apples and Oranges*, a version of *Mont Sainte-Victoire*, *The Card Players*
 - Georges Seurat and pointillism: *Sunday Afternoon on the Island of the Grande Jatte*
 - Vincent van Gogh: *The Starry Night*, one of his *Sunflowers*, a self-portrait such as *Self-Portrait* [1889]
 - Paul Gauguin: *Vision After the Sermon, Hail Mary (la Orana Maria)*
 - Henri Toulouse-Lautrec, *At the Moulin Rouge*
 - Art Nouveau as a pervasive style of decoration

I. Architecture in the Age of the Industrial Revolution

- Look at examples of architecture in the age of the Industrial Revolution, including
 - Henri Labrouste's Bibliothèque Sainte Geneviève in Paris (1851).
 - Crystal Palace (1851)
 - Statue of Liberty (1875)
 - The Brooklyn Bridge (1883)
 - The Eiffel Tower (1887)



I. Elements of Music

Teachers: The music guidelines for Grades 6–8 share a basic vocabulary of the elements of music that can inform the discussion, appreciation, and study of selected musical works. Following these guidelines are recommendations in each grade for a core of musical content, broadly organized as a history of music from early to modern times, with attention to specific periods, composers, and genres. While these guidelines focus on musical vocabulary, appreciation, and history, musical performance should be encouraged and emphasized as local resources allow.

- Review as necessary from earlier grades:
 - The orchestra and families of instruments (strings, wind, brass, percussion); keyboard instruments
 - Vocal ranges: soprano, mezzo-soprano, alto; tenor, baritone, bass
- Recognize (aurally) frequently used Italian terms:
 - Review
 - *largo* (very slow)
 - *andante* (moderate; “walking”)
 - *presto* (very fast)
 - Introduce
 - *grave* (very very slow)
 - *prestissimo* (as fast as you can go)
- Recognize introduction, interlude, and coda in musical selections. Recognize theme and variations.
- Identify chords [such as I (tonic), IV (subdominant), V (dominant); V7]; major and minor chords; chord changes; intervals (third, fourth, fifth).
- Understand what an octave is.
- Understand the following notation and terms:
 - names of lines and spaces in the treble clef; middle C
 -  treble clef,  bass clef,  staff, bar line, double bar line, measure, repeat signs
 -  whole note  half note  quarter note  eighth note
 - whole rest, half rest, quarter rest, eighth rest
 -  grouped sixteenth notes
 - tied notes and dotted notes
 - # sharps ♭ flats ♮ naturals
 - *Da capo* [dc.] *al fine*
 - *Dal segno* [ds.] *al Fine*
 - *Dal segno* [ds.] *al Coda*
 - meter signature $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$
 - common time $\frac{4}{4}$
 - very soft *pp* (pianissimo), soft *p* (piano), moderately soft *mp* (mezzo-piano)
 - moderately loud *mf* (mezzo-forte), loud *f* (forte), very loud *ff* (fortissimo)

II. Classical Music: From Baroque to Romantic

Teachers: While these guidelines focus on musical vocabulary, appreciation, and history, musical performance should be encouraged and emphasized as resources allow. The focus here combines music history with appreciation of illustrative works, and introduces the idea of classifying Western music by periods, with examples of specific composers and works, as well as some associated musical terms. Timelines may help students situate the periods. The periods and their characteristics are not absolute distinctions but generally helpful categories often used in discussions of music. A brief review of medieval (Grade 4) and renaissance (Grade 5) music is suggested.

Note: re Baroque music, recall from Grade 2, Antonio Vivaldi, *The Four Seasons*.

Caccini's is the first known opera performed, written by a female composer.

Note: re classical symphony, recall from Grade 4, Haydn, *Symphony No. 94* ("Surprise"); and, from Grade 5, Beethoven, *Symphony No. 5*.

Note: Beethoven and Schubert are often considered transitional figures between Classic and Romantic. Students will study other Romantic composers in Grade 7, including Brahms, Berlioz, Liszt, and Wagner.

From *As You Like It*

"I Am the Very Model of a Modern Major-General" is also known as the *Major General's Song* or *Modern Major General's Song*

A. Baroque (ca. 1600–1750)

- Counterpoint, fugue, oratorio
- Johann Sebastian Bach: selections from *Brandenburg Concertos*, selections from *The Well-Tempered Clavier*, selections from the *Cantatas* such as *BWV 80*, *BWV 140*, or *BWV 147*
- George Frederick Handel: selections from *Water Music*, "Hallelujah Chorus" from *The Messiah*
- Francesca Caccini, *La liberazione di Ruggiero*

B. Classical (ca. 1750–1825)

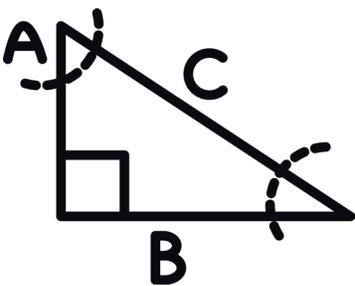
- The classical symphony (typically in four movements) Wolfgang Amadeus Mozart, *Symphony No. 40*
- The classical concerto: soloist, cadenza Wolfgang Amadeus Mozart, *Piano Concerto No. 21*
- Chamber music: string quartet, sonata Franz Joseph Haydn, *String Quartet Opus 76 No. 3*, "Emperor" Ludwig van Beethoven, *Piano Sonata No. 14* ("Moonlight Sonata")

C. Romantic (ca. 1800–1900)

- Beethoven as a transitional figure: *Symphony No. 9* (fourth movement)
- Romantic composers and works: Franz Schubert, lieder (art songs): *Die Forelle* ("The Trout"), *Gretchen am Spinnrade* ("Gretchen at the Spinning Wheel")
- Frederic Chopin: "Funeral March" from *Piano Sonata No. 2 in B flat minor*, "Minute Waltz", *Revolutionary Etude in C minor*
- Robert Schumann, *Piano Concerto in A Minor*
- Clara Schumann, *Piano Concerto in A minor Op. 7*
- Dame Ethel Mary Smyth, *The Wreckers*

III. Songs

- "It was a Lover and His Lass" by Shakespeare and Thomas Morley
- "Lift Every Voice and Sing" by J. Rosamond Johnson and James Weldon Johnson
- "La Marseillaise"
- "Drink to Me Only With Thine Eyes" by Ben Jonson
- "I Dream of Jeanie With the Light Brown Hair" by Stephen Foster
- "Hard Times Come Again No More" by Stephen Foster
- "I Am the Very Model of a Modern Major-General" from *Pirates of Penzance* by Gilbert and Sullivan



Teachers: Mathematics has its own vocabulary and patterns of thinking. It is a discipline with its own language and conventions. Thus, while some lessons may offer occasional opportunities for linking mathematics to other disciplines, it is critically important to attend to math as math. From the earliest years, mathematics requires incremental review and steady practice: not only the diligent effort required to master basic facts and operations, but also thoughtful and varied practice that approaches problems from a variety of angles, and gives students a variety of opportunities to apply the same concept or operation in different types of situations. While it is important to work toward the development of “higher-order problem-solving skills,” it is equally important—indeed, it is prerequisite to achieving “higher order” skills—to have a sound grasp of basic facts, and an automatic fluency with fundamental operations.

I. Ratios and Proportional Relationships

- Understand ratio concepts and use ratio reasoning to solve problems.
 - Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
 - Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.
 - Use ratio and rate reasoning to solve real-world and mathematical problems.
 - Use equivalent ratios, tape diagrams, double number line diagrams or equations.
 - Make tables of equivalent ratios relating quantities with whole-number measurements.
 - Solve unit rate problems including those involving unit pricing and constant speed.
 - Find a percent of a quantity as a rate per 100.
 - Solve problems involving finding the whole, given a part and the percent.
 - Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

II. The Number System

- Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
 - Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions.
- Compute fluently with multi-digit numbers and find common factors and multiples.
 - Fluently divide multi-digit numbers using the standard algorithm.
 - Fluently add subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
 - Find the greatest common factor of two whole numbers less than or equal to 100.
 - Find the least common multiple of two whole numbers less than or equal to 12.
 - Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
- Apply and extend previous understandings of numbers to the system of rational numbers.
 - Understand that positive and negative numbers are used together to describe quantities having opposite directions or values.
 - Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
 - Understand a rational number as a point on the number line.
 - Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
 - Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line.

- Recognize that the opposite of the opposite of a number is the number itself.
- Recognize that 0 is its own opposite.
- Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane.
- Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
- Find and position integers and other rational numbers on a horizontal or vertical number line diagram.
- Find and position pairs of integers and other rational numbers on a coordinate plane.
- Understand ordering and absolute value of rational numbers.
 - Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
 - Write, interpret, and explain statements of order for rational numbers in real-world contexts.
 - Understand the absolute value of a rational number as its distance from 0 on the number line.
 - Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.
 - Distinguish comparisons of absolute value from statements about order.
- Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.
 - Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

III. Expressions and Equations

- Apply and extend previous understandings of arithmetic to algebraic expressions.
 - Write and evaluate numerical expressions involving whole-number exponents.
 - Write, read, and evaluate expressions in which letters stand for numbers.
 - Write expressions that record operations with numbers and with letters standing for numbers.
 - Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient).
 - View one or more parts of an expression as a single entity.
 - Evaluate expressions at specific values of their variables. Include expressions that arise from real world problems and use order of operations when no parentheses are present.
 - Apply the properties of operations to generate equivalent expressions.
- Identify when two expressions are equivalent.
 - Reason about and solve one-variable equations and inequalities.
 - Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true?
 - Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
 - Use variables to represent numbers and write expressions when solving a real-world or mathematical problem.
 - Understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
 - Solve real-world and mathematical problems by writing and solving equations of them form $x + p = q$ and $px = q$ for cases in which p , q and x are all nonnegative rational numbers.

Equivalent expressions = when the two expressions name the same number regardless of which value is substituted into them.

- Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem.
- Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
- Represent and analyze quantitative relationships between dependent and independent variables.
 - Use variables to represent two quantities in a real-world problem that change in relationship to one another write an equation to express one quantity.
 - Thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.
 - Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

IV. Geometry

Apply these techniques in the context of solving real-world and mathematical problems.

Pack the right rectangular prism with unit cubes of the appropriate unit fraction edge lengths.

- Solve real-world and mathematical problems involving area, surface area, and volume.
 - Find the area of right triangles, other triangles, special quadrilaterals, and polygons by decomposing into triangles or other shapes.
 - Find the volume of a right rectangular prism with fractional edge lengths.
 - Show that the volume is the same as would be found by multiplying the edge lengths of the prism.
 - Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths.
 - Draw polygons in the coordinate plane given coordinates for the vertices.
 - Use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate.
 - Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures.

V. Statistics and Probability

- Develop understanding of statistical variability.
 - Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
 - Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
 - Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
- Summarize and describe distributions.
 - Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
 - Summarize numerical data sets in relation to their context, such as by:
 - Reporting the number of observations.
 - Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
 - Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
 - Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.



Teachers: Effective instruction in science requires not only hands-on experience and observation but also book learning, which helps bring coherence and order to a student's scientific knowledge. Only when topics are presented systematically and clearly can students make steady and secure progress in their scientific learning. The Science sequence for the middle school grades aims for more intensive and selective study of topics, a number of which were introduced in earlier grades. It also continues the practice of studying topics from each of the major realms of science (physical, life, and earth science). Students are expected to do experiments and write reports on their findings.

I. Light and Matter

A. Electromagnetic Waves

- Any movement of an electrically charged particle produces an electromagnetic wave.
- This wave alternates between the establishment of an electrical field and a magnetic field.
- Some waves, such as sound and water, transfer energy through matter, but electromagnetic radiation travels through empty space as well as through some kinds of matter.
- All electromagnetic waves have the same speed in a vacuum, about 300,000 kilometers per second or 186,000 miles per second; labeled c .
- Electromagnetic waves carry energy through space and are used to transmit information, e.g., through devices such as radio, television, cellular phones, and Bluetooth technology.

B. Characteristics of Light

- Electromagnetic waves vary in their frequency, resulting in a continuous spectrum of waves, called the electromagnetic spectrum.
- The longest wavelengths on the spectrum: radio waves
- Shorter wavelengths: microwaves, infrared waves, visible light, ultraviolet light, X rays, and gamma rays
- Visible light is the small portion of the electromagnetic spectrum that we see.
- Visible light ranges along the spectrum: red, orange, yellow, green, blue, to violet.

C. Light and Matter

- Isaac Newton and refraction of light through a prism
- Light can be reflected, absorbed, refracted, or transmitted.
 - Refraction:
 - Slowing down of light as it passes through matter
 - Refraction from the glass in lenses is useful in devices for television, photography, and astronomy.
 - Reflection:
 - Light from a flashlight reflects off a mirror at the exact angle the light hits the mirror.
 - Lenses can be concave or convex, changing the angle of reflection, used in many practical devices.

II. Thermal Energy

A. Energy

- Definition of energy
- Forms of energy
- Kinetic and potential energy

- Forms of energy can be transformed into one another:
 - The energy of sound waves → mechanical energy of breaking glass
 - The energy of light waves hitting a solar panel → into electrical energy
 - The chemical energy → into fireworks
- Joules: metric unit measure

B. Thermal Energy

- Thermal energy
- Scientific meaning of heat is the movement of thermal energy from one place to another
- Temperature: related to how rapidly particles are moving
- Conduction, convection, and radiation: ways thermal energy is transferred
- The passive direction of heat transfer is hotter to colder

C. Heat in Physical Changes

- The different causes of physical change in substances, including change in the state of matter
- Common states of matter—solid, liquid, and gas—are the result of the differing movement of a substance’s atoms or molecules.
 - In gases, particles move rapidly and are far apart; fills any container completely
 - In liquids, particles move slower than gases and are more tightly packed; take shape of a container but may not fill it
 - In solids, particles are more tightly packed and move more slowly than gases or liquids; retain their shape in any container
- When a phase change occurs, no chemical change occurs in the substance.
 - Matter changes phase when thermal energy is added or removed.
- Changing phases include condensation, freezing, melting and boiling.
 - Different amounts of energy are required to change the phase of different substances.
 - Each substance has its own melting and boiling point.

D. Thermal Energy and Currents

- Role of heating of the earth in establishing air and ocean currents
- How ocean currents such as the Gulf Stream and Kuroshio are kept in motion
- Variations of ocean temperatures and salinity help drive ocean currents

III. Weather, Climate, and Water Cycling

A. Weather

- Definition and causes of weather
- Definition and cause of air masses
 - Role of air masses in changing weather conditions
 - Colliding air masses can cause sudden changes in the weather.
- Weather conditions: air temperature, air pressure, humidity, precipitation, warm and cold weather fronts, wind speed and direction
- Weather data can be obtained by visual observation, instruments on the earth, radar, weather balloons, and satellites.
- Examination of weather patterns can lead to weather prediction.

B. Climate

- Definition of climate
- Climate conditions—how long they last and how they change over time
- The Koppen system

- Familiar climates: tundra, rainforest, temperate, desert, and humid continental
- Climate from millions of years ago can be determined by various scientific methods

C. The Water Cycle

- Definition and causes of the water (hydrologic) cycle
- Diagram all parts of the water cycle
- Relationship to weather

IV. Rock Cycling and Plate Tectonics

A. Layered Structure of the Earth

- Formation of the sun, Earth, and other planets
- Makeup and thickness of Earth's crust and mantle
- Earth's outer and inner cores
- The cycling of Earth's materials as exemplified by the rock cycle

B. Plate Tectonics

- Effect of plate tectonics on the surface of Earth
- Causes and speed of the movement of the plates

C. Evidence of Plate Tectonics

- Evidence for long-term movement of plates: fit of continents and matches of rock types, fossils, ocean floor age, topography, ancient climate zones, locations of earthquakes, volcanoes, mountain ranges, and magnetic directions in ancient rocks
- The continents were once joined into a continent called Pangaea.

V. Natural Hazards

A. Hazardous Weather Conditions

- Definition of fronts, and their role in creation of hazardous weather
- Atmospheric conditions that lead to hurricanes (cyclones)
- Importance of accurate weather predictions in planning for severe weather conditions

B. Earthquakes and Volcanoes

- Earthquakes caused by stress of plate boundaries moving against each other.
- Earthquake vibrations cause waves.
- Focus: the point below the surface where the quake begins
- Epicenter: the point on the surface above the focus
 - Richter scale
 - Most volcanoes are caused by plate boundaries pulling apart or coming together.
- Some caused by plates moving over hot spots (e.g., the Hawaiian Islands)

C. Landslides and Floods

- Landslides often happen quickly and can be massive movements of soil and rocks that can inflict major damage to roads and homes.
- Floods, including flash floods, are a major hazard in many parts of the world.

VI. Cells and Systems

A. Cells

- Cells are the basis of all living things.
- Differences between unicellular and multicellular organisms

- Types and function of cellular membranes
- Membranes, cytoplasm, and organelle are cell components.
- Cell organelles include the nucleus, mitochondria, and chloroplasts.
- Chromosomes and their role in cell function and reproduction
 - DNA,
 - Mutations

B. Cell Division

- Role of cell division in growth and reproduction
- Types of cell division
 - Mitosis
 - Meiosis and its association with sexual reproduction.
- Sexual reproduction involves meiosis and the fusion of gametes (egg and sperm).
- Sexual reproduction allows for variation between parent and offspring due to crossing over, mutations, and other factors.

C. Cells, Organs, Organ Systems

- A group of similar cells usually performing one function is called a tissue.
- Tissues work together to form organs in both plants and animals.
- Organs work together to form organ systems, such as the muscular and skeletal system of humans.

VII. The Human Body: Circulatory, Lymphatic, and Immune Systems

A. Circulatory System

- The path of blood throughout the body
 - Blood travels through arteries, capillaries, and veins to be distributed to the body's cells.
- The heart pumps blood throughout the body.
 - The heart consists of four chambers and four valves.
- Deoxygenated blood from the body passes through the lungs, where it picks up oxygen gas.
- Proper blood pressure and blood flow are indicators of good health.
- Hardening or clogging of the blood vessels are serious, negative conditions.

B. Lymphatic System

- Often considered part of the circulatory and immune systems
- Open system found throughout the body
- Maintains fluid balance and helps fight diseases.
- Removes excess plasma from the body and thus has a cleaning and filtration function.
- Lymph and lymph nodes

C. Immune System

- Fights infections from bacteria, viruses, fungi, and other pathogens.
- Elements include white cells, antibodies, and other kinds of cells and molecules.
- Has many levels of protection including cellular and non-cellular elements.
- Fights bacterial diseases such as tetanus, typhoid, and tuberculosis.
- Role of antibiotics like penicillin, discovered by Alexander Fleming, in fighting bacterial infections.
- Viral diseases include the common cold, flu, and the COVID-19 coronavirus. Other viral diseases: chicken pox, mononucleosis, rabies, polio, and AIDS
- Role of vaccines in boosting the immune system

VIII. Science Biographies

- Marie Curie — discoveries in radioactivity, and the elements polonium and radium
- Lewis Howard Latimer — aided in inventions of telephone and light bulb
- Isaac Newton — nature of motion and laws of gravity
- Alfred Wegener — Pangaea and the science of continental drift

DRAFT

Grade 7



Overview of Topics

Grade 7

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
- II. Reading
 - A. Reading Comprehension and Response—All Texts
 - B. Reading Comprehension—Fiction, Drama, Poetry
 - C. Reading Comprehension—Nonfiction and Informational
- III. Writing
 - A. Writing to Reflect Audience, Purpose, and Task
 - B. Writing to Analyze and Understand Text
 - C. Conducting Research
 - D. Narrative Writing
 - E. Informative/Explanatory Writing
 - F. Persuasive Writing/Opinion
- IV. Language Conventions
 - A. Command of Language
 - B. Spelling
 - C. Grammar
 - D. Capitalization and Punctuation
 - E. Vocabulary
- V. Poetry
 - A. Poems
 - B. Elements of Poetry
- VI. Fiction, Nonfiction, and Drama
 - A. Short Stories
 - B. Novels / Novellas
 - C. Elements of Fiction
 - D. Essays and Speeches
 - E. Autobiography
 - F. Drama
 - G. Literary Terms
- VII. Foreign Phrases Commonly Used in English

HISTORY AND GEOGRAPHY

A SURVEY OF AMERICAN HISTORY

- I. Early Americans and First Europeans
 - A. How People Came to America
 - B. Indigenous Societies in Central and South America
 - C. Indigenous Societies in North America
- II. European Exploration and Colonization of the Americas
 - A. The Vikings
 - B. Quest For Spices
 - C. Early Spanish Exploration and Settlement
 - D. Search for the Northwest Passage
- III. European (English) Colonization of North America (1500–1750)
 - A. Beginnings of English Colonization in North America
 - B. Southern Colonies
 - C. New England Colonies
 - D. Middle Colonies
- IV. The Revolutionary War (1750–1783)
 - A. Background: The French and Indian War
 - B. Causes and Provocations
 - C. The Revolution
- V. Creating a Constitution for the United States (1783–Present)
 - A. Main Ideas Behind the Declaration of Independence
 - B. Making a New Government: From the Declaration to the Constitution
- VI. The New Republic and the War of 1812 (1789–1820s)
 - A. Early Presidents and Politics
 - B. The War of 1812
- VII. Westward Expansion Before the Civil War (1820s–1860)
 - A. Exploration of the Western Frontier
 - B. Pioneers Move West
 - C. Native American Resistance
 - D. Conflict with Mexico
- VIII. The Civil War and Reconstruction (1820–1877)
 - A. Toward the Civil War
 - B. The Civil War
 - C. Reconstruction
- IX. Westward Expansion After the Civil War (1860s–1877)
 - A. Increased Movement West
 - B. Impact on Indigenous People
- X. Immigration, Industrialization, and Urbanization (1865–1914)
 - A. Immigration
 - B. Industrialization and Urbanization
- XI. Social Movements and Reforms (1865–1920)
- XII. World War I (1914–1919)
 - A. America Becomes a World Power
 - B. World War I: “The Great War,” 1914–1918
 - C. First World War in Russia and Revolution
- XIII. The Twenties and the Great Depression (1919–1939)
 - A. The Twenties
 - B. The Great Depression
 - C. The New Deal
- XIV. World War II (1935–1945)
 - A. Origins of the Second World War
 - B. Onset of World War II in Europe
 - C. The United States in the Early Years of the War
 - D. The United States Enters the War
 - E. Immediate Aftermath
- XV. Postwar America and the Cold War, Vietnam, and the Age of Civil Rights (1945–1975)
 - A. Origins of the Cold War
 - B. The Korean War
 - C. America in the Cold War
 - D. The Vietnam War
 - E. The Civil Rights Movement During the Cold War

XVI. The United States at Home and on the World Stage (1975–2000)

- A. Social and Technological Change
- B. The Rise of Social and Environmental Activism
- C. Presidents and Politics

XVII. The Challenges Ahead and Powerful Voices (2001–Present)

- A. American Society in the Early Twenty-First Century
- B. Presidents and Politics

VI. Natural Resources and Human Impact

- A. Natural Resources
- B. Environmental Protection

VII. Science Biographies

VISUAL ARTS

I. Art History: Periods and Schools

- A. Fauvism/Expressionism
- B. Cubism
- C. Surrealism
- D. Abstract Expressionism
- E. Other Developers of Abstraction

II. Organic Architecture

MUSIC

I. Elements of Music

II. Classical Music: Romantic and Patriotic

- A. Romantic Composers and Works
- B. Music and National Identity

III. American Musical Traditions

MATHEMATICS

I. Ratios and Proportional Relationships

II. The Number System

III. Expressions and Equations

IV. Geometry

V. Statistics and Probability

SCIENCE

I. Chemical Reactions and Matter

- A. Atoms, Elements, and Compounds
- B. Chemical Bonds
- C. Matter in Chemical Reactions

II. Chemical Reactions and Energy

- A. Chemical Reactions and Energy
- B. Thermal Energy in Chemical Reactions

III. Metabolic Reactions

- A. Energy for Life
- B. Photosynthesis and Cellular Respiration
- C. Humans and Food

IV. Matter Cycling and Photosynthesis

- A. Cycles in Nature
- B. Photosynthesis
- C. Matter and Energy in Ecosystems

V. Ecosystem Dynamics

- A. Ecosystems
- B. Changes in Ecosystems



I. Listening and Speaking

A. Classroom Discussion

- Actively participate in discussions about a variety of Grade 7 topics, ideas, and texts in a variety of settings, including partners, small and large groups, and teacher-led groups.
- Prepare for discussions in advance, including researching the topic and organizing information for the discussion. Draw on preparations during the discussion to analyze ideas and explore the topic further.
- Manage goals and deadlines, and define specific roles appropriate to a discussion; follow rules for productive social engagement among peers.
- Ask relevant questions to clarify conversations and ideas and to build upon remarks made by others.
- Use details to elaborate and comment on a topic, text, or issue being discussed; add insight to discussions or move discussions forward.
- Demonstrate a willingness to change one's own point of view when presented with new information during a discussion.
- Interpret information from an array of media formats, such as visual (paintings, pictures, and animations), quantitative (graphs, charts, and diagrams), videos, and recordings.
- Explain how information from media formats reflects, enhances, or is otherwise suitable to the discussion, issue, or topic at hand.
- Find and analyze the main ideas and details in information from multimedia formats.
- Explain a speaker's argument, distinguishing the claims, evidence, and reasons speakers give and whether the claims are adequately supported.
- Evaluate the overall quality of the reasoning used in an argument and the relevancy of the evidence provided.

B. Presentation of Ideas and Information

- Give a presentation about a topic or text, tell a story, or orally relate a personal experience in a logical and organized manner, including relevant descriptions, details, and facts that support main ideas or themes.
- Orally present a claim-based argument that is supported by research and demonstrates a focused emphasis on the essential points.
- Speak clearly at an understandable volume and pace; maintain eye contact.
- Enhance presentations by adding relevant multimedia such as displays, images, videos, graphics, music, and recordings.
- Switch between formal and informal English as appropriate to the situation or task; adapt speech to a variety of contexts.
- Show proficiency when using formal English, such as standard pronunciation when giving speeches or speaking to large groups and in formal circumstances, such as a job interview.

II. Reading

A. Reading Comprehension and Response—All Texts

- Independently and proficiently read and comprehend longer works of fiction (stories, plays, and poems) and literary nonfiction written at the high end of grades 6 through 8.

Grasping Specific Details and Key Ideas

- Draw multiple pieces of evidence from texts when explaining them or making inferences.
- Quote or cite accurately from texts when explaining them or making inferences.
- Identify the central ideas or themes in a text and explain how they develop.
- Summarize texts objectively.

Observing Craft and Structure

- Determine the meaning of words and phrases in a literary or nonfiction text, including Tier 2 academic vocabulary and Tier 3 subject-area vocabulary.
- Consider the impact of word choices on meaning and tone.
- Analyze the structure of a text and how the larger sections relate to the whole.
- Analyze how a text’s structure helps build on themes and big ideas.

Integrating Information and Evaluating Evidence

- Compare and contrast a text to several audio, video, or multimedia versions of it, focusing on how the medium affects its impact.
- Trace arguments and claims and determine whether the reasoning, evidence, and logic are adequate.
- Analyze what different authors emphasize about the same topic/s and how they present information to create emphasis.

B. Reading Comprehension—Fiction, Drama, Poetry

- Analyze how literary elements in stories and dramas interact (e.g., how setting affects the characters and plot).
- Analyze the impact of sound devices, such as alliteration, assonance, repetition, rhyme, and rhythm, in poems, stories, and plays in specific stanzas, sections, and scenes.
- Analyze figurative language, such as metaphors and similes, to determine meaning.
- Determine connotative meanings of words in literary text.
- Examine how the structures of plays and poems develop deeper meaning and themes.
- Explain how authors develop the points of view of narrators, speakers, and characters.
- Examine how authors contrast the points of view of narrators, speakers, and characters.
- Compare a written text to an oral, visual, audio, or multimedia version, focusing on the techniques used, such as lighting, sound, camera angles, and use of color.
- Examine historical and fictional accounts of the same events, people, places, periods, and ideas to develop a deep understanding of how authors utilize history in their works and shape history by dramatizing it.

C. Reading Comprehension—Nonfiction and Informational

- Effectively summarize all types of informational texts.
- Understand and explain the relationships and interactions between two or more individuals, events, or ideas in a text and how they influence each other.
- Identify the structure of a text and how it helps develop big ideas.
- Identify an author’s point of view and purpose in a text.
- Explain how an author distinguishes their own point of view from that of others in a text.
- Analyze a medium’s impact on words by comparing and contrasting an informational text (e.g., a speech) to audio, visual, or multimedia portrayals of the same text (e.g., how the delivery of an address brings the words to life/adds emphasis).
- Explain how an author supports arguments in a text by giving reasons (opinions) and evidence, such as facts, examples, and expert opinions from reliable sources.
- Distinguish between claims that are supported and those that are not.

- Examine the overall soundness of the reasoning in an argument and the quality of the evidence supporting it.
- Compare and contrast different authors' approaches to the same subject matter, such as
 - their different interpretations
 - the different techniques they use to create emphasis
 - what evidence they include
 - how they present evidence to reach their conclusions

III. Writing

Teachers: Students should be given opportunities to compose narratives, persuasive essays, and expository writing. Students should examine their work with attention to unity, coherence, and emphasis. Narratives should present a logical sequence of events, and include concrete details. Persuasive pieces should incorporate credible sources and consider counter arguments. Expository essays should have a main point and stick to it, and have a coherent structure, typically following the pattern of introduction, body, and conclusion. Paragraphs should have a unified focus, be developed with evidence and examples, and have transitions between them. Essays should have appropriate tone and diction, as well as correct spelling and grammar in their final form. Standards for writing apply across the disciplines.

A. Writing to Reflect Audience, Purpose, and Task

- Write routinely, clearly, and coherently, completing both short-term and long-term assignments focused on a range of different tasks, purposes, and audiences.
- Strengthen existing writing skills (sentences, paragraphs, transitions, introductions, and conclusions) by applying them to longer and genre-specific writing assignments.
- Use the steps of the writing process to develop and strengthen writing: plan, draft, share, evaluate, revise, edit, and publish.
- Use conventional language standards when editing.
- Maintain a consistent style and tone appropriate to the genre of writing and audience.
- Use keyboards, tablets, the Internet, and other technologies to produce and publish writing and collaborate and communicate with others.
- Use the Internet to research and cite sources.

B. Writing to Analyze and Understand Text

- Analyze literature in writing: compare and contrast real events, people, places, ideas, and periods from history with historical fiction and plays.
- Discuss and analyze, in writing, how authors utilize history in their works and shape history by dramatizing it.
- Use literary elements as evidence for analyzing literature to strengthen reflection and analysis skills.
- Analyze informational texts in writing:
 - Explain how authors make and support their points or claims with reasons and factual evidence.
 - Explain how specific pieces of evidence support specific claims.
 - Discuss, in writing, whether the reasoning and evidence in an argument are valid and adequate.
- Use details and facts as evidence for analyzing informational texts to strengthen research and analysis skills.

C. Conducting Research

- Conduct short research projects focused on answering a specific research question.
- Gather relevant information from several different print and digital sources and use it to support research.
- Adjust the research question as appropriate throughout the information-gathering process.

- Use the information-gathering process to pose related questions and explore additional topics requiring further research.
- Determine the credibility of information gathered from print and digital sources.
- Accurately quote or paraphrase from sources without plagiarizing.
- Practice honing keywords and key phrases to produce more effective online searches.
- Cite sources and provide a basic bibliography.

D. Narrative Writing

- Produce narrative pieces that reflect real-life or imagined experiences.
- Introduce a narrator, a situation, and characters, and develop them through dialogue, pacing, and exposition, including actions, thoughts, feelings, and reactions to events in the plot.
- Organize a well-structured logical or natural sequence of plot events following from the situation, using time-order and transitional words, phrases, and clauses to indicate and manage the event order.
- Incorporate shifts in time and multiple settings.
- Include concrete and sensory details to make writing vivid and precise; convey a sense of experiences and/or the sensations that accompany experiences.
- Provide a sense of closure that follows logically or artfully from the situation, character responses, and sequence of events.

E. Informative/Explanatory Writing

- Write reports and other types of informational texts that clearly focus ideas and information.
- Introduce a topic with information organized in related sections or paragraphs and developed with facts, definitions, quotations, examples, and details.
- Organize ideas, concepts, and information using text structures such as definition, classification, comparison/contrast, and cause/effect.
- Group related information logically and incorporate formatting features, such as headings, graphics, charts, and other multimedia.
- Include visual elements such as photos, drawings, or diagrams to help explain or present ideas or information when appropriate.
- Use transitions to connect ideas and concepts from distinct categories and to clarify relationships; use transitions to create an overall sense of cohesion.
- Establish and maintain a formal style.
- Use Tier 2 and/or Tier 3 domain-specific vocabulary to explain or elaborate topics.
- Write a conclusion that wraps up ideas in the text.

F. Persuasive Writing/Opinion

- Write persuasive essays with well-defined theses and arguments that use clear reasons, examples, and relevant evidence to support claims.
- Follow through with an organizational structure that supports the purpose of the text, grouping ideas, reasons, and evidence in a logical way.
- Distinguish evidence from opinion.
- Demonstrate a clear understanding of the topic and argument.
- Use linking words, phrases, and clauses to connect opinions with reasons and evidence and create an overall sense of cohesion.
- Demonstrate the use of logical reasoning to support claims throughout the essay.
- Establish and maintain a formal style and reasonable tone.
- Anticipate and answer counterarguments.
- Identify and use accurate, credible sources.
- Write a conclusion that effectively and logically wraps up the argument.

IV. Language Conventions

A. Command of Language

- Use knowledge of language conventions when reading, writing, speaking, and listening.
- Rework sentences by shortening and combining them to
 - express ideas with precision.
 - identify wordiness and correct it.
 - avoid or correct redundancies in word choices and ideas.

B. Spelling

- Apply known spelling strategies when writing.
- Apply known morphology skills (roots, prefixes, suffixes, and spelling changes) to correctly spell words.
- Continue work with spelling, with special attention to commonly misspelled words.

C. Grammar

Teachers: Students should have a working understanding of the following terms and be able to use them to discuss and analyze writing.

- Understand the basic rules of English grammar and conventions when writing or speaking.
- Know types of phrases and clauses and
 - explain their function in general.
 - explain their function in specific sentences.
- Identify sentence types:
 - simple
 - compound
 - complex
 - compound-complex
- Effectively use a variety of different sentence types to communicate relationships between ideas.
- Know how to use different types of clauses effectively within a sentence.
- Identify and correct dangling/misplaced modifiers.

D. Capitalization and Punctuation

- Understand the basic rules of capitalization and punctuation when writing or speaking.
- Correctly use commas when using coordinate adjectives (e.g., *The dry, stale bread was difficult to chew* but not *The crumbling cellar door from the original house had to be replaced*).

E. Vocabulary

- Apply a variety of strategies, such as the following, to figure out the meaning of Grade 7 words and phrases:
 - context clues
 - examples
 - definitions
 - cause-and-effect relationships
 - comparisons
- Use the overall meaning of a sentence as a clue to the meaning of words within a sentence.
- Figure out the meaning of words based on the word's position and function within a sentence, such as part of speech, subject, predicate, object, etc.
- Use a dictionary, thesaurus, or glossary—print or digital—to answer questions about the meanings and usage of unfamiliar words.

- Know how to use a dictionary—print or digital—to pronounce words correctly and determine a word’s part of speech.
- Use a dictionary to find the precise meaning of words and phrases.
- Infer the meaning of words by using context, and then confirm the meaning in a dictionary.
- Make accurate interpretations of similes and metaphors and other types of figurative language, such as personification, based on context.
- Interpret figures of speech based on context, especially literary, mythological, and biblical allusions.
- Discern nuances in word meanings.
- Recognize and use word relationships (synonym/antonym, analogies) to better understand words.
- Distinguish connotations, or shades of meaning, among words with similar denotations (e.g., *picky, fickle, discerning, sophisticated, fastidious, persnickety*).
- Acquire grade-level Tier 2 general academic and Tier 3 domain-specific words and phrases and use them with accuracy.
- Use knowledge of Greek and Latin roots and affixes to figure out the meaning of a new word, such as

Note: More Latin and Greek words and roots are listed in Grades 6 and 8. In the listings here, L = Latin, G = Greek. No single form of the Latin or Greek words is consistently used here, but rather the form that is most similar to related English words.

<u>Latin/Greek Word</u>	<u>Meaning</u>	<u>Examples</u>
<i>ab</i> [L]	away from	abnormal, absent
<i>ad</i> [L]	to, forward	advocate, advance
<i>amo</i> [L]	love	amiable, amorous
<i>audio</i> [L]	hear	audience, inaudible
<i>auto</i> [G]	self	automobile, autocrat
<i>bene</i> [L]	good/well	beneficial, benefit
<i>circum</i> [L]	around	circulate, circumference
<i>celer</i> [L]	swift	accelerate
<i>chronos</i> [G]	time	chronological
<i>cresco</i> [L]	grow	increase, decrease
<i>cum</i> [L]	with	compose, accommodate
<i>curro</i> [L]	run	current, cursive, course
<i>demos</i> [G]	people	democracy, epidemic
<i>erro</i> [L]	wander, stray	error, erratic
<i>ex</i> [L]	from, out of	exclaim, exhaust
<i>extra</i> [L]	outside	extravagant, extraordinary
<i>facio</i> [L]	make	effect, affect
<i>fero</i> [L]	bring, bear	confer, defer
<i>fragilis</i> [L]	breakable	fragile, fragment
<i>finis</i> [L]	end	confine, finality
<i>homo</i> [G]	same	homogenous
<i>hyper</i> [G]	over, beyond	hypertension, hyperactive
<i>hypo</i> [G]	under, beneath	hypodermic, hypothesis
<i>jacio</i> [L]	throw	eject, interject
<i>judex</i> [L]	a judge	judge, prejudice
<i>juro</i> [L]	swear	jury, perjury
<i>makros</i> [G]	long	macrocosm
<i>malus</i> [L]	bad	malady, malice
<i>manus</i> [L]	hand	manufacture, manuscript
<i>morphe</i> [G]	form	metamorphosis, amorphous

<u>Latin/Greek Word</u>	<u>Meaning</u>	<u>Examples</u>
<i>neos</i> [G]	new	neophyte
<i>pan</i> [G]	all	panorama, panacea
<i>pedis</i> [L]	foot	pedal, biped
<i>polis</i> [G]	city	metropolis
<i>pro</i> [L]	before, for	proceed, propose, prodigy
<i>pseudos</i> [G]	a lie	pseudonym
<i>re</i> [L]	back, again	react, reply, revise
<i>scribo</i> [L]	write	scribble, inscribe
<i>sentio</i> [L]	feel (with senses)	sensation, sensual, sentry
<i>sequor</i> [L]	follow	subsequent, sequel
<i>solvo</i> [L]	loosen	solution, dissolve, solvent
<i>specto</i> [L]	look at	inspect, speculate, perspective
<i>strictus</i> [L]	drawn tight	strict, constricted
<i>sub</i> [L]	under	subdue, subject, subtract
<i>super</i> [L]	above	superficial, superlative, supreme
<i>syn</i> [G]	together	synchronize, synthesis
<i>tendo</i> [L]	stretch	tension, intense, detention
<i>teneo</i> [L]	hold, keep	contain, content, maintain
<i>trans</i> [L]	across	transfer, transcontinental
<i>valeo</i> [L]	be strong	prevail, valiant
<i>venio</i> [L]	come	event, advent
<i>voco</i> [L]	call	vocal, voice, vociferous
<i>volvo</i> [L]	revolve	evolve, revolution
<i>zoon, zoe</i> [G]	animal, life	zoology, protozoa

II. Poetry

Teachers: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new, and to have students write their own poems. Students should examine some poems in detail, discussing what the poems mean as well as asking questions about the poet's use of language.

A. Poems

"Annabel Lee" (Edgar Allan Poe)

"Because I could not stop for Death" (Emily Dickinson)

"The Charge of the Light Brigade" (Alfred Lord Tennyson)

"The Chimney Sweeper" (both versions from *The Songs of Innocence* and *The Songs of Experience*; William Blake)

"The Cremation of Sam McGee" (Robert Service)

"David's Old Soul" and "The Sculptor" (Nikki Grimes)

"Dulce et Decorum Est" (Wilfred Owen)

"Fire and Ice," "Nothing Gold Can Stay" (Robert Frost)

"Heritage" (Countee Cullen)

"Hope" (Georgia Douglas Johnson)

"Macavity: The Mystery Cat" (T.S. Eliot)

"My Heart Soars" (Chief George Brown)

"The Negro Speaks of Rivers," "Harlem," "Life is Fine" (Langston Hughes)

"This Is Just to Say," "The Red Wheelbarrow" (William Carlos Williams)

See also History Grade 7: World War I, re Wilfred Owen; and, America in the Twenties, Harlem Renaissance, re Langston Hughes and Countee Cullen.

“Turtle Came to See Me” (Marguerita Engle)

“Xiuhtezcatl Martinex” (George Ella Lyon)

B. Elements of Poetry

- Review: meter, iamb, rhyme scheme, free verse, couplet, onomatopoeia, alliteration
- Stanzas and refrains
- Forms
 - ballad
 - sonnet
 - lyric
 - narrative
 - limerick
 - haiku
- Types of rhyme: end, internal, slant, eye

VI. Fiction, Nonfiction, and Drama

A. Short Stories

“Colorstruck” (Zora Neale Hurston)

“Bad Dog” (Joseph Bruhac)

“Affrilachian Tales: Folktales from the African-American Appalachian Tradition” (retold by Lyn Ford)

“The Gift of the Magi” (O. Henry)

“The Necklace” (Guy de Maupassant)

“The Tell-Tale Heart”; “The Purloined Letter” (Edgar Allan Poe)

B. Novels / Novellas

Hello Universe (Erin Entrada Kelly)

Dr. Jekyll and Mr. Hyde (Robert Louis Stevenson)

The Genius of the Harlem Renaissance

The Time Machine (H.G. Wells)

Code Talker: A Novel About the Navajo Marines of WWII (Joseph Bruhac)

C. Elements of Fiction

- Review aspects of plot and setting
- Theme
- Point of view in narration
 - omniscient narrator
 - unreliable narrator
 - third person limited
 - first person
- Conflict: external and internal
- Suspense and climax

D. Essays and Speeches

“Shooting an Elephant” (George Orwell)

“Declaration of War on Japan” (Franklin D. Roosevelt)

E. Autobiography

Diary of a Young Girl (Anne Frank)

Alternate text to consider: *Anne Frank’s Tales From the Secret Annex* edited by Gerrold Van der Stroom and Susan Massotty

See also History Grade 7: World War II, re Roosevelt’s “Declaration of War” and Anne Frank’s *Diary of a Young Girl*.

F. Drama

- *The Tempest* (William Shakespeare)
- Elements of drama
 - Tragedy and comedy (review)
 - Aspects of conflict, suspense, and characterization
 - Soliloquies and asides

G. Literary Terms

- Irony: verbal, situational, dramatic
- Flashbacks and foreshadowing
- Hyperbole; oxymoron; parody

VII. Foreign Phrases Commonly Used in English

Teachers: Students should learn the meaning of the following Latin phrases that are commonly used in English speech and writing.

ad hoc - concerned with a particular purpose; improvised [literally, "to the thing"]

bona fides - good faith; sincere, involving no deceit or fraud

carpe diem - seize the day, enjoy the present

caveat emptor - let the buyer beware, buy at your own risk

de facto - in reality, actually existing

in extremis - in extreme circumstances, especially at the point of death

in medias res - in the midst of things

in toto - altogether, entirely

modus operandi - a method of procedure

modus vivendi - a way of living, getting along

persona non grata - an unacceptable or unwelcome person

prima facie - at first view, apparently; self-evident

pro bono publico - for the public good

pro forma - for the sake of form, carried out as a matter of formality

quid pro quo - something given or received in exchange for something else

requiescat in pace, R I P - may he or she rest in peace [seen on tombstones]

sic transit gloria mundi - thus passes away the glory of the world

sine qua non - something absolutely indispensable [literally, "without which not"]

sub rosa - secretly



Teachers: In earlier grades, the history guidelines in the Core Knowledge Sequence were organized into separate strands on World History and American History. Because the World and American History strands merged chronologically in sixth grade, here in seventh grade the Sequence presents a unified section on History and Geography. Central themes of the history guidelines in Grades seven and eight are growth and change in American democracy, and interactions with world forces, particularly nationalism and totalitarianism. Fundamental principles and structure of American government will be reviewed in a civics unit in eighth grade.

The study of geography aims at understanding the spatial relationship between nature and human culture and processes that change environments. Following the main outline of the history curriculum, seventh grade students study the geography of Europe, the United States, and Japan, while eighth graders will study the Middle East, South Asia, China, Canada, Mexico, and post-Cold War changes. Students should learn locations as well as the relationships between physical and human systems.

A Survey of American History

I. Early Americans and First Europeans

A. How People came to America

- Various theories regarding early migration
 - Walking over a land bridge (Beringian Land Bridge Theory)
 - Walking across frozen waters and traveling by boat along coastal avenues (Kelp Highway Theory).
- Different peoples, with different languages and ways of life, eventually spread out over the North and South American continents.

B. Indigenous Societies in Central and South America

- The Inca (Peru)
 - Skilled warriors, masons, weavers, artists
 - Accomplishments: built great cities (Machu Picchu, Cuzco), roads, irrigation systems
 - Emperor Atahualpa
- The Mayas (southern Mexico and northern Guatemala)
 - Accomplishments as architects and artisans: pyramids and temples; Invented a written language, a 365-day calendar, and (an early society) to conceive of use the number zero
 - Potential causes behind the Mayan empire decline (extended drought, warfare, overpopulation)
- The Aztecs (Mexico; capital city, Tenochtitlán)
 - A warrior culture
 - Accomplishments: aqueducts, massive temples
 - Emperor Moctezuma (also spelled Montezuma)
 - Practice of human sacrifice
 - Aztec gods: Huitzilopochtli and Quetzalcoatl
- Spanish Conquistadors
 - Pizarro and Cortés
 - European weaponry (guns, cannons)
 - Disease (smallpox) devastates indigenous population due to lack of immunity.

C. Indigenous Societies in North America

- The American Southwest
 - Geographic features: mesas, canyons, plateaus
 - Ancestral Pueblo, cliff dwellers
 - “Four Corners”
 - Potential causes of decline (thin soil, extended drought)
 - Descendants: Pima, Zuni
 - Navajo, Diné “the people”
 - Farmers, shepherds, silversmiths
- The American Northwest
 - Haida
 - Totem poles
 - Inuit, “the people”
 - Igloos, ice fishing (freezing fish)
- The American Northeast
 - Eastern Woodlands, Lake Superior to the Atlantic Coast
 - “The three sisters,” corn, beans, and squash
 - Wigwams, longhouses
 - Mahican
 - Iroquois (Haudenosaunee) Confederacy, system of government
 - Five Nations: Mohawk, the Onondaga, the Seneca, the Oneida, and the Cayuga
- The American Southeast
 - Mound Builders (Midwest and Southeast)
 - Farmers; built cities, roads, and marketplaces
 - Potential cause of decline (foreign disease)
 - Descendants: Creek, Cherokee, Choctaw, and Seminoles
 - Creek Confederacy
 - Cherokee
 - Sequoyah, created written language of Cherokee; legends
 - Shared Cultural Traits
- Oral traditions, polytheism, shamans
- Living as part of one’s environment

II. European Exploration and Colonization of the Americas

A. The Vikings

- Norsemen from Scandinavia (Sweden, Denmark, Norway), earliest known Europeans to arrive in North America
- Bjarni Herjolfsson, first European to “see” North America (northeastern Canada)
- Eric the Red, first European believed to find Greenland; son, Leif Ericson (Leif “the Lucky”) found discovered “Vinland” (believed to be Nova Scotia)

B. Quest For Spices

- Spices used to flavor and preserve food; long travel routes to acquire Asian spices
- Arab traders and the Spice Islands; Venetian merchants
- Marco Polo and the Mongols
 - Diplomatic missions in service to Kublai Khan
 - *The Travels of Marco Polo*
- Turkish Trade Route Barrier
- Search for a New Route: Prince Henry, Bartolomeu Dias, Vasco da Gama; Trading posts along the Swahili Coast

C. Early Spanish Exploration and Settlement

- Columbus' proposed all-water route to Asia; Landfall in Hispaniola on October 12, 1492
- Impact of Exploration and Settlement
- Spanish Conquistadors: Vasco Núñez de Balboa, Juan Ponce de León, Hernando de Soto, Pedro Menéndez de Avilés, Francisco Vázquez de Coronado, and Juan de Oñate
- Gold seekers, founding of St. Augustine, Spanish missions, "Seven Cities of Cibola" (of Gold), de Oñate's slaughter and enslavement of indigenous people, Pope's Revolt
- Bartolomé de las Casas and the *encomienda* system

D. Search for the Northwest Passage

- Search for a river passage through the American continent to Asia
- French
 - Explorers: Giovanni da Verrazzano, Jacques Cartier, Samuel de Champlain
 - Fishing, fur trapping, and trading in Canada
 - Relationship with indigenous people and settlement of New France
- Dutch
 - Henry Hudson, the Hudson River
- English
 - John Cabot, Newfoundland

III. European (English) Colonization of North America (1500–1750)

A. Beginnings of English Colonization in North America

- Francis Drake and defeat of the Spanish armada
- Joint-stock companies provide grants to wealthy people and businesses to build colonies
- 1585: Sir Walter Raleigh established first colony in North America (Roanoke Island); Later remembered as the "Lost Colony"; "Croatoan" carving

B. Southern Colonies

- Founded as economic centers
- Virginia
 - 1607: The London Company (later called the Virginia Company) established the colony of Jamestown.
 - Virginia climate; conflicts with Powhatan Confederacy; Chief Powhatan (Wahunsenacawh); Starving Time
 - Captain John Smith; as leader imposed mandatory work to support self-sufficiency and maintain peace with Powhatans
 - Pocahontas; daughter of Chief Powhatan; friendship with John Smith; marriage to John Rolfe
 - Discovery of (cash crop) tobacco, development of plantations
- Maryland
 - Named in honor of English Queen, Henrietta Maria
 - Granted to Sir George Calvert, Lord Baltimore (proprietary colony)
 - Haven for Roman Catholics
- Carolinas
 - Colonists planted rice and sugarcane
- Georgia
 - Established as a colony for prisoners and debtors
 - General James Oglethorpe

- Enslavement of people in the Americas
 - 1415: European involvement in the African slave trade
 - Prince Henry of Portugal
 - The Middle Passage
 - Elmina Castle (Ghana)
 - Plantations, labor-intensive work
 - Enslaved indigenous people used to provide labor but many die (lack of resistance to foreign disease and war); Portuguese and Spanish import enslaved people to provide the labor
 - English first use enslaved people to provide labor in colonized islands in the Caribbean.
 - Dutch take over the spice trade and much of the Atlantic slave trade.
 - 1619: First enslaved Africans brought to Virginia

C. New England Colonies

- Founded as religious sanctuaries
- Massachusetts
 - Pilgrims
 - Mayflower Compact, common house, Wampanoag people
 - Samoset, Squanto, Massasoit, John Carver, William Bradford
 - Puritans
 - *A Modell of Christian Charity*, *The New England Primer*
- Rhode Island
 - Anne Hutchinson
 - Roger Williams, Narragansett people
- New Hampshire, Connecticut, Maine
 - Thomas Hooker, Fundamental Orders

D. Middle Colonies

- Founded for both economical profit and as a religious sanctuary
- Most populous cities, most diverse population, and highest number of free Black Americans of the colonies
- New York
 - Dutch territories
 - 1664: War between England and the Netherlands, Duke of York
 - Establishment of New York City
- Pennsylvania
 - William Penn
 - Quakers
 - Philadelphia, second-largest city in the British Empire

IV. The Revolutionary War (1750–1783)

A. Background: The French and Indian War

- Also known as the Seven Years' War, part of an ongoing struggle between Britain and France for control of colonies in various regions around the world (in this case, in North America)
- Alliances with Native Americans
- The Battle of Quebec, James Wolfe
- Colonel George Washington
- Pontiac's War

B. Causes and Provocations

- British taxes to pay for war debts: Stamp Act; “The rights of Englishmen;” “No taxation without representation,”
 - Quartering Act
 - Townshend Acts
- Sam Adams, Sons of Liberty
- Boston Massacre, Crispus Attucks, Paul Revere’s cooper engraving
- Tea Act, Boston Tea Party
- The Intolerable Acts close the port of Boston and require Americans to provide quarters for British troops
- First Continental Congress protests to King George III
- Patrick Henry, “Give me liberty or give me death”

C. The Revolution

- William Dawes, Paul Revere’s ride, “One if by land, two if by sea”
- Lexington and Concord
 - Ralph Waldo Emerson, The “shot heard ‘round the world”
 - Redcoats and Minutemen
- Second Continental Congress: George Washington appointed commander in chief of Continental Army
- Bunker Hill (Breed’s Hill)
- Declaration of Independence
 - Primarily written by Thomas Jefferson
 - Adopted July 4, 1776
 - Use of the term, “Natural Rights”
- British army compared to Continental army (funding, resources)
- Women in the Revolution: Deborah Sampson, Molly Pitcher
- Black Americans in the Revolution:
 - Majority of Black Americans supported the British side; Approximately five thousand fought on the colonists’ side.
 - Salem Poor, Peter Salem
- Nathan Hale: “I only regret that I have but one life to lose for my country.”
- Battles of Trenton and Saratoga, French alliance
- Valley Forge, Frederick von Steuben
- John Paul Jones: “I have not yet begun to fight.”
- Benedict Arnold
- Loyalists (Tories)
- Cornwallis: Surrender at Yorktown

V. Creating a Constitution for the United States (1783–Present)

A. Main Ideas Behind the Declaration of Independence

- The Age of Enlightenment: John Locke: Jean Jacques Rousseau
- “Natural Rights” and “the consent of the governed”
- The responsibility of government to protect the “unalienable rights” of the people
- Concept of a “limited government”

B. Making a New Government: From the Declaration to the Constitution

- Second Continental Congress
- Northwest Ordinance

- Articles of Confederation: weak central government
- James Madison and Alexander Hamilton
- Definition of “republican” government
- 1787: The Constitutional Convention
 - The Virginia Plan vs. the New Jersey Plan
 - Separation of powers (legislative, executive, judicial)
 - Houses of government and number of representatives
 - Roger Sherman, bicameral system
 - Three-Fifths Compromise
 - September 17, 1787: signing of the new constitution
- Federalists vs Ant-Federalists
- *The Federalist Papers*
- Bill of Rights

VI. The New Republic and the War of 1812 (1789–1820s)

A. Early Presidents and Politics

- Electoral college
- George Washington, first president, first inaugural ceremony, setting precedents
- Early judicial system
- District of Columbia established as national capitol
 - Pierre L’Enfant and Benjamin Banneker
 - Correspondence between Jefferson and Benjamin Banneker
- John Adams, second president, Abigail Adams, the President’s House (the White House)
- Thomas Jefferson, third president, Louisiana Purchase, Embargo Act of 1807
- James Madison, fourth president, “Father of the Constitution”
- James Monroe, fifth president, purchase of Florida, the Monroe Doctrine
- John Quincy Adams, sixth president
- Andrew Jackson, seventh president
 - Presidency of “the common man”
 - Native American removal policies (Indian Removal Act)

B. The War of 1812

- President James Madison and Dolley Madison
- British impressment of American sailors
- British burn the White House
- Fort McHenry, Francis Scott Key, and “The Star-Spangled Banner”
- Battle of New Orleans, Andrew Jackson

VII. Westward Expansion Before the Civil War (1820s–1860)

A. Exploration of the Western Frontier

- Frederick Jackson Turner, *The Significance of the Frontier in American History*
- The Wilderness Road, the Cumberland Gap, Daniel Boone
- Exploring the Louisiana Purchase, the “Corps of Discovery”
 - Meriwether Lewis, William Clark, Sacagawea
 - Continental Divide
- Zebulon Pike

B. Pioneers Move West

- Improvements in transportation (stagecoach, steamboats, flatboats, railroads)
- Oregon, trade and settlement
- Brigham Young and Mormon settlement (present-day Utah)
- California gold rush, “forty-niners”

C. Native American Resistance

- More and more settlers move onto Native American lands, treaties made and broken
- Attacks on Wilderness Road and raiding settlements; U.S. troops retaliate
- Battle of Wabash, Battle of Fallen Timbers
- Chief Tecumseh: attempted to unite tribes in defending their land
- Battle of Tippecanoe
- Chief Oseloa
- Trail of Tears (*Nuna-da-ut-sun’y*)
- Manifest Destiny

D. Conflict with Mexico

- 1821: Mexico wins independence
- Stephen Austin, settlements in Texas
- General Antonio Lopez de Santa Anna Battle of the Alamo (“Remember the Alamo”)
- Sam Houston
- Republic of Texas, state of Texas in 1845
- Mexican-American War
 - General Zachary Taylor
 - Some Americans strongly oppose the war, Henry David Thoreau’s “Civil Disobedience”
 - Mexican lands ceded to the United States (California, Nevada, Utah, parts of Colorado, New Mexico, Arizona)

VII. The Civil War and Reconstruction (1820–1877)

A. Toward the Civil War

- Invention of the cotton gin
- Life of enslaved people, Turner’s Rebellion
- The Missouri Compromise, controversy over whether to allow the enslavement of people in territories and new states
- Abolitionists: William Lloyd Garrison and *The Liberator*, Frederick Douglass, Sojourner Truth
- Harriet Tubman, Underground Railroad, Mason-Dixon Line
- Compromise of 1850, Kansas-Nebraska Act
- Dred Scott decision
- John Brown, Harper’s Ferry
- Lincoln: “A house divided against itself cannot stand.”
- Lincoln-Douglas debates
- Lincoln elected president, Southern states secede.

B. The Civil War

- Confederate States of America (Confederacy), Jefferson Davis
- April 12, 1861: firing on Fort Sumter
- North (Billy Yank) vs. South (Johnny Reb)

- North population twice as large, better equipment, more supplies, and greater access to railroad track
- Most battles fought in Southern territory
- Women’s role in the war
- First Battle at Bull Run (Manassas)
- Robert E. Lee and Ulysses S. Grant
- General Stonewall Jackson
- Ironclad ships, battle of the USS Monitor and the CSS Virginia (formerly the USS Merrimack)
- Battles in the western front
- Battle at Antietam Creek (Sharpsburg)
- The Emancipation Proclamation
- Black American troops, Massachusetts 55th Regiment and Massachusetts 54th Regiment led by Colonel Shaw
- Battle of Gettysburg and the Gettysburg Address
- William Tecumseh Sherman’s march to the sea
- Lincoln re-elected, concluding words of the Second Inaugural Address (“With malice toward none, with charity for all. . . .”)
- Richmond (Confederate capital) falls to Union forces
- Surrender at Appomattox Court House
- Assassination of Lincoln by John Wilkes Booth

C. Reconstruction

- The South in ruins
- Thirteenth Amendment
- Freedmen’s Bureau and sharecropping
- Andrew Johnson, Presidential Reconstruction, impeachment
- Black codes
- Congressional Reconstruction, Fourteenth and Fifteenth Amendments
 - Blanche K. Bruce, first Black American to be elected to a full term (Mississippi Senate)
- Ku Klux Klan
- Incarceration of Black men
 - New laws established against vagrancy, homelessness, unemployment, etc.,
 - Incarcerated Black men put to work to rebuild the South (e.g., infrastructure).
- End of Reconstruction, Compromise of 1877, all federal troops removed from the South.

IX. Westward Expansion After the Civil War (1860s–1877)

A. Increased Movement West

- Favorable government policies encourage Americans to move west of the Mississippi River and west of the Rocky Mountains.
- Westward migration expands due to mining and ranching.
 - Comstock Lode
 - Cattle ranchers, the “long drive,” cowboys
- Railroads, Transcontinental Railroad links east and west, Union Pacific Railroad Company and Central Pacific.
 - Labor: Chinese and Irish immigrants, Mexican Americans, Black Americans, Native Americans, and army veterans
- Homestead Act (1862), many thousands of Americans and immigrants start farms in the West.

- Myth of the “wild west:” Billy the Kid and Jesse James
- Wild West show: William F. “Buffalo Bill” Cody and Annie Oakley
- U. S. purchases Alaska from Russia.
- The devastating impact of this era on Native Americans.

B. Impact on Indigenous People

- Broken Treaties and forced removal to reservations
- 1824: Bureau of Indian Affairs, assimilation practices, Carlisle School
- Plight of the bison
- Sand Creek Massacre
- Apache battles and Geronimo
- Little Big Horn: Chief Crazy Horse, Chief Sitting Bull, Custer’s Last Stand
- Lost homelands, barren reservations
- Wovoka, the Ghost Dance
- Battle of Wounded Knee

X. Immigration, Industrialization, and Urbanization (1865–1914)

A. Immigration

- “Land of opportunity,” Emma Lazarus and “Mother of Exiles”
- The metaphor of America as a “melting pot” or “mosaic”
- European Immigration and anti-immigrant movement

B. Industrialization and Urbanization

- The post-Civil War industrial boom
 - American industry, producer of a third of the world’s manufactured goods
 - Mark Twain and *Gilded Age: A Tale of Today*
 - Urban corruption
- The condition of labor
 - Deplorable factory conditions
 - Keating-Owen Child Labor Act, Oliver Wendell Holmes, Fair Labor Standards Act
 - Unions and Strikes
- Industrialists and capitalists
 - Entrepreneurs, “Captains of industry,” and “robber barons”
 - “Free enterprise” vs. government regulation
- Populism

XI. Social Movements and Reforms (1865–1920)

- The Progressive Era
 - Technological and scientific process
 - Muckrakers
 - Settlement houses: Hull House; Greenwich House
 - Conservation and trust-busting
 - John W. Burgess, *What is Real Political Progress?*, absolutism
 - *Laissez-faire*
- Reform for Black Americans
- Women’s suffrage movement and the Nineteenth Amendment
- The Socialist critique of America
 - “the capitalist system”
 - Dorothea Dix and the treatment of the insane
 - Horace Mann and public schools

XII. World War I (1914–1919)

A. America Becomes a World Power

- Imperialists and Anti-Imperialists
 - Anti-Imperialist League: Jane Addams, Mark Twain, and Andrew Carnegie
 - Imperialists: Captain Mahan, Teddy Roosevelt, William McKinley, and James G. Blaine
- The Spanish-American War
 - Explosion onboard the *U.S.S. Maine* anchored in Cuba's Havana harbor
 - Yellow Press: running sensational, exaggerated, or fabricated news stories; Joseph Pulitzer's *New York World* newspaper and William Randolph Hearst's *New York Journal* newspaper
 - José Martí
 - Teddy Roosevelt and the Rough Riders
 - Spain gives the U.S. Guam, Puerto Rico, and the Philippines
- Philippines War
 - War for Filipino independence
 - Deadly: 4,200 Americans and perhaps as many as 200,000 Filipinos killed
 - 1946: Philippines gained independence from U.S.
- Building the Panama Canal: "Roosevelt Corollary" to the Monroe Doctrine, "Speak softly and carry a big stick."

B. World War I: "The Great War," 1914–1918

- Entangling defense treaties: Allies vs. Central Powers, Archduke Ferdinand assassinated
- The Western Front and Eastern Front
- War of attrition and the scale of losses: Battle of the Marne (1914), new war technologies (for example, machine guns, tanks, airplanes, submarines), trench warfare
- U.S. neutrality ends: sinking of the *Lusitania*; Germany reinstates unrestricted submarine warfare; Zimmermann's telegram; "Make the world safe for democracy"
- America in World War I: Two million U.S. soldiers; segregated Black American units; death toll
- Armistice Day, Nov. 11, 1918, abdication of Kaiser Wilhelm II
- Treaty of Versailles New central European states and national boundaries German reparations and disarmament
- Woodrow Wilson's 14 Points, League of Nations, concept of collective security

C. First World War in Russia and Revolution

- Largely agrarian society made up of poor, struggling peasants ruled by Tsar Nicholas II
- Tensions in the Russian identity: Westernizers vs. traditionalists
- Revolution of 1905, "Bloody Sunday," Russo-Japanese War
- The last czar: Nicholas II and Alexandra
- Economic strains of World War I
- Revolutions of 1917: March Revolution ousts Czar; October Revolution: Bolsheviks, Lenin and revolutionary Marxism
- Civil War: Bolsheviks defeat Czarist counterrevolution, Bolsheviks become the Communist Party, creation of the Soviet Union

XIII. The Twenties and the Great Depression (1919–1939)

A. The Twenties

- Isolationism: restrictions on immigration, Red Scare, Sacco and Vanzetti, Ku Klux Klan
- The "Roaring Twenties": flappers, prohibition and gangsterism, St. Valentine's Day Massacre, Al Capone

- The Lost Generation: Ernest Hemingway, F. Scott Fitzgerald
- Scopes “Monkey Trial”
- Women’s right to vote: 19th Amendment
- Harlem Renaissance
 - Black Americans exodus from segregated South to northern cities
 - Zora Neal Hurston, Countee Cullen, Langston Hughes
 - “The Jazz Age”: Duke Ellington, Louis Armstrong Marcus Garvey
 - Marcus Garvey, Pan-Africanist and Black nationalist movement
- Technological advances: Henry Ford’s assembly line production, Model T
- Residential electrification: mass ownership of radio, Will Rogers
- Movies: from silent to sound, Charlie Chaplin
- Pioneers of flight: Charles Lindbergh, Amelia Earhart
- Decline of rural population

B. The Great Depression

- Wall Street stock market Crash of ’29, “Black Tuesday”
- Hoover insists on European payment of war debts, Hawley-Smoot Tariff Act
- Mass unemployment
- Agricultural prices collapse following European peace
- Factory mechanization eliminates jobs
- Bonus Army
- “Hooverilles”

C. The New Deal

- Franklin Delano Roosevelt: “The only thing we have to fear is fear itself”
- New social welfare programs: Social Security
- New regulatory agencies: Securities and Exchange Commission, National Labor Relations Board
- Federal-government-owned corporation: Tennessee Valley Authority
- Eleanor Roosevelt
- Roosevelt’s use of executive power: “Imperial Presidency”, “court packing”
- The Dust Bowl: “Okie” migration, John Steinbeck’s *The Grapes of Wrath*
- Unions: John L. Lewis and the CIO (Congress of Industrial Organizations), A. Philip Randolph, Memorial Day Massacre
- Protests: Huey Long, American Communist Party, Sinclair,
- British economist John Maynard Keynes

XIV. World War II (1935–1945)

A. Origins of the Second World War

- Rising totalitarianism in Europe
- Italy: Mussolini establishes fascism
- Germany: Weimar Republic, economic repercussions of WWI; Adolf Hitler and the rise of Nazi totalitarianism: cult of the *Führer* (“leader”), *Mein Kampf*; Nazism and the ideology of fascism, in contrast to communism and democracy; Racial doctrines of the Nazis: anti-Semitism, the concept of *Lebensraum* (literally, “living space”) for the “master race,” *Kristallnacht*; The Third Reich before the War: Gestapo, mass propaganda, book burning
- The Soviet Union: Communist totalitarianism: Josef Stalin, “Socialism in one country;” Collectivization of agriculture; The Great Purge
- Spanish Civil War: Franco

B. Onset of World War II in Europe

- Hitler defies Versailles Treaty: reoccupation of Rhineland, Anschluss, annexation of Austria
- Appeasement: Munich Agreement, “peace in our time”
- Soviet-Nazi Nonaggression Pact
- Blitzkrieg: invasion of Poland, fall of France, Dunkirk
- Battle of Britain: Winston Churchill, “nothing to offer but blood, toil, tears, and sweat”

C. The United States in the Early Years of the War

- Isolationism: Neutrality Acts, America First movement
- American Lend-Lease supplies
- Hitler invades Soviet Union: battles of Leningrad and Stalingrad
- The Holocaust: Millions killed, including six millions Jews; “final solution;” concentration camps
- Four Freedoms Speech, Atlantic Charter, U.N.’s Universal Declaration of Human Right (1948)

D. The United States Enters the War

- Roosevelt applies economic pressure on Japan to leave China: Embargo on sale of industrial machinery, aviation fuel, and scrap iron to Japan; Freezing Japanese assets invested in the U.S.
- Pearl Harbor (December 7, 1941)
 - Japanese attack on U.S. naval base, Pearl Harbor
 - Roosevelt, “a date which will live in infamy,”
- U.S. mobilization for war: War Production Board; Roosevelt pledge that the U.S. would become “the arsenal of democracy;”
 - Rationing on the home front: ration cards/stamps, “victory gardens,” collecting metal, rubber, clothing, and paper
 - Financing the war effort: war bonds, increased income taxes, federal deficit spending
 - Desegregation of defense industries, “Rosie the Riveter,” Double V campaign, executive order 8802
- Internment of Japanese Americans: 112,000 Japanese Americans (79,000 American citizens) placed in internment camps in the American West
- Segregated Military: More than a million Black Americans and half-a-million Mexican Americans served in U.S. military during WWII; Tuskegee Airmen
- War in Europe
 - D-Day: Allied invasion of Normandy, General Dwight Eisenhower
 - Battle of the Bulge
 - Surrender of Germany, Soviet Army takes Berlin
- War in the Pacific
 - Bataan Death March, kamikaze attacks
 - Battle of Midway
 - Island amphibious landings: Guadalcanal, Iwo Jima
 - Manhattan Project: nuclear bomb
 - Surrender of Japan: Atom bombs dropped on Hiroshima and Nagasaki, the Enola Gay, U.S. dictates pacifist constitution for Japan, Emperor Hirohito

E. Immediate Aftermath

- Yalta and Potsdam Conference, Nuremberg war crimes trials
- Creation of United Nations: Security Council, Universal Declaration of Human Rights
- United States emerges as an economic powerhouse and a military superpower

XV. Postwar America and the Cold War, Vietnam, and the Age of Civil Rights (1945–1975)

A. Origins of the Cold War

- United States, “First World,” Soviet Union “Second World”
- Truman Doctrine, policy of containment of communism Formation of NATO, Warsaw Pact
- The “Iron Curtain” (Churchill)
- Post-WWII devastation in Europe, Marshall Plan, Bretton Woods Conference
- Berlin Airlift
- Soviet satellite states and repression
 - Eastern European resistance, Hungarian Revolution, Prague Spring
 - Berlin Wall
- Western fear of communist expansion, Soviet fear of capitalist influences

B. The Korean War

- 1945: Division of North and South Korea
- Chinese entry, removal of MacArthur
- Partition of Korea, truce line near the 38th Parallel

C. America in the Cold War

- McCarthyism, House Un-American Activities Committee, “witch hunts” Hollywood Blacklist Spy cases: Alger Hiss, Julius and Ethel Rosenberg
- The Eisenhower Years
 - Secret operations, CIA, FBI’s anticommunist counterintelligence program, COINTELPRO, J. Edgar Hoover
 - U-2 incident, Soviet Sputnik satellite, “Missile Gap”, Yuri Gagarin
- The Kennedy Years
 - “Ask not what your country can do for you . . .”
 - Attack on organized crime, Robert F. Kennedy
 - Cuban Missile Crisis, Fidel Castro, Bay of Pigs invasion
 - Nuclear deterrence, “mutual assured destruction,” Nuclear Test Ban Treaty
 - Kennedy assassination in 1963, Lee Harvey Oswald, Warren Commission
- Space exploration, U.S. moon landing, Neil Armstrong
- American culture in the ‘50s and ‘60s, Levittown and the rise of the suburban lifestyle, automobile-centered city planning Influence of television Baby Boom generation, rock and roll, Woodstock festival, 26th Amendment

D. The Vietnam War

- French Indochina War: Dien Bien Phu, Ho Chi Minh, Viet Cong
- Domino Theory
- U.S. takes charge of the war, Special Forces, Tonkin Gulf Resolution
- Tet Offensive, My Lai Massacre, “Agent Orange”
- Antiwar protests, Kent State, The Pentagon Papers
- American disengagement, Nixon’s “Vietnamization” policy, Kissinger, War Powers Act
- Watergate scandal, resignation of Nixon

E. The Civil Rights Movement During the Cold War

- Segregation: Plessy v. Ferguson, doctrine of “separate but equal” “Jim Crow” laws
- Post-war steps toward desegregation
 - Jackie Robinson breaks color barrier in baseball.
 - Truman desegregates Armed Forces.
 - Adam Clayton Powell, Harlem congressman

- Integration of public schools: Brown v. Board of Education (1954), Thurgood Marshall
- “Little Rock Nine;”
- Murder of Emmett Till; Rosa Parks and the Montgomery Bus Boycott, Rosa Parks
- Southern “massive resistance”: Federal troops open schools in Little Rock; Arkansas Murder of Medgar Evers; Alabama Governor George Wallace “stands in schoolhouse door”
- Nonviolent challenges to segregation:
 - Woolworth lunch counter sit-ins, “passive-resistance”
 - CORE, Freedom riders, John Lewis
 - Black voter registration drives
 - Martin Luther King, Jr.
 - Southern Christian Leadership Conference
 - March on Washington, “I have a dream” speech
 - “Letter from Birmingham Jail”
 - Selma to Montgomery March
- President Johnson and the civil rights movement
 - The “Great Society,” “War on Poverty,” Medicare
 - Civil Rights Act of 1964, Voting Rights Act of 1965, affirmative action
- Black American militancy
 - Malcolm X
 - Black Power, Black Panthers
 - Watts and Newark riots
- Assassinations of Martin Luther King, Jr., and Robert F. Kennedy

XVI. The United States at Home and on the World Stage (1975–2000)

A. Social and Technological Change

- New technologies: Personal computers, cable television, video games, Internet, email
- Medical advancements: MRI and CAT scan machines, mapping of the human genome
- Shifts in pop culture: Advent of rap and hip hop, television that reflected divisions and social tensions in American society, introduction to the 24-hour news cycle (CNN)

B. The Rise of Social and Environmental Activism

- American Indian Movement (AIM), Indian Self-Determination and Education Assistance Act, Russell Means and Dennis Banks
- Cesar Chavez and the United Farm Workers
- Stonewall Riots
- Feminist movement: “women’s liberation,” Betty Friedan, National Organization for Women, Roe v. Wade, Failure of the Equal Rights Amendment, Title IX
- Civil Rights for Black Americans: Fair Housing Act, busing school children to achieve racial integration in public schools, Affirmative Action
- Emergence of environmentalism: Rachel Carson, *Silent Spring*; Environmental Protection Agency; Earth Day; Clean Air and Water Acts; Disasters such as Love Canal, Three Mile Island, Chernobyl, Exxon Valdez; Climate change.

C. Presidents and Politics

- Gerald Ford, 38th President
 - “Whip Inflation Now” (WIN), stagflation
 - Energy Policy Conservation Act
- Jimmy Carter, 39th President
 - Camp David Accords

- Withdrawal from the Strategic Arms Limitation Treaty (SALT II), embargo of American grain shipments to the U.S.S.R
- Tehran hostage crisis
- Ronald Regan, 40th President
 - The “New Right,” Reaganomics, national debt
 - Court appointments
 - The “Great Communicator”
 - HIV/AIDS epidemic
 - Relations between the U.S. and Soviet Union, nuclear arms reduction treaty
 - Iran-Contra Affair
- George H. W. Bush, 41st President
 - End of the Cold War, Fall of the Berlin Wall
 - Tiananmen Square, end to apartheid and release of Nelson Mandela, Los Angeles riots
 - The Gulf War: Iraqi invasion of Kuwait, Saddam Hussain, “Operation Desert Storm,”
- Bill Clinton, 42nd President
 - NAFTA (the North American Free Trade Agreement)
 - Newt Gingrich, “Contract with America”
 - Interventions in Somalia and the Balkans: “Black Hawk Down,” the Dayton Accords
 - Terrorism: 1993 truck bombing at the World Trade Center; U.S. embassy bombings in Kenya and Tanzania; bombing outside the Alfred P. Murrah Federal Building in Oklahoma City
 - Impeachment

XVII. The Challenges Ahead and Powerful Voices (2001–Present)

A. American Society in the Early Twenty-First Century

- Smart phones and social media
 - 2007: Introduction of the iPhone and “smartphone revolution”
 - Social media giants: Facebook (2004), Twitter (2006), Instagram (2010), TikTok (2016)
- Changes and Challenges
 - Technological change, globalization, and the decline of unions contribute to U.S.’s growing economic divide; “Hollowing out of the middle class”
 - Trade tensions between the U.S. and China
 - Climate Change
 - Social and racial inequities and the fight for equal rights
- Native Americans in the twenty-first century
 - Native American pride and heritage celebrations
 - Way of life: successes and continued struggles
 - President Obama describes poverty and high school dropout rate among Native Americans as “a moral call to action.”

B. Presidents and Politics

- Party Politics
 - The Republican Party: strength among conservative voters in rural areas across much of the South and Midwest
 - The Democratic Party: strength among moderate and liberal voters in urban areas in Northeast, Mid-Atlantic, and West Coast states
 - Gerrymandering
- George W. Bush, 43rd President
 - Election of 2000
 - Court appointees

- Tax cuts, national debt
- No Child Left Behind
- September 11, 2001 terrorist attack, Osama bin Laden and Al-Qaeda, “war against terrorism”
- Iraq War, Weapons of Mass Destruction, Hussein overthrown
- USA Patriot Act, Department of Homeland Security
- Hurricane Katrina
- The “Great Recession”
- Barack Obama, 44th President
 - First Black American president in U.S. history
 - Court appointees
 - The “Great Recession,” Dodd-Frank Wall Street Reform and Consumer Protection Act
 - Affordable Care Act (“Obamacare”)
 - Use of drones; counterattacks against ISIL
 - Iran Nuclear Deal
 - U.S. relations with Cuba
 - Paris Climate Agreement, Climate Action Plan
- Donald Trump, 45th President
 - Tax cuts, increased military spending, protectionist on trade
 - Court appointees
 - Pulled the U.S. out of the Paris Climate Agreement and Iran Nuclear deal
 - Impeachment
- Joe Biden, 46th President
 - Oldest president in U.S. history
 - Kamala Harris, first female, first Black American, and first Asian American to serve as Vice President in U.S. history

DRAFT



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

In studying the works of art specified below, and in creating their own art, students should review, develop, and apply concepts introduced in previous grades, such as line, shape, form, space, texture, color, light, design, and symmetry

I. Art History: Periods and Schools

Teachers: The guidelines here continue the organizational scheme established in sixth grade, which combined art history with analysis of specific illustrative works. Timelines may help students situate the artists, periods, and schools. Note that the periods and characteristics are not absolute distinctions but generally helpful categories (to which there are always exceptions) often used in discussions of art.

A. Fauvism/Expressionism (1900–1935)

- Examine representative artists and works, including
 - Henri Matisse: *Madame Matisse, The Red Room*
 - Edvard Munch, *The Scream*
 - Suzanne Valadon, *Marie Coca et sa fille Gilberte* (1913)
 - Emily Carr, *Indian Church* (1929)

B. Cubism (1907–1914)

- Examine representative artists and works, including
 - Picasso:
 - *Les Femmes d'Alger (O.J.)*
 - Post-cubist works such as *Girl Before a Mirror, Guernica*
 - Georges Braque, *Woman with a Guitar*
 - Marcel Duchamp, *Nude Descending a Staircase*

C. Surrealism (1917–1950)

- Examine representative artists and works, including
 - Salvador Dali and surrealism: *The Persistence of Memory*
 - Rene Magritte, *The Treachery of Images* (1928)
 - Max Ernst
 - Example of grattage, such as *Forest and Dove* (1927)
 - Example of frottage, such as *The Entire City* (1934)
 - Example of collage, such as his *Week of Kindness* series (1934)
 - Leonora Carrington, *Self Portrait* (1937)
 - Frida Kahlo, *The Wounded Deer* (1946)
 - Remedios Varo, *Creation of the Birds* (1957)

D. Abstract Expressionism (1940s–50)

- Examine representative artists and works, including
 - Lee Krasner, any from her “Little Image” series (1940s)
 - Jackson Pollock and Abstract Expressionism: *Painting* (1948)
 - Beauford Delaney, *Composition 16* (1954)
 - Mark Rothko, *Orange and Yellow* (1956)
 - Elaine de Kooning, *John F. Kennedy*, (1963)

E. Other Developers of Abstraction

- Examine representative artists and works, including
 - Vassily Kandinsky (father of abstraction), *Improvisation 31 (Sea Battle)* (1913)
 - Piet Mondrian, *Broadway Boogie Woogie* (his own style)
 - Paul Klee, *Senecio* (also known as *Head of a Man*) (influenced by Cubism, surrealism, and expressionism)
 - Georgia O’Keeffe, *Red Poppies*
 - Loïs Mailou Jones, *Les Fétiches* (1938)
 - Rufino Tamayo, *Heavenly Bodies* (1946)
 - The Gutai Group, *Work* (1958)
 - Alma Thomas, *White Roses Sing and Sing* (1976)

Also known as Art Nouveau architecture.

Prompt students to think about how there is a greater degree of fluidity and movement in the forms which relate to nature in these examples of Organic Architecture.

Ask students to think about how Frank Lloyd Wright “broke out of the box” and opened up the walls of rooms to create “space; and, in doing this, he was inspired by Japanese architecture, like the Katsura Palace (see Grade 2).

II. Organic Architecture

- Examine examples of Organic Architecture, including
 - Victor Horta, Tassel House (1893–95)
 - Louis Sullivan, Guaranty Building, Buffalo, (1894–1895)
 - Frank Lloyd Wright, Darwin Martin House (1903–1905)
 - Antoni Gaudi, Casa Batlló, Barcelona (1906)

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I. Elements of Music

Teachers: The music guidelines for Grades 6-8 share a basic vocabulary of the elements of music that can inform the discussion, appreciation, and study of selected musical works. Following these guidelines are recommendations in each grade for a core of musical content, broadly organized as a history of music from early to modern times, with attention to specific periods, composers, and genres. While these guidelines focus on musical vocabulary, appreciation, and history, musical performance should be encouraged and emphasized as local resources allow.

- Review as necessary from earlier grades: The orchestra and families of instruments (strings, wind, brass, percussion); keyboard instruments; Vocal ranges: soprano, mezzo-soprano, alto; tenor, baritone, bass
- Recognize (aurally) frequently used Italian terms:
 - Review
 - *grave* (very very slow)
 - *largo* (very slow)
 - *andante* (moderate; “walking”)
 - *presto* (very fast)
 - *prestissimo* (as fast as you can go)
 - Introduce
 - *ritardando* and *accelerando* (gradually slowing down and getting faster)
 - *crescendo* and *decrescendo* (gradually increasing and decreasing volume)
- Recognize introduction, interlude, and coda in musical selections.
- Recognize theme and variations.
- Identify chords [such as I (tonic), IV (subdominant), V (dominant); V7]; major and minor chords; chord changes; intervals (third, fourth, fifth).
- Understand what an octave is.
- Understand the following notation and terms:
 - names of lines and spaces in the treble clef; middle C
 -  treble clef,  bass clef,  staff, bar line, double bar line, measure, repeat signs
 -  whole note,  half note,  quarter note,  eighth note
 - whole rest, half rest, quarter rest, eighth rest
 -  grouped sixteenth notes
 - tied notes and dotted notes
 -  sharps,  flats,  naturals
 - *Da capo* [*dc*] *al fine*
 - *Dal segno* [*ds*] *al Fine*
 - *Dal segno* [*ds*] *al Coda*
 - meter signature $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$
 - common time $\frac{4}{4}$
 - very soft *pp* (pianissimo), soft *p* (piano), moderately soft *mp* (mezzo-piano)
 - moderately loud *mf* (mezzo-forte), loud *f* (forte), very loud *ff* (fortissimo)

II. Classical Music: Romantic and Patriotic

Teachers: While these guidelines focus on musical vocabulary, appreciation, and history, musical performance should be encouraged and emphasized as resources allow. The focus here combines music history with appreciation of illustrative works, and continues from Grade 6 the idea of classifying Western music by periods, with examples of specific composers and works, as well as some associated musical terms. Timelines may help students situate the periods. The periods and their characteristics are not absolute

distinctions but generally helpful categories often used in discussions of music. In sixth grade students studied music and composers from the Baroque to the romantic.

Note: In Grade 6, students were introduced to works by Beethoven, Brahms, Chopin, and Schumann.

A. Romantic Composers and Works

- Composers and works:
 - Johannes Brahms, *Symphony No. 1* (fourth movement)
 - Hector Berlioz, *Symphonie Fantastique*
 - Franz Liszt, *Hungarian Rhapsody No. 2* for piano
 - Richard Wagner, Overture to *Die Meistersinger von Nürnberg*

B. Music and National Identity

- Composers and works:
 - Antonín Dvořák, *Symphony No. 9* (“From the New World”)
 - Edvard Grieg, *Peer Gynt Suites Nos. 1 and 2*
 - Peter Ilich Tchaikovsky, *1812 Overture*
 - Manuel Ponce, *Estrellita*

III. American Musical Traditions

- Blues
 - Evolved from African-American work songs and spirituals
 - Twelve bar blues form
 - Huddie Ledbetter (Lead Belly) “The Midnight Special”
 - Bessie Smith, “Nobody Knows You When You’re Down and Out”
 - Robert Johnson, “Cross Roads Blues”
- Jazz
 - African-American origins
 - Terms: improvisation, syncopation, solo and soloist
 - Ragtime: works of Scott Joplin (such as “The Entertainer” and “Maple Leaf Rag”)
 - Louis Armstrong: early recordings such as “Potato Head Blues,” “West End Blues,”
 - Duke Ellington: “Caravan,” “Take the A Train” [by Billy Strayhorn]
 - Ella Fitzgerald, “Take the A Train” and “It Don’t Mean a Thing”
 - Miles Davis: “So What”
 - Influence of jazz on other music: George Gershwin’s *Rhapsody in Blue*
 - Mary Lou Williams, “Roll ‘Em”
 - Django Reinhardt, “Nuages”

Also spelled Leadbelly



Teachers: In learning the new concepts and procedures, students should use previously acquired mathematics to ensure that the procedures become automatic and habitual. Students should continue to master the use of measuring and drawing instruments, develop their mental arithmetic and their approximating abilities, become more familiar with deductive reasoning, and use calculators and computers in a thoughtful way.

While teaching methods may vary, it is worth keeping in mind the psychological principle that the most effective method for learning mathematics emphasizes frequent, varied practice, and encourages multiple approaches to solving varied types of problems.

I. Ratios and Proportional Relationships

- Analyze proportional relationships and use them to solve real-world and mathematical problems.
 - Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
 - Recognize and represent proportional relationships between quantities.
 - Decide whether two quantities are in a proportional relationship.
 - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
 - Represent proportional relationships by equations.
 - Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
 - Use proportional relationships to solve multistep ratio and percent problems.

II. The Number System

Apply and describe in real-world contexts.

In the positive or negative direction depending on whether q is positive or negative.

Particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers.

If p and q are integers, then $-\left(\frac{p}{q}\right) = \left(\frac{-p}{q}\right) = \left(\frac{p}{-q}\right)$.

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
 - Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers.
 - Represent addition and subtraction on a horizontal or vertical number line diagram.
 - Describe situations in which opposite quantities combine to make 0.
 - Understand $p + q$ as the number located a distance $|q|$ from p .
 - Show that a number and its opposite have a sum of 0 (are additive inverses).
 - Interpret sums of rational numbers.
 - Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$.
 - Show that the distance between two rational numbers on the number line is the absolute value of their difference.
 - Apply properties of operations as strategies to add and subtract rational numbers.
- Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
 - Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations.
 - Interpret products of rational numbers.
 - Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number.
 - Interpret quotients of rational numbers.

Know that the decimal form of a rational number terminates in 0s or eventually repeats.

- Apply properties of operations as strategies to multiply and divide rational numbers.
- Convert a rational number to a decimal using long division.
- Solve real-world and mathematical problems involving the four operations with rational numbers.

III. Expressions and Equations

- Use properties of operations to generate equivalent expressions.
 - Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
 - Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
 - Solve multi-step, real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals).
 - Use tools strategically.
 - Apply properties of operations to calculate with numbers in any form.
 - Convert between forms as appropriate.
 - Assess the reasonableness of answers using mental computation and estimation strategies.
 - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

p, q, and r are specific rational numbers.

- Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$.
 - Solve equations of these forms fluently.
 - Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.

p, q, and r are specific rational numbers

- Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$.
 - Graph the solution set of the inequality and interpret it in the context of the problem.

IV. Geometry

Including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

Freehand, with ruler and protractor, and with technology.

Noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

As in plane sections of right rectangular prisms and right rectangular pyramids.

- Draw, construct and describe geometrical figures and describe the relationships between them.
 - Solve problems involving scale drawings of geometric figures.
 - Draw geometric shapes with given conditions.
 - Focus on constructing triangles from three measures of angles or sides.
 - Describe the two-dimensional figures that result from slicing three-dimensional figures.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
 - Know the formulas for the area and circumference of a circle.
 - Use to solve problems.
 - Give an informal derivation of the relationship between the circumference and area of a circle.
 - Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
 - Solve real-world and mathematical problems involving
 - area
 - volume
 - surface area of two- and three-dimensional objects (triangles, quadrilaterals, polygons, cubes, and right prisms)

V. Statistics and Probability

Generalizations about a population from a sample are valid only if the sample is representative of that population.

- Use random sampling to draw inferences about a population.
 - Understand that statistics can be used to gain information about a population by examining a sample of the population.
 - Understand that random sampling tends to produce representative samples and support valid inferences.
 - Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.
 - Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.

Measure the difference between the centers by expressing it as a multiple of a measure of variability.

- Draw informal comparative inferences about two populations.
 - Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities.
 - Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.
 - Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.
 - Understand that larger numbers indicate greater likelihood.
 - A probability near 0 indicates an unlikely event.
 - A probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely.
 - A probability near 1 indicates a likely event.
 - Approximate the probability of a chance event.
 - Collect data on the chance process that produces it.
 - Observe its long-run relative frequency.
 - Predict the approximate relative frequency given the probability.

If the agreement is not good, explain possible sources of the discrepancy.

- Develop a probability model and use it to find probabilities of events.
 - Compare probabilities from a model to observed frequencies.
 - Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.
 - Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.
 - Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
 - Understand that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
 - Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams.
 - For an event described in everyday language, identify the outcomes in the sample space which compose the event.
 - Design and use a simulation to generate frequencies for compound events.



Teachers: Effective instruction in science requires not only direct experience and observation but also book learning, which helps bring coherence and order to a student's scientific knowledge. Only when topics are presented systematically and clearly can students make steady and secure progress in their scientific learning. The Science sequence for the middle school grades aims for more intensive and selective study of topics, a number of which were introduced in earlier grades. The Sequence continues the practice of studying topics from each of the major realms of science (physical, life, and earth science). Students are expected to do experiments and write reports on their findings.

I. Chemical Reactions and Matter

A. Atoms, Elements, and Compounds

- Atom: consists of a nucleus and electrons.
- Nucleus: consists of protons and neutrons, both of which are built from quarks.
- Elements: substances consisting of only one kind of atom
- Compounds: made up of two or more atoms and have properties.

B. Chemical Bonds

- Role of chemical bonds in formation of compounds
- Role of electrons in formation of compounds
- Models can represent chemical compounds.

C. Matter in Chemical Reactions

- Chemical reaction: process when elements and compounds react with one another
- A chemical reaction is indicated by changes in color, odor, or temperature.
- The total number of atoms in the reactants is the same as the total number of atoms in the product. Matter is neither created nor destroyed in chemical reactions—it is conserved.
- Equations describe chemical reactions.

II. Chemical Reactions and Energy

A. Chemical Reactions and Energy

- Chemical reaction: process when elements and compounds react with one another
- A chemical reaction is indicated by changes in color, odor, or temperature.
- When a chemical reaction occurs it will be accompanied by either absorbing energy or releasing energy. The energy may be in any of the following or any combination:
 - Thermal energy
 - Light
 - Sound
 - Motion
- Examples: fireworks give off heat, light, and sound; exploding dynamite gives off sound and motion.
- Energy in any chemical reaction is never created or destroyed, it just changes form.

B. Thermal Energy in Chemical Reactions

- Some chemical reactions give off heat; they release thermal energy. These are exothermic.
- Some chemical reactions need heat to be input to occur; these are called endothermic.

- Chemical reactions may need thermal energy to occur; example. a spark needed to ignite gasoline.
- A catalyst is something that reduces the amount of energy needed for a chemical reaction to occur.

III. Metabolic Reactions

A. Energy for Life

- Energy for most life on earth comes from the sun.
- Sunlight and the process of photosynthesis
- Glucose is the major source of chemical energy for living things.
- Food is both what we eat and the chemical substances cells need to perform chemical reactions.
- The three classes of chemicals that make up food are carbohydrates, proteins, and fats (lipids).
- Carbon, hydrogen, and oxygen (plus many others in lesser amounts) are the main constituents of cell chemistry.

B. Photosynthesis and Cellular Respiration

- Photosynthesis and its role in the formation of glucose
- Plants do not need to eat other living things for food energy.
- Cellular respiration breaks down the sugar glucose and uses released chemical energy to allow all chemical reactions in the cell.
- Only plants photosynthesize, but all living things (including plants) have cellular respiration.
- How cell respiration is the chemical opposite of photosynthesis
- While most living things use oxygen for cellular respiration, some do not.
- Animals must eat organic compounds from plants or other animals for energy.
- Humans need oxygen for most types of cellular respiration.
- Oxygen is transported from the lungs to the cells through hemoglobin in the blood.
- The interdependence and balance between plant and animal life is bound to the processes of photosynthesis and respiration.

C. Humans and Food

- Humans are omnivores and must eat plants or other animals to survive.
- Human health requires food and other substances such as vitamins and minerals.
- Balanced diet, e.g. the food pyramid or "MyPlate," includes carbohydrates, proteins, fats, vitamins, and minerals.
- Humans must get vitamins from external sources.

IV. Matter Cycling and Photosynthesis

A. Cycles in Nature

- Cycles of matter occur throughout all of earth's spheres, including the atmosphere, biosphere, geosphere, and hydrosphere.
- Cycles of matter are called biogeochemical since they involve both abiotic and biotic elements of the earth.
- The water cycle involves many processes including precipitation, evaporation, and storage.
- The carbon, oxygen, and phosphorus cycles are important biogeochemical cycles.

B. Photosynthesis

- The energy for most life comes from the sun.
- Sunlight strikes the chemical chlorophyll, which is found in the leaf and stem tissues of plants.
- Sunlight energy is transformed into chemical energy by plant cells by a complex set of reactions called photosynthesis.
- The result of photosynthesis is the formation of the simple sugar glucose.
- Glucose is the chemical food of life on earth.

C. Matter and Energy in Ecosystems

- Glucose produced by plants is the food of all living things.
- Matter (glucose, food) flows from plants to all other organisms in the ecosystem in feeding chains.
- All the interacting food chains make up the food web of an ecosystem.
- About 10% of the food energy flows to the next level in food chain.
- Bacteria and fungi recycle chemical substances and return organic matter to an ecosystem using carbon, oxygen, and nitrogen cycles.

V. Ecosystem Dynamics

A. Ecosystems

- An ecosystem is all the biotic and abiotic factors that make up a defined area.
 - Abiotic: temperature, wind, precipitation, soil type, weather, water conditions
 - Biotic: all the living organisms in an area
- Range of size of ecosystems
- An ecosystem consists of individual organisms, of populations made up of member of the same species, and of all other populations of all the species in the area.
- Limited resources promote competition among individuals and species.
- Species can interact symbiotically by mutualism, commensalism, and parasitism.
- All ecosystems, regardless of size or nature, consist of interactions between producers and consumers and between predators and prey.
- Ecosystems vary widely in type, but all involve similar interaction of biotic and abiotic factors.

B. Changes in Ecosystems

- Biotic and abiotic aspects of an ecosystem can change.
- Ecosystem disruptions include: the immigration or emigration of new species, the arrival of prey organisms, long-term changes in precipitation, disasters such as flood or fire.
- Individuals and species may find the changes in conditions favorable or unfavorable.
- Humans can preserve an ecosystem's structure, e.g. by working to preserve biodiversity or eliminate invasive species.

VI. Natural Resources and Human Impact

A. Natural Resources

- Humans use the energy inherent in natural resources to live.
- Renewable resources
 - Sunlight — solar panels and solar heating devices
 - Wind — windmills
 - Hydroelectric power uses the gravitational effect on water.
 - Geothermal power uses thermal energy from Earth's interior.

- Tidal power uses the movement of oceanic tides.
- Biofuels use raw materials, such as forest resources, and are renewable if produced sustainably.
- Nonrenewable resources:
 - Fossil fuels such as oil, natural gas, and coal
 - Nuclear power from uranium
- Nuclear power plants—monitored for safety and accidents such as Three Mile Island and Chernobyl

B. Environmental Protection

- The use of natural resources, while necessary for modern life, can have undesired environmental effects.
 - Fossil fuels — air pollution, including smog and greenhouse gases, causing atmospheric warming
 - Nuclear power generates radioactive waste.
 - Wind turbines can be noisy and may affect bird life.
- Human ingenuity and its uses to create a healthy environment.
- Scientific data and effective communication can be used to make informed decisions about the environment.

VII. Science Biographies

- Charles Darwin—the theory of evolution by natural selection
- Antoine Lavoisier—the process of oxidation
- Lise Meitner—helped establish the process of controlled nuclear fission
- Dmitri Mendeleev: first widely accepted periodic table
- Francis Crick, James Watson, Severo Ochoa, Barbara McClintock, etc., elucidated the hereditary workings of the cell

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Grade 8



Overview of Topics

Grade 8

ENGLISH LANGUAGE ARTS

- I. Listening and Speaking
 - A. Classroom Discussion
 - B. Presentation of Ideas and Information
- II. Reading
 - A. Reading Comprehension and Response—All Texts
 - B. Reading Comprehension—Fiction, Drama, Poetry
 - C. Reading Comprehension—Nonfiction And Informational
- III. Writing
 - A. Writing to Reflect Audience, Purpose, and Task
 - B. Writing to Analyze and Understand Text
 - C. Conducting Research
 - D. Narrative Writing
 - E. Informative/Explanatory Writing
 - F. Persuasive Writing/Opinion
- IV. Language Conventions
 - A. Command of Language
 - B. Spelling
 - C. Grammar
 - D. Capitalization and Punctuation
 - E. Vocabulary
- V. Poetry
 - A. Poems
 - B. Elements of Poetry
- VI. Fiction, Nonfiction, and Drama
 - A. Short Stories
 - B. Novels
 - C. Elements of Fiction
 - D. Essays and Speeches
 - E. Autobiography
 - F. Drama
 - G. Literary Terms
- VII. Foreign Phrases Commonly Used in English

HISTORY AND GEOGRAPHY

A SURVEY OF WORLD HISTORY

- I. World War I: “The Great War,” 1914–1918
- II. The Russian Revolution
- III. The Rise of Totalitarianism in Europe
- IV. World War II in Europe and at Home, 1939–45
- V. World War II in the Pacific, and the End of the War
- VI. The Decline of European Colonialism
 - A. Breakup of the British Empire
 - B. Geography of India and South Asia
- VII. Creation of People’s Republic of China
- VIII. The Cold War
- IX. The Korean War
- X. The Vietnam War
- XI. The Middle East, Oil Politics, Israel and Palestine
 - A. Overview
 - B. Egypt
 - C. Israel
 - D. Oil: World’s Most Valuable Commodity

- XII. The End of the Cold War: The Expansion of Democracy and Continuing Challenges
 - A. The American Policy of Détente
 - B. Consequences of the Break up the Soviet Union
 - C. China Under Communism

- XIII. South Africa
- XIV. Contemporary Europe
 - A. Toward European Unity
 - B. Conflict and Change in Central Europe
- XV. America at War
- XVI. A Changing World

VISUAL ARTS

- I. Art History: Periods and Schools
 - A. Modern Representational Painting
 - B. 20th Century Photography
 - C. 20th Century Sculpture
 - D. Contemporary Art
- II. Post-Modern Architecture

MUSIC

- I. Elements of Music
- II. Non-Western Music
- III. Classical Music: Modern and Patriotic
 - A. Music and National Identity
 - B. Modern Music
- IV. Modern Musical Performers
- V. Vocal Music
 - A. Opera
 - B. American Musical Theater
 - C. Song Ballads

MATHEMATICS

- I. The Number System
- II. Expressions and Equations
- III. Functions
- IV. Geometry
- V. Statistics and Probability

SCIENCE

- I. Contact Forces
 - A. Motion
 - B. Contact Forces
 - C. Collisions
- II. Sound Waves
 - A. Sound Waves and Sound
- III. Forces at a Distance
 - A. Non-Contact Forces
 - B. Magnetism and Electricity
 - C. Gravity

- IV. Earth in Space
 - A. Earth, Moon, Sun
 - B. Solar Systems
 - C. Stars and Galaxies
- V. Genetics
 - A. Genetics
 - B. Mutations
 - C. Sexual and Asexual Reproduction
- VI. Natural Selection and Common Ancestry
 - A. Natural Selection
 - B. Evidence of Common Ancestry
 - C. Evolution
- VII. Science Biographies

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I. Listening and Speaking

A. Classroom Discussion

- Actively participate in discussions about a variety of Grade 8 topics, ideas, and texts in a variety of settings, including partners, small and large groups, and teacher-led groups.
- Prepare for discussions in advance, including researching the topic and organizing information for the discussion. Draw on preparations during the discussion to analyze ideas and explore the topic further.
- Manage goals and deadlines, and define specific roles appropriate to a discussion.
- Follow rules for productive social engagement among peers; follow decision-making protocols (e.g., rubrics or principles) that help build effective social skills related to public discussions.
- Ask relevant questions to clarify conversations and ideas and to build upon remarks made by others.
- Use details to elaborate and comment on a topic, text, or issue being discussed; add insight to discussions or move discussions forward.
- Integrate the ideas, evidence, and viewpoints of multiple speakers before responding or posing questions during a discussion.
- Craft responses to questions, as well as comments, so that ideas, insights, observations, and evidence are relevant to the topic or issue being discussed.
- Demonstrate the ability to defend one's own point of view when presented with new information; adjust one's own point of view, if necessary, when presented with new evidence during a discussion.
- Interpret information from an array of media formats, such as visual (paintings, pictures, and animations), quantitative (graphs, charts, and diagrams), videos, and recordings.
- Explain how information from media formats reflects, enhances, or is otherwise suitable for the discussion, issue, or topic at hand.
- Identify and interpret the purposes, motives, or intentions of an array of information from media formats, such as political, commercial, and social agendas.
- Explain a speaker's argument, distinguishing the claims, evidence, and reasons speakers give and whether the claims are adequately supported.
- Evaluate the overall quality of the reasoning used in an argument and the relevancy of the evidence provided; identify and explain when and why particular evidence may be unnecessary, unrelated, or inappropriate.

B. Presentation of Ideas and Information

- Give a presentation about a topic or text, tell a story, or orally relate a personal experience in a logical and organized manner, including relevant descriptions, details, and facts that support main ideas or themes.
- Orally present a claim-based argument supported by evidence, curated details, and solid reasoning that demonstrates a focused emphasis on the essential points.
- Speak clearly at an understandable volume and pace; maintain eye contact.
- Support claims in presentations by adding evidence from relevant multimedia such as displays, images, videos, graphics, music, and recordings.
- Use relevant multimedia to enhance presentations and capture viewers'/listeners' attention.
- Use information from several multimedia sources, synthesizing it to explain, crystalize, elaborate, or elucidate information for viewers/listeners.
- Switch between formal and informal English as appropriate to the situation or task; adapt speech to a variety of contexts.

- Show proficiency when using formal English, such as standard pronunciation when giving speeches or speaking to large groups and in formal circumstances, such as a job interview.

II. Reading

A. Reading Comprehension and Response—All Texts

- Independently and proficiently read and comprehend longer works of fiction (stories, plays, and poems) and literary nonfiction written at the high end of grades 6 through 8.

Grasping Specific Details and Key Ideas

- Identify and utilize the most appropriate supporting evidence from texts when explaining them or making inferences.
- Quote or cite accurately from texts when using evidence to explain them or make inferences.
- Identify the central ideas or themes in a text and explain how they develop.
- Understand how the component parts in literary works or supporting ideas in informational texts build themes or big ideas.
- Summarize texts objectively.

Observing Craft and Structure

- Determine the meaning of words and phrases in a literary or nonfiction text, including Tier 2 academic vocabulary and Tier 3 subject-area vocabulary.
- Consider the impact of word choices on meaning and tone.
- Analyze the structures of several texts to determine how structures create meaning and influence style; then, compare and contrast the texts, considering the impact on meaning and style each structure has.
- Evaluate in detail how sentences cooperate in paragraphs to build and organize key ideas, key concepts, and key details (versus extraneous information) and, in turn, how paragraphs cooperate to build ideas and organize information in texts.

Integrating Information and Evaluating Evidence

- Explore the advantages and disadvantages of various media, such as books or other printed materials, videos, digital photography, or recordings, to convey ideas or explore a topic.
- Compare and contrast different texts with the same topic, themes, or genre.

B. Reading Comprehension—Fiction, Drama, Poetry

- Analyze analogies, allusions to other texts, and figurative language, such as metaphors and similes, to determine meaning.
- Determine connotative meanings of words in literary texts.
- Consider the function of dialogue in stories and plays, focusing on how it moves a story forward, reveals aspects of a character’s personality, causes characters to take action, influences how characters interact with each other, or otherwise affects the events of the plot.
- Compare and contrast a script or written version of a story to a filmed version or live performance, analyzing the extent of the departures from the original or faithfulness to it and the effectiveness of the artistic choices made by the director or actors.
- Explore how authors use dramatic irony to
 - create a different point of view for the audience or reader than the point of view of the characters in a story or drama.
 - create differing points of view and levels of awareness among characters in the same story or drama.

- involve or affect the reader or audience by creating differing points of view and levels of awareness for characters in the same story or drama.
- build suspense or humor by contrasting points of view and levels of awareness among characters or between the reader/audience and the characters in a story or drama.
- Analyze archetypal plot patterns, themes, and character types and other literary devices and allusions from foundational literary works used in modern fiction.
- Compare modern fiction with the sources it draws from for inspiration, such as traditional stories, epic poetry, mythology, and religious works (e.g., the Bible), with a focused discussion on how stories from the past are modernized.

C. Reading Comprehension—Nonfiction and Informational

- Effectively summarize all types of informational texts.
- Analyze technical meanings, analogies, and allusions to other texts to determine meaning.
- Understand and explain the relationships and interactions between two or more individuals, events, or ideas in a text and how the author integrates them.
- Identify the structure of a text at the sentence and paragraph level and how it helps develop and hone big ideas and key concepts.
- Identify an author’s point of view and purpose in a text.
- Explain how an author distinguishes their own point of view from that of others in a text, focusing on how an author responds to evidence and/or viewpoints that conflict.
- Analyze the advantages and disadvantages of various mediums’ (print, digital, video, and multimedia) ability to relate information to the reader or viewer about a particular topic or idea.
- Explain how an author supports arguments in a text by giving reasons (opinions) and evidence, such as facts, examples, and expert opinions from reliable sources.
- Distinguish between claims that are supported and those that are not.
- Examine the overall soundness of the reasoning in an argument and the quality of the evidence supporting it; identify unnecessary, unrelated, or inappropriate evidence.
- Compare and contrast texts containing conflicting information or arguments, identifying the conflict precisely and distinguishing whether the conflicting information is a matter of disparate facts, interpretations, or opinion/viewpoint.

III. Writing

Teachers: Students should be given opportunities to compose narratives, persuasive essays, and expository writing. Students should examine their work with attention to unity, coherence, and emphasis. Narratives should present a logical sequence of events, and include concrete details. Persuasive pieces should incorporate credible sources, support claims, and consider counter arguments. Expository essays should have a main point and stick to it, and have a coherent structure, typically following the pattern of introduction, body, and conclusion. Paragraphs should have a unified focus, be developed with evidence and examples, and have transitions between them. Essays should have appropriate tone and diction, as well as correct spelling and grammar in their final form. Standards for writing apply across the disciplines.

A. Writing to Reflect Audience, Purpose, and Task

- Write routinely, clearly, and coherently, completing both short-term and long-term assignments focused on a range of different tasks, purposes, and audiences.
- Strengthen existing writing skills (sentences, paragraphs, transitions, introductions, and conclusions) by applying them to longer and genre-specific writing assignments.
- Use the steps of the writing process to develop and strengthen writing: plan, draft, share, evaluate, revise, edit, and publish.
- Use conventional language standards when editing.

- Maintain a consistent style and tone appropriate to the genre of writing and audience.
- Use keyboards, tablets, the Internet, and other technologies to produce and publish writing and collaborate and communicate with others.
- Use the Internet to research and cite sources.

B. Writing to Analyze and Understand Text

- Analyze literature in writing: trace archetypal plot patterns, character types, and themes in modern fiction and compare and contrast them with the sources they draw on, such as epic poetry, the Bible and other religious works, traditional stories, and myths.
- Discuss and analyze, in writing, how authors modernize the archetypal source material they use for inspiration.
- Use literary elements as evidence for analyzing literature to strengthen reflection and analysis skills.
- Describe an analysis of informational texts in writing:
 - Explain how authors make and support their points or claims with reasons and factual evidence.
 - Explain how specific pieces of evidence support specific claims.
 - Discuss, in writing, whether the reasoning and evidence in an argument are valid and adequate.
 - Discuss, in writing, why evidence is invalid (e.g., unnecessary, unrelated, or inappropriate).
- Use details and facts as evidence for analyzing informational texts to strengthen research and analysis skills.

C. Conducting Research

- Conduct short research projects focused on answering a specific research question, especially one posed by the student.
- Gather relevant information from several different print and digital sources and use it to support research.
- Adjust the research question as appropriate throughout the information-gathering process.
- Use the information-gathering process to pose related questions and explore additional topics and avenues of inquiry requiring further research.
- Determine the credibility of information gathered from print and digital sources.
- Accurately quote or paraphrase from sources without plagiarizing.
- Practice honing keywords and key phrases to produce more effective online searches.
- Cite sources and provide a basic bibliography.

D. Narrative Writing

- Produce narrative pieces that reflect real-life or imagined experiences.
- Introduce a narrator, a situation, and characters, and develop them through dialogue, pacing, and exposition, including actions, thoughts, feelings, and reactions to events in the plot.
- Organize a well-structured logical or natural sequence of plot events following from the situation, using time-order and transitional words, phrases, and clauses to indicate and manage the event order.
- Incorporate shifts in time and multiple settings, interconnecting them with events and experiences that move character development forward.
- Include concrete and sensory details to make writing vivid and precise; convey a sense of experiences and/or the sensations that accompany experiences.
- Provide a sense of closure that follows logically or artfully from the situation, character responses, and sequence of events.

E. Informative/Explanatory Writing

- Write reports and other types of informational texts that clearly focus ideas and information.
- Introduce a topic with information organized in related sections or paragraphs and developed with well-curated facts, definitions, quotations, examples, and details.
- Organize ideas, concepts, and information using broad categories.
- Group related information logically and incorporate formatting features, such as headings, graphics, charts, and other multimedia.
- Include visual elements such as photos, drawings, or diagrams to help explain or present ideas or information when appropriate.
- Use a variety of transitions to connect ideas and concepts from distinct categories and to clarify relationships; use transitions to create an overall sense of cohesion.
- Establish and maintain a formal style.
- Use Tier 2 and/or Tier 3 domain-specific vocabulary to explain or elaborate topics.
- Write a conclusion that wraps up ideas in the text.

F. Persuasive Writing/Opinion

- Write persuasive essays with well-defined theses and arguments that use clear reasons, examples, and relevant evidence to support claims.
- Follow through with an organizational structure that supports the purpose of the text, grouping ideas, reasons, counterclaims, and evidence in a logical way.
- Demonstrate the use of logical reasoning to support claims throughout the essay.
- Demonstrate a clear understanding of the topic and argument.
- Anticipate and answer counterarguments.
- Distinguish evidence from opinion and claims from counterclaims.
- Use linking words, phrases, and clauses to connect opinions with reasons and evidence, distinguish a counterclaim, and create an overall sense of cohesion.
- Establish and maintain a formal style and reasonable tone.
- Identify and use accurate, credible sources.
- Write a conclusion that effectively and logically wraps up the argument.

IV. Language Conventions

A. Command of Language

- Use knowledge of language conventions when reading, writing, speaking, and listening.
- Use active and passive verbs and voice to portray the conditional and subjunctive mood—that is, states and actions tied to hypothetical scenarios (e.g., *if . . . then*, *wish*, *would*) of varying degrees of possibility.
- Use the conditional and subjunctive mood to create desired effects, express uncertainty, or communicate the fantastical.
- Use the conditional and subjunctive mood to emphasize both the person hypothesizing and the ideas being hypothesized.

B. Spelling

- Apply known spelling strategies when writing.
- Apply known morphology skills (roots, prefixes, suffixes, and spelling changes) to correctly spell words.
- Continue work with spelling, with special attention to commonly misspelled words.

C. Grammar

Teachers: Students should have a working understanding of the following terms and be able to use them to discuss and analyze writing.

- Understand and apply the basic rules of English grammar and conventions when writing or speaking.
- Know the function of verbals generally and how they are used in sentences, including:
 - Participles
 - Identify past, and present participles.
 - Identify participial phrases.
 - Find the noun modified.
 - Correctly use commas with participial phrases.
 - Gerunds and gerund phrases
 - Identify and tell its use in the sentence (subject, direct object, indirect object, appositive, predicate nominative, or object of preposition).
 - Infinitives and infinitive phrases
 - Adjective and adverb: find the word it modifies.
 - Noun: tell its use in the sentence.
- Form cohesive sentences using both passive and active verbs and voice.
- Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
- Correct erroneous shifts in verb voice and mood.

D. Capitalization and Punctuation

- Understand and apply the basic rules of capitalization and punctuation when writing or speaking.
- Use punctuation (comma, dash, and ellipsis) to indicate a pause or break.
- Use an ellipsis to indicate an omission.

E. Vocabulary

- Figure out the meaning of Grade 8 words and phrases, using a variety of strategies such as the following:
 - context clues
 - examples
 - definitions
 - cause-and-effect relationships
 - comparisons
- Use the overall meaning of a sentence as a clue to the meaning of words within the sentence.
- Figure out the meaning of words based on the word's position and function within a sentence, such as part of speech, subject, predicate, object, etc.
- Use a dictionary, thesaurus, or glossary—print or digital—to answer questions about the meanings and usage of unfamiliar words.
- Know how to use a dictionary—print or digital—to pronounce words correctly and determine a word's part of speech.
- Use a dictionary to find the precise meaning of words and phrases.
- Infer the meaning of words by using context, and then confirm the meaning in a dictionary.
- Make accurate interpretations of similes and metaphors and other types of figurative language, such as personification, based on context.
- Interpret figures of speech based on context, especially verbal irony and puns.
- Discern nuances in word meanings.
- Recognize and use word relationships to better understand words, such as
 - cause/effect
 - item/category
 - part/whole

- synonym/antonym
- analogies
- Distinguish connotations, or shades of meaning, among words with similar denotations (e.g., *picky, fickle, discerning, sophisticated, fastidious, persnickety*).
- Acquire grade-level Tier 2 general academic and Tier 3 domain-specific words and phrases and use them with accuracy.
- Use knowledge of Greek and Latin roots and affixes to figure out the meaning of a new word, such as

Note: More Latin and Greek words and roots are listed in Grades 6 and 7. In the listings here, L = Latin, G = Greek. No single form of the Latin or Greek words is consistently used here, but rather the form that is most similar to related English words.

<u>Latin /Greek Word</u>	<u>Meaning</u>	<u>Examples</u>
<i>aequus</i> [L]	equal	equal, equation
<i>ago, acta</i> [L]	do, things done	agent, enact, transact
<i>anthropos</i> [G]	man, human being	anthropology, misanthrope
<i>ars</i> [L]	art	artist, artifact
<i>brevis</i> [L]	short	brevery, abbreviate
<i>canto</i> [L]	sing	chant, cantor
<i>caput</i> [L]	head	captain, decapitate
<i>clino</i> [L]	to lean, bend	incline, decline
<i>cognito</i> [L]	know	cognizant, recognize
<i>copia</i> [L]	plenty	copy, copious
<i>credo</i> [L]	believe	credible, incredulous
<i>culpa</i> [L]	blame	culpable, culprit
<i>dominus</i> [L]	a lord, master	dominate, dominion
<i>duco</i> [L]	lead	abduct, introduce
<i>fido</i> [L]	to trust, believe	confide, infidel
<i>fundo, fusum</i> [L]	pour, thing poured	effusive, transfusion
<i>genus</i> [L]	kind, origin	generic, congenital
<i>holos</i> [G]	whole	holistic, catholic
<i>jungo</i> [L]	join	junction, conjugal
<i>lego, lectum</i> [L]	read, thing read	intellect, legible
<i>locus</i> [L]	a place	local, dislocate
<i>loquor</i> [L]	speak	eloquent, loquacious
<i>medius</i> [L]	middle	mediate, mediocrity
<i>missio</i> [L]	a sending	emissary, mission
<i>morior</i> [L]	die	mortal
<i>nego</i> [L]	deny	negate
<i>nihil</i> [L]	nothing	nihilism, annihilate
<i>occido</i> [L]	kill	homicide, suicide
<i>pathos</i> [G]	suffering, feeling	sympathy, apathy
<i>pendo</i> [L]	weigh, hang	depend, pendant
<i>per</i> [L]	through	perceive, persist, persevere
<i>phobos</i> [G]	fear	phobia, claustrophobia
<i>positum</i> [L]	placed	position, opposite
<i>porto</i> [L]	carry	transport, export
<i>possum</i> [L]	be able	possible, potent
<i>pugno</i> [L]	to fight	impugn, pugnacious
<i>punctum</i> [L]	point	punctual, punctuation
<i>rego</i> [L]	to rule	regular, regency
<i>sanguis</i> [L]	blood	sanguine

<u>Latin /Greek Word</u>	<u>Meaning</u>	<u>Examples</u>
<i>satis</i> [L]	enough	satisfy
<i>scio</i> [L]	know	science, conscious
<i>solus</i> [L]	alone	solo, desolate
<i>sonus</i> [L]	a sound	unison, consonant
<i>sophos</i> [G]	wise	philosophy, sophomore
<i>spiritus</i> [L]	breath	inspire, spirit
<i>totus</i> [L]	whole	totalitarianism
<i>tractum</i> [L]	drawn, pulled	distract, tractor
<i>usus</i> [L]	use	abuse, utensil
<i>vacuus</i> [L]	empty	evacuate, vacuum
<i>verbum</i> [L]	word	verbal
<i>verto</i> [L]	turn	avert, convert, anniversary
<i>via</i> [L]	way, road	deviate, viaduct

Note: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose students to more poetry, old and new, and to have students write their own poems. Students should examine some poems in detail, discussing what the poems mean as well as asking questions about the poet's use of language.

II. Poetry

A. Poems

- "Buffalo Bill's" (e.e. cummings)
- "Chicago" (Carl Sandburg)
- "Do Not Go Gentle into That Good Night" (Dylan Thomas)
- "How do I love thee?" (Elizabeth Barrett Browning)
- "How They Brought the Good News From Ghent to Aix" (Robert Browning)
- "I dwell in possibility; Apparently with no surprise" (Emily Dickinson)
- "The Lake Isle of Innisfree" (William B. Yeats)
- "Lucy Gray (or Solitude);" "My Heart Leaps Up" (William Wordsworth)
- "Mending Wall;" "The Gift Outright" (Robert Frost)
- "Mr. Flood's Party" (Edward Arlington Robinson)
- Polonius's speech from *Hamlet*, "Neither a borrower nor a lender be . . ." (William Shakespeare)
- "Ozymandias" (Percy Bysshe Shelley)
- Sonnet 18, "Shall I compare thee. . ." (William Shakespeare)
- "Spring and Fall" (Gerald Manley Hopkins)
- "A Supermarket in California" (Allen Ginsberg)
- "Theme for English B" (Langston Hughes)
- "We Real Cool" (Gwendolyn Brooks)
- "The Hill We Climb" (Amanda Gorman)
- "Little Prince;" "Yoke and Star;" "A Sincere Man Am I" (Jose Marti)
- "Flight;" "No Place on the Map;" "More & More Meanings" (Margarita Engle)
- "English Con Salsa" (Gina Valdes)
- "A Wreath for Emmett Till" (Marilyn Nelson)
- "I Am Accused of Tending to the Past" (Lucille Clifton)
- "Frederick Douglass" (Robert Hayden)
- "Ballad of Birmingham" (Dudley Randall)

B. Elements of Poetry

- Review: meter, iamb, rhyme scheme, free verse, couplet, onomatopoeia, alliteration, assonance

- Review:
 - forms: ballad, sonnet, lyric, narrative, limerick, haiku
 - stanzas and refrains
 - types of rhyme: end, internal, slant, eye
 - metaphor and simile
 - extended and mixed metaphors
 - imagery, symbol, personification
 - allusion

III. Fiction, Nonfiction, and Drama

A. Short Stories

"The Bet" (Anton Chekov)

"Dr. Heidegger's Experiment" (Nathaniel Hawthorne)

"God Sees the Truth But Waits" (Leo Tolstoy)

"An Honest Thief" (Fyodor Dostoyevsky)

"The Open Boat" (Stephen Crane)

Us, in Progress: Short Stories About Young Latinos (Lulu Delacre)

B. Novels

Animal Farm (George Orwell)

Wolf Hollow (Lauren Wolk)

Frankenstein (Mary Shelley)

C. Elements of Fiction

- Review:
 - plot and setting
 - theme
 - point of view in narration: omniscient narrator, unreliable narrator, third person limited, first person
 - conflict: external and internal
 - suspense and climax
- Characterization
 - as delineated through a character's thoughts, words, and deeds; through the narrator's description; and through what other characters say
 - flat and round; static and dynamic
 - motivation
 - protagonist and antagonist
- Tone and diction

D. Essays and Speeches

A More Perfect Union – Voices for Equality and Justice

"Ask not what your country can do for you" (John F. Kennedy's Inaugural Address)

"I have a dream"; "Letter from Birmingham Jail" (Martin Luther King, Jr.)

"The Marginal World" (Rachel Carson)

E. Autobiography

Hunger for Memory (Richard Rodriguez)

Narrative of the Life of Frederick Douglass (Frederick Douglass)

This Promise of Change: One Girl's Story in the Fight for Social Equality (Jo Ann Allen Boyce)

Note: See also History Grade 7: The Kennedy Years, re J. F. Kennedy; The Civil Rights Movement, re M. L. King, Jr.; and, The Rise of Social and Environmental Activism, re Rachel Carson.

F. Drama

- *Twelfth Night* (William Shakespeare)
- Elements of Drama
 - Review:
 - tragedy and comedy
 - aspects of conflict, suspense, and characterization
 - soliloquies and asides
 - Farce and satire
 - Aspects of performance and staging
 - actors and directors
 - sets, costumes, props, lighting, music
 - presence of an audience

G. Literary Terms

- Irony: verbal, situational, dramatic
- Flashbacks and foreshadowing
- Hyperbole, oxymoron, parody

VII. Foreign Phrases Commonly Used in English

Teachers: Students should learn the meaning of the following French words and phrases that are commonly used in English speech and writing.

au revoir - goodbye, until we see each other again

avant-garde - a group developing new or experimental concepts, a vanguard

bête noire - a person or thing especially dreaded and avoided [literally, "black beast"]

c'est la vie - that's life, that's how things happen

carte blanche - full discretionary power [literally, "blank page"]

cause célèbre - a very controversial issue that generates fervent public debate [literally, a "celebrated case"]

coup de grâce - a decisive finishing blow

coup d'état - overthrow of a government by a group

déjà vu - something overly familiar [literally, "already seen"]

enfant terrible - one whose remarks or actions cause embarrassment, or someone strikingly unconventional [literally, "terrible child"]

fait accompli - an accomplished fact, presumably irreversible

faux pas - a social blunder [literally, "false step"]

Madame, Mademoiselle, Monsieur - Mrs., Miss, Mr.

merci - thank you

pièce de résistance - the principal part of the meal, a showpiece item

raison d'être - reason for being

savoir-faire - the ability to say or do the right thing in any situation, polished sureness in society [literally, "to know (how) to do"]

tête-à-tête - private conversation between two people [literally, "head to head"]



Teachers: Please note that this survey of world history is currently under review by subject matter experts. Thus, the existing content may be further adjusted and reorganized. Topics currently under considerations for inclusion include: Mesopotamia; Ancient Egypt and Kush; The Israelites; The Ancient Greek Civilization; Ancient India; Early China; Roman Empire and Roman Civilization; Islamic Civilizations; The Americas; Imperial China; Civilizations of Korea, Japan, and Southeast Asia; Medieval Europe and Russia; Medieval African Kingdoms; Renaissance and Reformation; Exploration, Trade, and Settlement; The Scientific Revolution and the Enlightenment; Political and Industrial Revolutions; Imperialism, Nationalism, and World War I; World War II and the Postwar World; Southeast Asia and Asia in the Second Half of the 20th Century; Europe in the Second Half of the 20th Century; Africa and the Middle East in the Second Half of the 20th Century; Central and South America in the Second Half of the 20th Century; Modern World, Events, Challenges, and Successes.

A Survey of World History

I. World War I: “The Great War,” 1914–1918

- National pride and greed as causes: European nationalism, militarism, and colonialism
- The British Empire: Queen Victoria
- Italy becomes a nation: Garibaldi
- German nationalism and militarism
 - Bismarck unifies Germany, war against France,
- France cedes Alsace-Lorraine to Germany.
- European imperialism and rivalries in Africa
- Stanley and Livingstone
- British invade Egypt to protect Suez Canal
- French in North Africa
- Berlin Conference and the “scramble for Africa”
- Entangling defense treaties:
 - Allies vs. Central Powers
 - Archduke Ferdinand assassinated
- The Western Front and Eastern Front, Gallipoli, Lawrence of Arabia
- War of attrition and the scale of losses: Battle of the Marne (1914), new war technologies (for example, machine guns, tanks, airplanes, submarines), trench warfare
- U.S. neutrality ends: sinking of the Lusitania, “Make the world safe for democracy”
- Armistice Day, Nov. 11, 1918, abdication of Kaiser Wilhelm II
- Treaty of Versailles
- New central European states and national boundaries
- German reparations and disarmament
- Woodrow Wilson’s 14 Points
- League of Nations, concept of collective security

II. The Russian Revolution

- Tensions in the Russian identity: Westernizers vs. traditionalists
- Revolution of 1905, “Bloody Sunday,” Russo-Japanese War
- The last czar: Nicholas II and Alexandra
- Economic strains of World War I
- Revolutions of 1917

- March Revolution ousts Czar
- October Revolution: Bolsheviks, Lenin and revolutionary Marxism
- Civil War: Bolsheviks defeat Czarist counterrevolution, Bolsheviks become
- The Communist Party; creation of the Soviet Union

III. The Rise of Totalitarianism in Europe

- Italy
 - Mussolini establishes fascism.
 - Attack on Ethiopia
- Germany
 - Weimar Republic, economic repercussions of WWI
 - Adolf Hitler and the rise of Nazi totalitarianism: cult of the *Führer* ("leader"), *Mein Kampf*
 - Nazism and the ideology of fascism, in contrast to communism and democracy
 - Racial doctrines of the Nazis: anti-Semitism, the concept of *Lebensraum* (literally, "living space") for the "master race;" *Kristallnacht*
 - The Third Reich before the War: Gestapo, mass propaganda, book burning
- The Soviet Union
 - Communist totalitarianism: Josef Stalin, "Socialism in one country"
 - Collectivization of agriculture
 - Five-year plans for industrialization
 - The Great Purge
- Spanish Civil War
 - Franco, International Brigade, Guernica

IV. World War II in Europe and at Home, 1939–45

- Hitler defies Versailles Treaty: reoccupation of Rhineland, *Anschluss*, annexation of Austria
- Appeasement: Munich Agreement, "peace in our time"
- Soviet-Nazi Nonaggression Pact
- *Blitzkrieg*: invasion of Poland, fall of France, Dunkirk
- Battle of Britain: Winston Churchill, "nothing to offer but blood, toil, tears, and sweat"
- Hitler invades Soviet Union: battles of Leningrad and Stalingrad
- The Holocaust: "Final Solution," concentration camps (Dachau, Auschwitz)
- North Africa Campaign: El Alamein
- D-Day: Allied invasion of Normandy, General Dwight Eisenhower
- Battle of the Bulge, bombing of Dresden
- Yalta Conference
- Surrender of Germany, Soviet Army takes Berlin

V. World War II in the Pacific, and the End of the War

- Historical background: Japan's rise to power
 - Geography of Japan (review from Grade 5)
 - Sea of Japan and Korea Strait
 - High population density, very limited farmland, heavy reliance on imported raw materials and food
 - End of Japanese isolation, Commodore Matthew Perry
 - Meiji Restoration: end of feudal Japan, industrialization and modernization
 - Japanese imperialism: occupation of Korea, invasion of Manchuria, Rape of Nanking
 - Japanese-Soviet neutrality treaty

- Pearl Harbor, Dec. 7, 1941: “A day that will live in infamy.”
 - Internment of Japanese-Americans
- Fall of the Philippines: Bataan Death March, General Douglas MacArthur, “I shall return.”
- Battle of Midway
- Island amphibious landings: Guadalcanal, Iwo Jima
- Surrender of Japan
 - Atom bombs dropped on Hiroshima and Nagasaki, the Enola Gay
 - U.S. dictates pacifist constitution for Japan, Emperor Hirohito
 - Potsdam Conference, Nuremberg war crimes trials
 - Creation of United Nations: Security Council, Universal Declaration of Human Rights

VI. The Decline of European Colonialism

A. Breakup of the British Empire

- Creation of British Commonwealth, independence for colonial territories
- Troubled Ireland: Easter Rebellion, Irish Free State
- Indian nationalism and independence
 - Sepoy Rebellion
 - Mahatma Gandhi, Salt March
 - Partition of India into Hindu and Muslim states

B. Geography of India and South Asia

- Overview
- Legacy of British colonial rule: English language, rail system
- Himalayas, Mt. Everest
- Very high population densities and growth rates, food shortages
- Monsoons
- Rivers: Ganges, Indus, Brahmaputra
- Arabian Sea, Bay of Bengal
- Pakistan, Karachi
- Bangladesh
- Sri Lanka
- India
 - Second most populous country after China
 - Subsistence agriculture
 - Caste system, “untouchables”
 - Delhi, Bombay, Calcutta, Madras
 - Longstanding tension between Hindus and Moslems

VII. Creation of People’s Republic of China

- China under European domination
 - Opium Wars, Boxer Rebellion
 - Sun Yat Sen
- Communists take power
 - Mao Zedong: The Long March
 - Defeat of nationalists led by Chiang Kai-Shek
 - Soviet-Communist Chinese 30-Year Friendship Treaty

VIII. The Cold War

- Origins of the Cold War
- Post-WWII devastation in Europe, Marshall Plan, Bretton Woods Conference
- Western fear of communist expansion, Soviet fear of capitalist influences
- Truman Doctrine, policy of containment of communism
- Formation of NATO, Warsaw Pact
- The “Iron Curtain” (Churchill)
- Berlin Airlift
- Eastern European resistance, Hungarian Revolution, Berlin Wall, Prague Spring

IX. The Korean War

- Inchon, Chinese entry
- Removal of MacArthur
- Partition of Korea, truce line near the 38th Parallel

X. The Vietnam War

- French Indochina War: Dien Bien Phu, Ho Chi Minh, Viet Cong
- Domino Theory
- U.S. takes charge of the war, Special Forces, Tonkin Gulf Resolution
- Tet Offensive, My Lai Massacre
- Antiwar protests
 - Kent State
 - The Pentagon Papers
 - “hawks” and “doves”
- American disengagement, Nixon’s “Vietnamization” policy, Kissinger, War Powers Act
- Watergate scandal, resignation of Nixon
- Vietnam, Hanoi, Ho Chi Minh City (formerly Saigon)

XI. The Middle East, Oil Politics, Israel and Palestine

A. Overview

- Heartland of great early civilizations, Nile River, Mesopotamia, “Fertile Crescent”
- Generally hot, arid conditions with thin, poor soils
- Generally speak Arabic, except in Turkey (Turkish), Israel (Hebrew), Iran (Persian)
- Predominant religion is Islam
- Sunni and Shiite sects
- Principal holy places: Makkah (also spelled Mecca) and Medina in Saudi Arabia
- League of Nations’ territorial mandates in Middle East

B. Egypt

- Most populous Arab country
- Nile River and delta, surrounded by inhospitable deserts
- Aswan Dam, Lake Nasser
- Cairo (largest city in Africa), Alexandria
- Suez Canal, Sinai Peninsula, Red Sea

C. Israel

- Creation of Israel in 1948, David Ben-Gurion
- Formed by the United Nations in 1948 as homeland for Jewish people

- Jerusalem: Holy city for Judaism (Wailing Wall, Temple Mount), Christianity (Church of the Holy Sepulcher), and Islam (Dome of the Rock)
- Tel Aviv, West Bank, Gaza Strip, Golan Heights
- Jordan River, Sea of Galilee, Dead Sea (lowest point on earth), Gulf of Aqaba
- Suez Crisis, Gamal Abal Nasser
- Palestine Liberation Organization, Yasser Arafat
- Arab-Israeli Wars
- Six-Day War, Israel occupies West Bank, Gaza Strip, Golan Heights
- Yom Kippur War, OPEC oil embargo
- Camp David Peace Treaty

D. Oil: World's Most Valuable Commodity

- Greatest known oil reserves concentrated around the Persian Gulf
- Strait of Hormuz, shipping routes and national imports
- Extraction of Arab oil required Western technology, which introduced competing cultural influences to Islam

XII. The End of the Cold War: The Expansion of Democracy and Continuing Challenges

A. The American Policy of Détente

- Diplomatic opening to China
- Strategic Arms Limitation Talks
- Jimmy Carter's human rights basis for diplomacy
- Breakup of the USSR
 - Arms race exhausts USSR economy, Afghanistan War
 - Helsinki Accord on human rights, Andrei Sakharov
 - Mikhail Gorbachev
 - Solidarity labor movement, Lech Walesa
 - Reunification of Germany, demolition of the Berlin Wall

B. Consequences of the Break up the Soviet Union

- New European states from former Soviet Union: Belarus, Latvia, Lithuania, Moldova, Ukraine
- Newly independent Muslim states in Asia (with ethnic Russian minorities):
- Kazakstan, Kyrgyzstan, Turkmenistan, Uzbekistan
- Caucasus, mountainous region where Western and Islamic cultures meet: Armenia, Azerbaijan, Georgia
- Legacies of Soviet policies
- Numerous internal republics, many language distinctions
- Forced relocation of large numbers of ethnic minorities
- Environmental poisoning from industrial and farm practices

C. China Under Communism

- The Cultural Revolution
- Tiananmen Square

XIII. South Africa

- British and Dutch colonialism in South Africa, Cecil Rhodes, Afrikaners
- African resistance, Zulu wars, Shaka
- Boer Wars

- Union of South Africa, majority nonwhite population but white minority rule
- Apartheid laws
- African National Congress
- Nelson Mandela
- Internal unrest and external pressures (such as economic sanctions) force South Africa to end apartheid, Mandela released

XIV. Contemporary Europe

A. Toward European Unity

- European Economic Community, “Common Market”
- European Parliament, Brussels, Maastricht Treaty on European Union
- France linked to Britain by the Channel Tunnel (“Chunnel”)
- European Union

B. Conflict and Change in Central Europe

- Geography of the Balkan region
- Ethnically fragmented, mixture of languages and religions
- Mountainous region, Danube River
- Seas: Adriatic, Ionian, Black, Aegean, Mediterranean
- Romania, Bulgaria, Greece, Albania
- Northern Ireland
- Countries that emerged from the breakup of Yugoslavia: Slovenia, Croatia, Bosnia and Herzegovina, Macedonia
- Bosnian conflict
- “Balkanization”

XV. America at War

- Islamic fundamentalism
- Iranian hostage crisis
- Iran-Iraq War
- Afghanistan
- Persian Gulf War
- September 11, 2001 attacks
- Iraq war

XVI. A Changing World

- Globalization (1991–Present)
 - Global balance of power shift with the end of the Cold War
 - Wars, territorial disputes, ethnic and cultural conflicts, acts of terrorism
 - advances in technology
 - expansion of human rights
 - Changes in the global economy present new challenges.
- Population growth and life expectancy
 - Rapid increase of global population in the 20th and 21st centuries
 - China: Government one child per couple policy
 - Increase in life expectancy; societal and governmental challenges
 - The increase of the elderly has placed burdens on many countries to provide adequate health care.

- Mass migrations
 - Societal and governmental challenges, including:
 - Brain drain out of developing countries
 - Tension and conflict in some receiving countries (e.g., immigrants from North Africa and other Arab nations into Europe)
 - Illegal immigration (e.g., U.S., South Africa)
- Environmental impact
 - World population growth and the competition for energy supplies
 - Increase in greenhouse gas emissions
 - Loss of tens of thousands of plant and wildlife species
 - rapid decline of rainforests
 - Governments institute policies to reduce pollution and conserve resources
 - New environmental consciousness and movement for the sustainability of the world's resources influenced the actions of
 - Citizen organizations (e.g., Greenpeace, Save Our Environment, World Wildlife Fund, Save Our Earth)
 - Government conferences (e.g., 1992 Earth Summit, 1997 Kyoto Protocol)

DRAFT



Teachers: In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasize important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. The following guidelines specify a variety of artwork in different media and from various cultures in order to expose students to a wide range of art and artists. While the list is robust, it may require teachers to narrow the selection in order to adequately address the works and related skills within an academic year.

In studying the works of art specified below, and in creating their own art, students should review, develop, and apply concepts introduced in previous grades, such as line, shape, form, space, texture, color, light, design, and symmetry

I. Art History: Periods and Schools

Teachers: The guidelines here continue the organizational scheme established in sixth and seventh grades, which combined art history with analysis of specific illustrative works. Timelines may help students situate the artists, periods, and schools. Note that the periods and characteristics are not absolute distinctions but generally helpful categories (to which there are always exceptions) often used in discussions of art.

A. Modern Representational Painting (WWII-Until About 1970)

- Examine representative artists and works, including
 - Regionalism, including:
 - Grant Wood, *American Gothic* (1930)
 - Edward Hopper, *Nighthawks* (1942)
 - Andrew Wyeth, *Christina's World* (1948)
 - Diego Rivera, *Detroit Industry*
 - Jacob Lawrence, a work from his *Builder* series (1947) or *Migration of Negroes* series (1941)
 - Horace Pippin, *Sunday Morning Breakfast*, (1943)
 - Charles Wilbert White, *The Contribution of the Negro to Democracy in America* (1943)
 - Norman Rockwell, *Triple Self-Portrait* (1960)
 - Pop art, including:
 - Andy Warhol, *Campbell's Soup Can, Marilyn* (1962)
 - Roy Lichtenstein, *Whaam* (1963)
 - Alice Neel, *Hartley* (1965)
 - Betye Saar, *Black Girl's Window* (1969)
 - Romare Bearden, *She-Ba* (1970)

B. 20th Century Photography

- Examine representative artists and works, including
 - Alfred Steiglitz, *The Steerage* (1907)
 - James VanDerZee, *Raccoon Couple in Car*, (1932)
 - Margaret Bourke-White, *Fort Peck Dam* (1936)
 - Dorothea Lange, *Migrant Mother, California* (1936)
 - Ansel Adams, *Moonrise, Hernandez, New Mexico* (1941)
 - Gordon Parks, *Washington, D.C. Government Charwoman* (*American Gothic*) (1942)
 - Henri Cartier-Bresson, *The Berlin Wall* (1962)
 - Graciela Iturbide, *Our Lady of Iguanas* (1979)
 - Cindy Sherman, a selection of her *Film Stills*, (1977–80)
 - Barbara Kruger, *When I hear the word culture I take out my checkbook* (1985)
 - Carrie Mae Weems, any from her *Kitchen Table Series*, 1989–90

C. 20th-Century Sculpture

- Examine representative artists and works, including
 - Auguste Rodin: *The Thinker*, *Monument to Balzac* (1898)
 - Constantin Brancusi, *Bird in Space* (1923)
 - Henry Moore, *Two Forms* (1934)
 - Meret Oppenheim, *Object* (1936)
 - Sargent Claude Johnson, *#2 Mask*, 1939/1941
 - Alexander Calder, *Lobster Trap and Fish Tail* (1939)
 - Pablo Picasso, *Bull's Head* (1942)
 - Louise Nevelson, *Black Wall* (1959)
 - Eva Hesse, *Repetition Nineteen III* (1968)
 - Judy Chicago, *The Dinner Party* (1974–79)
 - Claes Oldenburg, *Clothespin* (1976)
 - Maya Lin, *Vietnam Veterans Memorial* (1980s)
 - Damien Hirst, *The Physical Impossibility of Death in the Mind of Someone Living* (1991)
 - Louise Bourgeois, *Spider* (1994)

D. Contemporary Art (21st Century)

- Examine representative artists and works, including
 - Jean-Michel Basquiat, untitled, (1981)
 - Keith Haring (any of his works) (80s)
 - Anish Kapoor, *Descent into Limbo* (1992)
 - Kerry James Marshall, *De Style* (1993)
 - Shirin Neshat, from her photo series *Unveiling (Women of Allah Series)* (1993)
 - Christo (and Jeanne-Claude), *Wrapped Reichstag* (1995)
 - Banksy, *Girl with Balloon* (also, *Balloon Girl* or *Girl and Balloon*) (2002)
 - Jeff Koons, *Balloon Rabbit (Red)* 2005-2010
 - Nick Cave, *Soundsuit* (2009)

II. Post-Modern Architecture

- Examine examples of Post-Modern Architecture, including
 - Robert Venturi, *Vanna House* (1964)
 - Peter Eisenman, *House VI* (1972)
 - Richard Rogers and Renzo Piano, *Center Pompidou* (1977)
 - James Stirling, *Neue Staatsgalerie, Stuttgart* (1984)
 - Peter Zumthor, *Baths of Vals* (1996)
 - Frank Gehry, *Guggenheim, Bilbao* (1997)
 - Zaha Hadid, *Phæno Science Center* (2005)
 - SOM, *Burj Kalifa, Dubai* (2009)



I. Elements of Music

Teachers: The Music guidelines for Grades 6–8 share a basic vocabulary of the elements of music that can inform the discussion, appreciation, and study of selected musical works. Following these guidelines are recommendations in each grade for a core of musical content, broadly organized as a history of music from early to modern times, with attention to specific periods, composers, and genres. While these guidelines focus on musical vocabulary, appreciation, and history, musical performance should be encouraged and emphasized as local resources allow.

- Review as necessary from earlier grades: The orchestra and families of instruments (strings, wind, brass, percussion); keyboard instruments Vocal ranges: soprano, mezzo-soprano, alto; tenor, baritone, bass
- Recognize (aurally) frequently used Italian terms:
 - Review
 - *grave* (very very slow)
 - *prestissimo* (as fast as you can go)
 - *ritardando* and *accelerando* (gradually slowing down and getting faster)
 - *crescendo* and *decrescendo* (gradually increasing and decreasing volume)
 - Introduce
 - *legato* (smoothly flowing progression of notes)
 - *staccato* (crisp, distinct notes)
- Recognize introduction, interlude, and coda in musical selections.
- Recognize theme and variations.
- Identify chords [such as I (tonic), IV (subdominant), V (dominant); V7]; major and minor chords; chord changes; intervals (third, fourth, fifth).
- Understand what an octave is.
- Understand the following notation and terms:
 - names of lines and spaces in the treble clef; middle C
 -  treble clef,  bass clef,  staff, bar line, double bar line, measure, repeat signs
 -  whole note,  half note,  quarter note,  eighth note
 - whole rest, half rest, quarter rest, eighth rest
 -  grouped sixteenth notes
 - tied notes and dotted notes
 -  sharps  flats  naturals
 - *Da capo* [*dc*] *al fine*
 - *Dal segno* [*ds*] *al Fine*
 - *Dal segno* [*ds*] *al Coda*
 - meter signature $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$
 - common time $\frac{4}{4}$
 - very soft *pp* (pianissimo), soft *p* (piano), moderately soft *mp* (mezzo-piano)
 - moderately loud *mf* (mezzo-forte), loud *f* (forte), very loud *ff* (fortissimo)

II. Non-Western Music

- Become familiar with scales, instruments, and works from various lands, for example: 12-tone scale, sitar from India, Caribbean steel drums, Japanese koto.
- Ravi Shankar and daughter Anoushka Shankar, sitar composers and virtuosos, *Pancham Se Gara*
- Zhao Jiping and son Zhao Lin, with Pipa Virtuoso, Wu Man, *Red Lantern*

III. Classical Music: Modern and Patriotic

Teachers: While these guidelines focus on musical vocabulary, appreciation, and history, musical performance should be encouraged and emphasized as resources allow. The focus here combines music history with appreciation of illustrative works, and continues from Grades 6 and 7 the idea of classifying Western music by periods, with examples of specific composers and works, as well as some associated musical terms. Timelines may help students situate the periods. The periods and their characteristics are not absolute distinctions but generally helpful categories often used in discussions of music.

Note: In Grade 7, students were introduced to works by Dvorák, Grieg, Tchaikovsky, and Ponce.

Note: Florence Beatrice Price was the first African American woman to be recognized as a symphonic composer

A. Music and National Identity

- Composers and works:
 - Jean Sibelius, *Finlandia*
 - Bela Bartók, folk-influenced piano music such as *Allegro barbaro*, selections from *Mikrokosmos* or *For Children*
 - Joaquin Rodrigo, *Concierto de Aranjuez*
 - Aaron Copland, *Appalachian Spring (Suite)*
 - Florence Beatrice Price, “My Soul’s Been Anchored in the Lord” (by Marian Anderson at the Lincoln Memorial)
 - Antônio Carlos Jobim, the founding father of bossa nova music and composer of the famous song, *The Girl From Ipanema*

B. Modern Music

- Composers and works: Claude Debussy, *La Mer*, first movement, “De l’aube à midi sur la mer,” Igor Stravinsky, *The Rite of Spring*, first performed in Paris, 1913

IV. Modern Musical Performers

Teachers: These guidelines focus on influential modern musicians, but this list is not intended to be exhaustive. Review lyrics and/or video performances of any song by these performers prior to sharing with students to ensure it is appropriate with the culture and standards of your classroom. When introducing the individual/band and work, highlight how this artist was influential and what examples from his/her/their music inspired later musicians.

Aretha Franklin
The Beatles
Bob Dylan
Carol King
Chuck Berry
Elvis Presley
James Brown
Joan Baez
Joni Mitchell
Little Richard
Miles Davis
Nat King Cole
Ray Charles

V. Vocal Music

A. Opera

- Terms: overture, solo, duet, trio, quartet, chorus, aria, recitative
- Composers and works:
 - Gioacchino Rossini, from *The Barber of Seville*: Overture and “Largo al factotum”
 - Giuseppe Verdi, from *Rigoletto*: aria, “Questa o quella”; duet, “Figlia! . . . Mio padre!”; aria, “La donna è mobile”; quartet, “Bella figlia dell’amore”

B. American Musical Theater

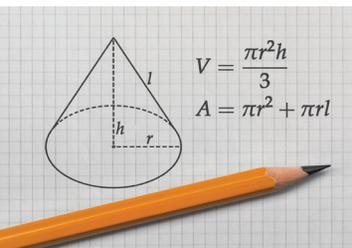
- Composers and popular songs:
 - Irving Berlin, "There's No Business Like Show Business," "Blue Skies"
 - Dorothy Fields, *The Way You Look Tonight* and *Sunny Side of the Street*
 - George M. Cohan, "Give My Regards to Broadway," "Yankee Doodle Dandy"
 - Cole Porter, "Don't Fence Me In," "You're the Top"
- Broadway musicals: selections including
 - Jerome Kern, *Showboat*: "Ol' Man River"
 - Rodgers and Hammerstein, *Oklahoma!*: "Oh What a Beautiful Mornin'," "Oklahoma"
 - Leonard Bernstein and Stephen Sondheim, *West Side Story*: "Maria," "America"
 - Andrew Lloyd Weber, *Phantom of the Opera*, "The Music of the Night" *Cats*, "Memory"
 - Stephen Schwartz, *Wicked*, "Defying Gravity"
 - Claude-Michel Schönberg, *Les Misérables*, "One Day More"
 - Lin-Manuel Miranda, *Hamilton*, "Satisfied"

C. Song Ballads

- "Ol' Man River" (Paul Robeson)
- "Day-O" (Harry Belafonte)

Also known as "Banana Boat (Day-O)"

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Teachers: In learning the new concepts and procedures, students should use previously acquired mathematics to ensure that the procedures become automatic and habitual. Students should continue to master the use of measuring and drawing instruments, develop their mental arithmetic and their approximating abilities, become more familiar with deductive reasoning, and use calculators and computers in a thoughtful way.

While teaching methods may vary, it is worth keeping in mind the psychological principle that the most effective method for learning mathematics emphasizes frequent, varied practice, and encourages multiple approaches to solving varied types of problems.

I. The Number System

- Know that there are numbers that are not rational, and approximate them by rational numbers.
 - Know that numbers that are not rational are called irrational.
 - Understand (informally) that every number has a decimal expansion.
 - Show that for rational numbers the decimal expansion eventually repeats.
 - Convert a decimal expansion which repeats eventually into a rational number.
 - Use rational approximations of irrational numbers to compare the size of irrational numbers.
 - Identify approximate location on a number line diagram.
 - Estimate the value of expressions.

II. Expressions and Equations

- Work with radicals and integer exponents.
 - Know and apply the properties of integer exponents to generate equivalent numerical expressions.
 - Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number.
 - Evaluate square roots of small perfect squares.
 - Evaluate cube roots of small perfect cubes.
 - Know that $\sqrt{2}$ is irrational.
 - Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities.
 - Express how many times as much one is than the other.
 - Perform operations with numbers expressed in scientific notation.
 - Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.
 - Interpret scientific notation that has been generated by technology.
- Understand the connections between proportional relationships, lines, and linear equations.
 - Graph proportional relationships.
 - Interpret the unit rate as the slope of the graph.
 - Compare two different proportional relationships represented in different ways.
 - Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.
 - Derive the equation $y = mx$ for a line through the origin
 - Derive the equation $y = mx + b$ for a line intercepting the vertical axis at b .
- Analyze and solve linear equations and pairs of simultaneous linear equations.
 - Solve linear equations in one variable.

Include problems where both decimal and scientific notation are used.

Transforming into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results.

Including, equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Points of intersection satisfy both equations simultaneously.

- Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions.
- Show which of these possibilities is the case by successively transforming the given equation into simpler forms.
- Solve linear equations with rational number coefficients.
- Analyze and solve pairs of simultaneous linear equations.
- Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs.
- Solve systems of two linear equations in two variables algebraically.
 - Estimate solutions by graphing the equations.
 - Solve simple cases by inspection.
- Solve real-world and mathematical problems leading to two linear equations in two variables.

III. Functions

The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

Represented algebraically, graphically, numerically in tables, or by verbal descriptions.

Including reading these from a table or from a graph.

- Define, evaluate, and compare functions.
 - Understand that a function is a rule that assigns to each input exactly one output.
 - Compare properties of two functions each represented in a different way.
 - Interpret the equation $y = mx + b$ as defining a linear function (a straight line).
 - Give examples of functions that are not linear.
- Use functions to model relationships between quantities.
 - Construct a function to model a linear relationship between two quantities.
 - Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values.
 - Interpret the rate of change and initial value of a linear function in terms of the situation it models.
 - Interpret the rate of change and initial value of a linear function in terms of its graph or a table of values.
 - Describe qualitatively the functional relationship between two quantities by analyzing a graph.
 - Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

IV. Geometry

- Understand congruence and similarity using physical models, transparencies, or geometry software.
 - Verify experimentally the properties of rotations, reflections, and translations:
 - Lines are taken to lines, and line segments to line segments of the same length.
 - Angles are taken to angles of the same measure.
 - Parallel lines are taken to parallel lines.
 - Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
 - Given two congruent figures, describe a sequence that exhibits the congruence between them.
 - Describe the effect of dilations, translations, rotations, and reflections on two dimensional figures using coordinates.
 - Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations.
 - Given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

- Use informal arguments to establish facts about the angle sum and exterior angle of triangles.
- Use informal arguments to establish facts about the angles created when parallel lines are cut by a transversal.
- Use informal arguments to establish facts about the angle-angle criterion for similarity of triangles.
- Understand and apply the Pythagorean theorem.
 - Explain a proof of the Pythagorean Theorem and its converse.
 - Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
 - Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
 - Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

V. Statistics and Probability

- Investigate patterns of association in bivariate data.
 - Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities.
 - Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
 - Know that straight lines are widely used to model relationships between two quantitative variables.
 - For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
 - Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
 - Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.
 - Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects.
 - Use relative frequencies calculated for rows or columns to describe possible association between the two variables.



Teachers: Effective instruction in science requires not only direct experience and observation but also book learning, which helps bring coherence and order to a student's scientific knowledge. Only when topics are presented systematically and clearly can students make steady and secure progress in their scientific learning. The Science sequence for the middle school grades aims for more intensive and selective study of topics, a number of which were introduced in earlier grades. The *Sequence* continues the practice of studying topics from each of the major realms of science (physical, life, and earth science). Students are expected to do experiments and write reports on their findings.

I. Contact Forces

A. Motion

- Measures of motion:
- Speed: distance per unit of time
- Velocity: distance per unit of time in a particular direction
- Changes in velocity can involve changes in speed and/or direction

B. Contact Forces

- A force is a push or pull on an object.
- A contact force is a push or pull on objects that touch each other.
- A force has both direction and magnitude.
- Newton's mathematical expression of force; a newton is the measure of force in the metric system, pound-force in the English system.
- If an object is at rest or there is no change in its movement, then the forces acting on it are balanced.
- Unbalanced forces result in changes of an object's velocity.

C. Collisions

- The kinetic energy of a moving object is related to its mass.
- Newton's Third Law of Motion can be applied to collisions.
- The forces acting on object in a collision, and the change the motion of the objects, involves the velocity of each object and its mass.

II. Sound Waves

A. Sound Waves and Sound

- Difference between a sound and a sound wave: Sound is the result of sound waves. E.g., a ringing bell causes a sound wave, which a person recognizes as a sound.
- Vibrating objects establish sound waves when not in a vacuum.
- Common vibrating objects: human voice box, siren, bell, parts of a cell phone or television
- Sound waves, when interacting with matter, can be reflected, absorbed, or transmitted.
- Like all forms of energy, a sound wave can be transformed into another energy form—the engineering basis for many practical devices.
- Characteristics of a sound wave include:
 - Speed
 - Frequency
 - Amplitude

III. Forces at a Distance

A. Non-Contact Forces

- A force is a push or pull on an object.
- A non-contact force is a push or pull on objects that do not touch each other.
- Examples: magnetism, electrical forces, gravity
- Non-contact forces involve fields that surround object, magnetic fields, electrical fields, gravitational fields.
- If an object is at rest or there is no change in its movement then, the forces acting on it are balanced.
- Unbalanced forces result in changes of an object's velocity.

B. Magnetism and Electricity

- Magnets exert a non-contact force on objects made of certain metals.
- A metal object becomes magnetic when all its electrons spin in the same direction.
- Some objects are naturally magnetic, others can be made by subjecting certain metals to an electrical field.
- All magnets have two poles, north and south.
- Similar magnetic poles repel; opposite magnetic poles attract.
- The entire Earth is a magnet, and therefore surrounded by a magnetic field.
- Electrical forces are the result of charged particles acting upon one another.
- Electrical and magnetic forces can be described by the activity of the field associated with each force.

C. Gravity

- Gravity is a force that acts upon any two objects in the universe.
- Gravity results because any mass causes the space around it to curve.
- Newton's law of universal gravitation
- Effects of universal gravitation on objects in the universe

IV. Earth in Space

A. Earth, Moon, Sun

- The earth, moon, and sun form a system.
- Earth revolves around the sun and the moon revolves around the earth
- Solar and lunar eclipses are the result of the earth, moon, sun system.
- Day, night, and seasons are the result of the earth in relationship to the sun.
- Tides are the result of the interaction of earth and moon.

B. Solar Systems

- Solar system: at least one star and its orbiting objects
- Objects in a solar system include planets, moons, asteroids, and comets.
- Origins of solar systems
- Eclipses, lunar phases, and seasons: results of the cyclic patterns of movement of the sun, planets, and moons

C. Stars and Galaxies

- The sun is a star.
- Red giants and white dwarfs
- Life cycle of the stars, including novae, supernovae, black holes, and quasars
- The apparent movement of stars is a result of the rotation of Earth.

- Constellations such as the Big Dipper and Orion, are visual groupings of stars into imagined images.
- Definition of light year
- Galaxy: enormous number of stars held together by gravitation
- About 125 billion galaxies in the universe
- Our knowledge of stars, solar systems, galaxies, and the universe is the result of observations and data collected by earth-based instruments, space-based instruments, and spacecraft.

V. Genetics

A. Genetics

- Gregor Mendel's experiments with purebred and hybrid peas and subsequent discoveries about inherited traits
- Role of genes (segments of DNA on a chromosome) in inherited traits
 - Traits of an offspring are the result of half of an offspring's genes coming from the mother, and half coming from the father.
 - Alleles, dominant and recessive
 - An offspring
- Role, structure, and organization of DNA
- DNA is the template for RNA, which in turn directs the development of proteins

B. Mutations

- A mutation is a structural change to a gene.
- Mutations can be harmful, neutral, or beneficial.
- Mutations change the structure of DNA, which in turn can affect RNA and thus the formation of proteins.

C. Sexual and Asexual Reproduction

- Sexual reproduction results in offspring with a mixture of genes from each parent.
- Sexual reproduction results in new combination of genes and thus results in variation of traits in offspring.
- Asexual reproduction is not the result of the combination of genes and thus does not result in genetic variation between parent and offspring.

VI. Natural Selection and Common Ancestry

A. Natural Selection

- Definition of natural selection
- Definition of population, and a knowledge of variation of traits among individuals
- Percentages of genes and alleles in a population
- Abiotic and biotic changes in the environment and their favorable or unfavorable effects on individuals with certain traits
- Survival and greater reproduction of individuals with favorable traits, or adaptations
 - Others will not reproduce as effectively or will die; pass on their genes at a lower rate changing the genetic structure of a population over time.

B. Evidence of Common Ancestry

- Many lines of evidence indicate all living things have a common ancestry.
- Fossil evidence, rock strata and chemical dating process show that the processes of evolution: from origin to extinction, were the same in the past as they are now.

- Comparison of structural similarities and differences between fossils and between fossils and living organisms is one basis for the common ancestry of all living things.
- Comparison of the DNA of differing organisms and other cellular chemical analyses indicate concept that all living things have a common ancestry.

C. Evolution

- Definition, theory, and process of evolution
- Study of the process of evolution includes the comparing genetic makeup and biochemistries of large numbers of different organisms, comparing the anatomy of organisms living and past, and comparative embryology.
- The history of the study of how organisms are related goes back to the beginning of scientific thought.
- Charles Darwin, and his *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life* (1859) and historical and scientific importance

VII. Science Biographies

- Albert Einstein — advancements in the study of space, matter, energy, time, and gravity
- Dorothy Hodgkin — structure of vitamin B12
- James Maxwell —the basic laws of electromagnetism
- Charles Steinmetz —the theory of electric power

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appendices

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Appendix A

Why Listening and Learning are Critical
to Reading Comprehension

Appendix B

Using Trade Books to Supplement and Enhance
the *Core Knowledge Sequence*

Appendix C

Teaching History and Geography in the
Middle School Grades

Appendix D

Knowledge and Social Skills: Powerful Synergy for
Productive Citizenship

Appendix E

Core Knowledge Resources

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Appendix A:

Why Listening and Learning are Critical to Reading Comprehension

Appendix A: Why Listening and Learning are Critical to Reading Comprehension

Those who follow education know all too well that concern about poor student achievement in literacy has reached levels that border on desperation. By every standard measure, it is clear that large numbers of students are leaving American schools ill-prepared to pursue higher education or careers due to poor literacy skills. On international comparisons of reading achievement, the United States ranks below nearly all other countries, surpassed by the likes of Finland, Korea, Japan, and even Hungary and Poland. Longitudinal test results from the National Assessment of Education Progress (NAEP) show little or no growth over a period of decades.

Some progress has been made over the past two decades in the early elementary grades, thanks to the Reading First initiative and several legislative acts (i.e., No Child Left Behind [NCLB], Race to the Top, and Every Student Succeeds Act [ESSA]) that underscored the importance of explicitly and systematically teaching decoding skills. Since the inception of these proposals, test scores in the very early grades (K–2) have risen. This improvement reflects the benefits of explicit instruction in phonemic awareness, systematic phonics, and the development of fluency.

Unfortunately, however, these initial improvements have proven unsustainable. As these very same students moved into the upper elementary grades, their test scores have dropped or flatlined. The conclusion is inescapable: the explicit teaching of decoding skills is necessary, but not sufficient to achieve the goal of full literacy. While systematically teaching decoding leads to improved performance on early reading evaluations, which focus on decoding skills, American educators have yet to find an analogous remedy that leads to improved test scores in the latter grades, when the focus shifts to assessing whether students understand what they read. The approach currently favored by most language arts programs, hours of instructional time to teaching and practicing an ever expanding collection of reading comprehension strategies, has proven ineffective. Current research suggests that teaching reading strategies has value in helping students recognize the purpose for reading and may lead to a slight boost in reading comprehension scores, but not the sustained improvement that would be indicative of true literacy. Something is still missing.

What's missing is background knowledge. "Most of us think about reading in a way that is fundamentally incorrect," observes University of Virginia cognitive scientist Daniel T. Willingham. "We think of it as transferable, meaning that once you acquire the ability to read, you can read anything. But being able to decode letter strings fluently is only half of reading. In order to understand what you're reading, you need to know something about the subject matter. And that doesn't just mean that you need to know the vocabulary—you need to have the right knowledge of the world," he says.

The successful experience of schools using Core Knowledge during the past 30 years demonstrates the importance of background knowledge to reading comprehension. Time and again, schools implementing content-specific Core Knowledge curriculum have noted that even though state and standardized tests are not tied to the *Core Knowledge Sequence*, student performance on such tests improves at statistically significant levels when students are exposed to core knowledge over several years. Instead of scores dropping or flatlining at the upper grade levels, these students' test scores actually rise! "General reading comprehension ability is much more than comprehension strategies," wrote Core Knowledge founder E.D. Hirsch, Jr. in his 2006 book *The Knowledge Deficit*; "it requires a definite range of general knowledge."

In order to understand what is read, it is absolutely necessary to have knowledge of relevant things that are not explicitly stated. Reading is a two-lock box, and opening that box requires not only adequate decoding skills but also language, vocabulary and background knowledge that provide a foundation and underlying context for students to understand what they are reading.

There is “truly a mountain of data that students must have content knowledge to read effectively,” says Willingham. Unfortunately, existing language arts programs have not been designed to build this foundation of language, vocabulary and background knowledge. This is why the Core Knowledge Foundation created the *Core Knowledge Language Arts* (CKLA) program.

Language—Listening, Speaking, Reading, and Writing

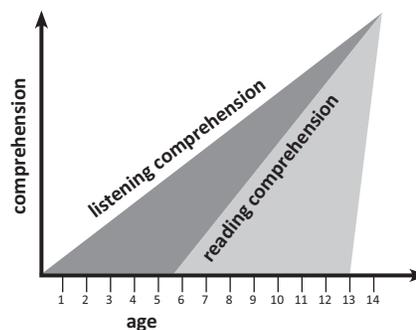
Traditional language arts instruction has typically paid little attention to listening and speaking. This failure to focus on the development of oral language in language arts instruction is a serious oversight. The ability to read and write written language, is highly correlated with students’ oral language proficiency, and the ability to understand a text read aloud is a prerequisite for making sense of the same text in printed form. It is essential that children build listening and speaking competency while also developing reading and writing skills.

Linguists distinguish between receptive and expressive language. Receptive language is language that we take in, process and understand. Expressive language is language we generate and produce. Oral language is spoken language or speech. Written language is print. Oral language is primary. Written language builds upon it.

	Receptive Language	Expressive Language
Oral Language	Listening	Speaking
Written Language	Reading (two keys: <i>decoding + comprehension</i>)	Writing (<i>handwriting, spelling, written composition</i>)

Researchers who study the development of language in young children point out that oral language development precedes and is the foundation for written language development. Children’s oral language competence is strongly predictive of their facility in learning to read and write. A child’s listening and speaking vocabulary, and even mastery of syntax, set boundaries as to what they can read and understand no matter how well they can decode.

It is important to note that for young children in preschool and the early grades, *receptive and expressive abilities do not develop simultaneously or at the same pace; receptive language generally precedes expressive language*. Science confirms what common sense suggests: children need to be able to understand words before they can produce and use them. The groundbreaking work of Hart and Risley (1995), who studied young children in the context of their early family life, found the number of words they heard before they arrived in kindergarten predicted how many words they understood and how fast they could learn new words in kindergarten. Even more significantly, five years later, in third grade, early language competence still predicted language and reading comprehension. The preschoolers who had heard more words, and subsequently learned more words orally, became better readers.



Source: T. G. Sticht and J. James, “Listening and reading,” in P. Pearson, ed., *Handbook of Research on Reading*. New York: Longmans, 1984. (1984)

This finding offers a profoundly important lesson for educators. *Early language disadvantage persists and manifests itself as illiteracy when educational practices fail to recognize the importance of oral language.* A meta-analysis of research by Thomas Sticht (1984) reinforces the importance and primacy of oral language, suggesting that it endures well past the time during which most children have started reading independently. Sticht's analysis strongly suggests that children's listening comprehension outpaces reading comprehension until the middle school years (grades 6–8).

The takeaway message is clear and obvious: we must devote at least as much time during the language arts block to reading aloud to young children as we currently devote to providing children with the skills they will need to decode and encode language. This is one of the fundamental premises of the Listening and Learning (Knowledge) Strand of the CKLA program.

Building Listening Comprehension and Content Knowledge by Reading Aloud

Written text makes use of richer vocabulary and more complex syntax than conversational language. It is important that young children be exposed not only to the language of everyday conversation but also to the richer and more formal language of books. This is best done through frequent reading aloud. Children's ability to understand what they hear far outpaces their ability to independently read and understand written text. By listening to stories or nonfiction selections read aloud, children can experience the complexities of written language without expending cognitive energy on decoding.

Helping young children develop the ability to listen to and understand written texts read aloud must be an integral part of any initiative designed to build literacy

Choosing Read-Alouds

Not just any read-aloud(s), however, will do. First, careful consideration should be given to the selection of text read aloud to ensure that the vocabulary and syntax presented is rich and complex.

Furthermore, to make efficient use of instructional time, read-alouds must also be selected that build a broad knowledge base, while simultaneously building listening comprehension and language skills. To do this, the selection of *read-alouds within a given grade level and across grade levels must be guided by a coherent, sequenced approach to building knowledge.* This can be achieved by selecting fiction and nonfiction read-alouds from grade level topics identified in the *Core Knowledge Sequence*. The topics for read-alouds in the Listening and Learning (Knowledge) Strand of the CKLA program have been chosen on this basis.

By reading a story or nonfiction selection aloud, we allow children to experience written language without the burden of decoding, granting them access to content they may not be able to read and understand by themselves. They are then free to focus their mental energy on the words and ideas presented in the text, gaining the language and background knowledge that will be needed to tackle rich, written content on their own.

Domains and Staying on a Topic

Building knowledge systematically in language arts is like giving children various pieces of a puzzle in each grade that, over time, will form the big picture. As noted above, read-alouds—within and across grade levels—need to be selected around topics or domains that systematically build knowledge. A domain is an area of knowledge, such as the human body, plants, astronomy, Native Americans, civil rights, and so on. It is strongly recommended that daily read-alouds focus on a single domain over a sustained period of time—about two weeks—rather than intermingling randomly selected read-alouds on a variety of topics. The read-alouds for the Listening and Learning (Knowledge) Strand are organized by domain.

Staying on a topic or domain increases the chances that students will receive multiple exposures to key vocabulary words. For example, in the kindergarten Plants domain, students get multiple

exposures to key words from this domain, such as *nutrients*, *photosynthesis*, *crop*, and *harvest*. Hearing these kinds of words used in meaningful contexts over the course of a domain, efficiently and exponentially increases the rate at which children acquire new vocabulary.

Acquisition of both language and knowledge will also be enhanced if, following each read-aloud, children participate in rich, structured conversations with an adult in response to the written text that has been read aloud. In this way, they can begin to orally practice comparing, analyzing, and synthesizing ideas in written text in much the same way as they will be expected to do as independent readers in the later grades.

Ensuring Coherence

The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics.

The *Core Knowledge Sequence* is designed to provide schools with a coherent, cumulative and content-specific curriculum. In Core Knowledge schools, teaching and learning are more effective as teachers help students build upon prior knowledge and make more efficient progress from one year to the next. All students enjoy more equal educational opportunities as they are motivated by consistently challenging content. And all children are prepared to become members of the wider national community, respectful of diversity while strengthened by the shared knowledge that helps unite us on common ground.

To learn more, visit *The Case for Content-Rich Curriculum* on our website (www.coreknowledge.org/our-approach/knowledge-based-schools/case-content-rich-curriculum/).

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Appendix B:

Using Trade Books to Supplement and Enhance the Core Knowledge Sequence

Appendix B: Using Trade Books to Supplement and Enhance the Core Knowledge Sequence

In the spirit of the Core Knowledge approach, the purpose of providing this list is to highlight texts that will support vocabulary and literacy development, as well as promote the continued building of background knowledge. These titles are intended to be used as additional teacher read-alouds in the early grades and/or as part of grade level classroom libraries for supplemental reading. Some titles align with domains/topics that are covered in multiple subject areas which affords the opportunity to make cross-curricular connections. This appendix is not meant to be an exhaustive list of all trade books pertaining to the specific domains and topics outlined in the *Sequence*.

Grade	Subject	Domain/Topic	Trade Book Title
K	American History	Symbols and Figures	Eggers, D. (2017) <i>Her Right Foot</i> ISBN 9781452162812
		Presidents, Past and Present	Grimes, N. (2012) <i>Barack Obama: Son of Promise, Child of Hope</i> ISBN 9781442450776
		Native Americans	Maillard, K. (2019) <i>Fry Bread: A Native American Story</i> ISBN 9781626727465
	World History	Seven Continents	Eggers, D. (2018) <i>What Can a Citizen Do?</i> ISBN 9781452173139
	Visual Arts	Color, Portraits	Curry, P. & Jessica, P. (2019) <i>Parker Looks Up</i> ISBN 9781534451855
	Social Skills		Denise, A. (2019) <i>Planting Stories: The Life of Librarian & Storyteller Pura Belpre</i> ISBN 9780062748683
			Bailey, J. (2019) <i>A Friend for Henry</i> ISBN 9781452167916
			Hoffman, M. (1991) <i>Amazing Grace</i> ISBN 0803710405
			Sotomayor, S. (2019) <i>Just Ask</i> ISBN 9780525514121
			Verde, S. (2018) <i>I Am Human: A Book of Empathy</i> ISBN 9781419731655
1	American History	American Revolution	Keating, F. (2012) <i>George: George Washington, Our Founding Father</i> ISBN 9781442447172
	World History	The Culture of Mexico	Deedy, C. (2017) <i>The Rooster Who Would Not Be Quiet!</i> ISBN 9780545722889
		Three World Religions	Muhammad, I (2019) <i>The Proudest Blue: A Story of Hajib and Family</i> ISBN 9780316519007

Grade	Subject	Domain/Topic	Trade Book Title
	Science	Sun, Moon and Stars	Becker, H. (2018) Counting on Katherine: How Katherine Johnson Saved Apollo 13 ISBN 9781250137524
	Visual Arts	The Culture of Mexico	Brown, M. (2017) Frida Kahlo and Her Animalitos ISBN 9780735842694
	Social Skills		Mendez, Y. (2019) Where Are You From? ISBN 9780062839930
Putrill, S. (2019) It's OK to Be Different ISBN 9780973410457			
2	ELA	Stories	Jaffe, N. (1996) The Golden Flower: A Taino Myth From Puerto Rico ISBN 9781558854529
	American History	Americans Move West	Sanders, J. (2019) Be the Difference: 40+ Ideas for Kids to Create Positive Change Using Empathy, Kindness, Equality, and Environmental Change ISBN 9781925089417
		The Civil War	Engle, M. (2019) Dancing Hands: How Teresa Carreno Played the Piano for President Lincoln ISBN 9781481487405
			Platt, C. (2020) The Story of Harriet Tubman: A Biography Book for New Readers ISBN 9781646111091
			Ransome, J. (2019) The Bell Rang ISBN 9781481476713
		Immigration and Citizenship	Choi, Y. (2001) The Name Jar ISBN 9780440417996
			Leung, J. (2019) The Inspiring Story of Tyrus Wong, Immigrant and Artist ISBN 9781524771874
			Tonatiuh, D. (2010) Dear Primo: A Letter to My Cousin ISBN 978081093872451695
		Symbols and Figures	Glasser, L. (2010) Emma's Poem: The Voice of the Statue of Liberty ISBN 9780544105089

Grade	Subject	Domain/Topic	Trade Book Title
		Fighting for a Cause	Bridges, R. (2009) <i>Ruby Bridges Goes to School: My True Story</i> ISBN 9780545108553
			Brown, M. (2009) <i>Side by Side: The Story of Dolores Huerta and Cesar Chavez</i> ISBN 9780061227820
			Clark-Robinson, M. (2018) <i>Let the Children March</i> ISBN 9780544704527
			Hopkinson, D. (2019) <i>Carter Reads the Newspaper</i> ISBN 9781561459346
			Ramsey, C. (2010) <i>Ruth and the Green Book</i> ISBN 9780761352556
			Harrington, J. (2019) <i>Buzzing with Questions: The Inquisitive Mind of Charles Henry Turner</i> ISBN 9781629795584
	World History	Ancient China	Major, John. (1996) <i>The Silk Route: 7,000 Miles of History</i> ISBN 978-0064434683
	Social Skills		Pimentel, A. (2020) <i>All the Way to the Top: How One Activism Girl's Fight for Americans with Disabilities Changed Everything</i> ISBN 9781492688976
			Woodson, J. (2001) <i>The Other Side</i> ISBN 978039923116236
	3	American History	The Earliest Americans
Visual Arts		Collages	Harvey, J (2011) <i>My Hands Sing the Blues: Romare Bearden's Childhood Journey</i> ISBN 978076145810451799
			Step toe, J. (2016) <i>Radiant Child: The Story of Young Artist Jean-Michel Basquiat</i> ISBN 978031621388251899
Social Skills			Hood, S. (2018) <i>Shaking Things Up: 14 Young Women Kindness and Who Changed the World</i> ISBN 9780062699459
			Palacio, R.J. (2020) <i>We're All Wonders</i> ISBN 9780593303405
			Webb, A. (2020) <i>Awesomely Emma</i> ISBN 9781506464954
			Woodson, J. (2012) <i>Each Kindness</i> ISBN 9780399246524

Grade	Subject	Domain/Topic	Trade Book Title
4	American History	Reformers	Bryan, A. (2016) <i>Freedom Over Me: Eleven Slaves, Their Lives and Dreams Brought to Life</i> ISBN 1481456903
			Chamber, V. and the Staff of the New York Times (2020) <i>Finish the Fight: The Brave and Revolutionary Women Who Fought for the Right to Vote</i> ISBN 9780358408307
	World History	Medieval Europe	Stanley, D. (2002) <i>Joan of Arc</i> ISBN 9780064437486
	Visual Arts	Architecture	Lyons, K. (2020) <i>Dream Builder: The Story of Architect Philip Freelon</i> ISBN 9781620149553
	Social Skills		Lewis, B. (2009) <i>The Kid's Guide to Service Projects</i> ISBN 9781575423388
		Palacio, R.J. (2012) <i>Wonder</i> ISBN 9780375869020	
5	American History	Westward Expansion After the Civil War	Park, L. (2020) <i>Prairie Lotus</i> ISBN 9781328781505
		Native Americans: Cultures and Conflicts	Erdrich, L. (1999) <i>The Birchbark House</i> ISBN 9780786814541
			Tingle, T. (2013) <i>How I Became a Ghost: A Choctaw Trail of Tears Story</i> ISBN 9781937054557
			Goble, P. (2013) <i>Custer's Last Battle: Red Hawk's Account of the Battle of the Little Bighorn</i> ISBN 9781937786113
	World History	May, Aztec and Inca Civilizations	Gorrell, G. (2007) <i>In the Land of the Jaguar: South America and its People</i> ISBN 9780887767562
	Science	Investigating Matter	Venezia, M. (2010) <i>Luis Alvarez: Wild Idea Man</i> ISBN 9780531207772
	Social Skills		Lewis, B. (2009) <i>The Kid's Guide to Service Projects</i> ISBN 9781575423388
6	American History	Reform in Industrial America	Weatherford, C. (2017) <i>Schomberg: The Man Who Built a Library</i> ISBN 9781536208979
			Weatherford, C. (2018) <i>Voice of Freedom: Fannie Lou Hamer: The Spirit of the Civil Rights Movement</i> ISBN 9781536203257
		Immigration	Yep, L. (2001) <i>Dragonwings</i> ISBN 9780064400855

Grade	Subject	Domain/Topic	Trade Book Title
	Social Skills		Fleischman, P. (2002) Seedfolks ISBN 9780064472074
			Carlson., L. (1994) Cool Salsa: Bilingual Poems on Growing Up Latino in the United States ISBN 9781250016782
			Bruchac, J. (1997) Eagle Song ISBN 9780141301693
			Burnell, C. (2020) I Am Not a Label: 34 Disabled Artists, Thinkers, Athletes, and Activists From Past and Present ISBN 9780711247451
			Joseph, L. (2000) The Color of My Words ISBN 9780064472043
7	ELA	Poetry	Alexander, K. (2017) Out of Wonder: Poems Celebrating Poets ISBN 9780763680947
			Marti, J. (1997) (Translated by Tellechea, M.) Simple Verses ISBN 1558852042
	Social Skills		Lewis, B. (2008) The Teen Guide to Global Action: Kindness, and How to Connect with Others to Create Social Change ISBN 9781575422664
8	ELA	Poetry	Giovanni, N., ed. (2010) The 100 Best African American Poems ISBN 9781402221118
		Novels	Khan, H. (2017) Amina's Voice ISBN 9781481492072
			Park, L. (2010) A Long Walk to Water ISBN 9780547577319
			Watson, R. (2017) Piecing Me Together ISBN 9781681191072
			Oh, E. (2020) The Dragon Egg Princess ISBN 9780062875792
			Moore, W. (2011) The Other Wes Moore: One Name, Two Fates ISBN 9780385528207
			Yousafzai, M. (2016) I Am Malala: How One Girl Stood Up for Education and Changed the World (Young Readers Edition) ISBN 9780316327916

Grade	Subject	Domain/Topic	Trade Book Title
	Social Skills		Lewis, B. (2008) <i>The Teen Guide to Global Action: Kindness, and How to Connect with Others to Create Social Change</i> ISBN 9781575422664
			Lyon, G. (2020) <i>Voices of Justice: Poems About People Working for a Better World</i> ISBN 9781250263209
Middle School	American History		Patterson, J. and Alexander, K. (2020) <i>Becoming Muhammad Ali</i> ISBN 9780316498166
			Grimes, N. (2017) <i>One Last Word: Wisdom from the Harlem Renaissance</i> ISBN 9781619635548
			Bolden, T. ed. (2020) <i>Strong Voices: Fifteen American Speeches Worth Knowing</i> ISBN 9780062572042
			Engle, M. (2015) <i>Enchanted Air: Two Cultures, Two Wings</i> ISBN 9781481435239
			Smith, C.L. ed. (2021) <i>Ancestor Approved: Intertribal Stories for Kids</i> ISBN 0062869949
			Bausum, A. (2006) <i>Freedom Riders: John Lewis and Jim Zwerg on the Front Lines of the Civil Rights Movement</i> ISBN 97807922417371
			Carmon, I. & Knizhnik, S. (2017) <i>Notorious RBG: The Life and Times of Ruth Bader Ginsberg (Young Reader's Edition)</i>
			Dunbar, E. (2020) <i>Never Caught, the Story of Ona Judge: George and Martha Washington's Courageous Slave Who Dared to Run Away</i> ISBN 9781534416185
		Rich, D. (1993) <i>Queen Bess: Daredevil Aviator</i> ISBN 9781560986188	
		World History	
			Kelly, E. <i>Lalani of the Distant Sea</i> ISBN 9780062747280

Appendix C:

Teaching History and Geography in the Middle School Grades

Appendix C: Teaching History and Geography in the Middle School Grades

The *Core Knowledge Sequence* was designed to deliver content in a coherent and cumulative fashion. Topics introduced in the earliest grades at a surface level are reexamined in later grades—each time in greater depth and with more precision. The content spiral of the *Sequence* exemplifies the most fundamental tenet of the Core Knowledge approach—it sets the stage for knowledge to build on knowledge.



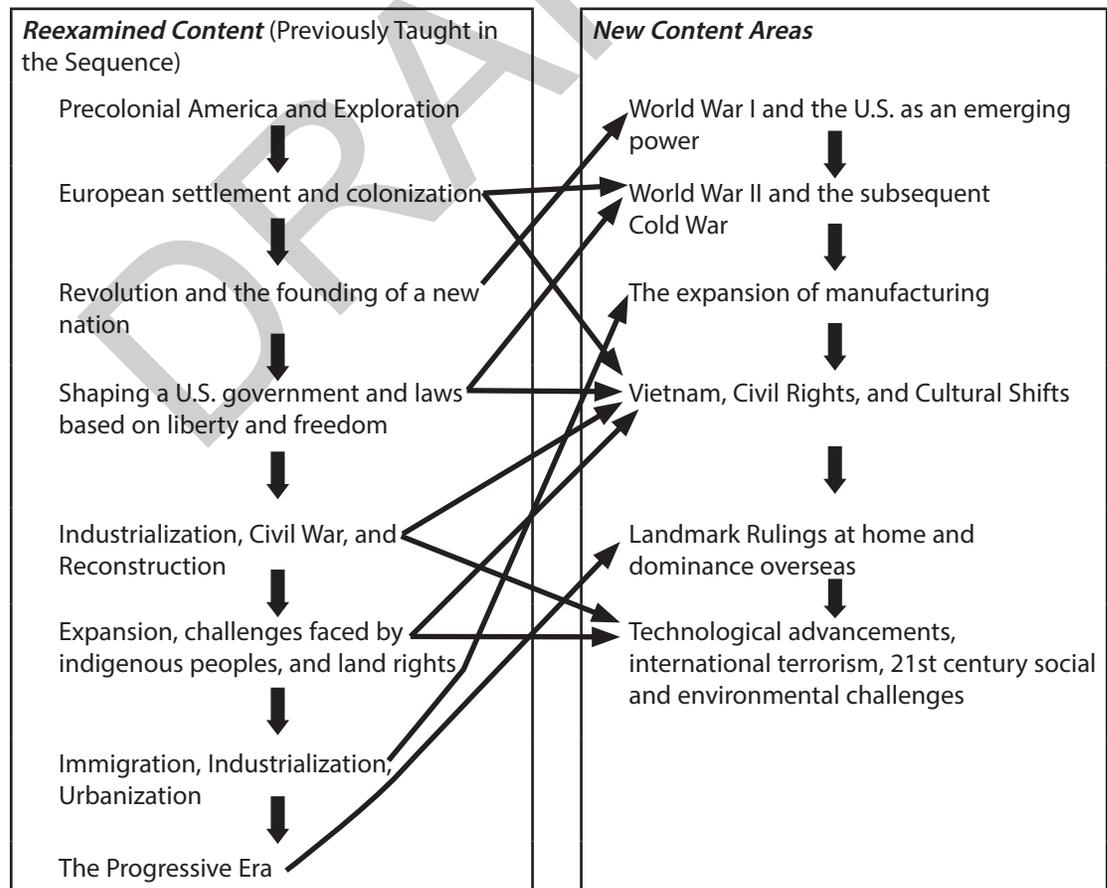
A Survey of American and World History



Compared to previous *Sequence* editions, surveys of American and world history in Grades 7–8 offer students the opportunity to expand their knowledge and apply higher levels of analysis to previously taught topics. It affords a tighter knowledge-building spiral. Students learn new perspectives, uncover novel detail, and come to recognize shades of nuance. This new knowledge not only leads to greater understanding, it also draws lines of sight between the past and present. See the examples below.

Note: Another Benefit Associated with the Study of American/World History: Students, new to Core Knowledge, now have an opportunity to fill in any knowledge gaps through general instruction.

Connections Across American History Content



Using CKHG to Implement the Sequence

The **Core Knowledge History and Geography (CKHG)** program (www.coreknowledge.org/curriculum/history-geography) addresses all of the history and geography content specified by the *Core Knowledge Sequence*. In addition, as described below, the middle school program's design, optional activities, and pacing offer multiple pathways to bring this *Sequence* to life.

Flexibility and Options for Implementation

The *Sequence* offers middle school teachers' ultimate flexibility in providing students with access to coherent, rich content. While it outlines a survey of American history in Grade 7 and a survey of world history in Grade 8, this content is considered to be suggestive rather than prescriptive. The Core Knowledge Foundation not only acknowledges that state-level middle school social studies standards are often content-specific, but also recognizes that the content focus greatly varies state-to-state. That is, at these grades, there is little agreement across states as to what content should be studied. In addition, based on countless conversations with middle school educators, the foundation has become increasingly aware that many students who did not benefit from Core Knowledge instruction in earlier grades, often struggle to grasp the depth of twentieth and twenty-first century topics. Thus, for Grades 7–8, the *Sequence* provides educators various ways in which they can plan and deliver history and geography content in line with the Core Knowledge approach.

Taking a Deeper Dive

Educators who feel their students possess adequate knowledge of all/most topics introduced in K–6, may prefer to focus instruction on a narrower set of topics. This can include:

- Centering instruction on a period in history (e.g., precolonial to reconstruction or late nineteenth to early twenty-first century). Teachers can chart the course of key events within that timeframe while analyzing the corresponding social, political, and environmental developments and challenges.
- Targeting a subset of sizable topics that afford more in-depth study, such as:
 - The American Revolution, the founding of a new nation, and the Constitution
 - Civil War
 - Industrialization
 - World War I
 - World War II
 - Civil Rights
 - Political, social, and environmental challenges of the twenty-first century

Using CKHG to Facilitate Deeper Study

CKHG can support both aforementioned efforts. For example, the program's "learning lab" affords opportunities that enrich the learning experience. These include additional research, writing, and discussion topics based on specific content. By partaking in these activities, students engage in new experiences with the content or take a deeper dive. The amount of time spent in each chapter's learning lab is flexible. Guidance provided in the program's pacing guide suggests how many days, or weeks, one could devote to the learning lab and additional activities.

Selecting Topics Based on Standards

In order to better align with state standards, some middle school educators may need to select and/or move topics between grades. In these situations, it is important to consider both the coherent and cumulative implications.

A **coherent** sequence presents and explores topics through an orderly flow. It moves from one idea to the next, one unit to the next, in a logical fashion. When considering the subject of history, this would require each grade level to study events in chronological order.

A **cumulative** sequence builds across grade levels. Topics introduced in early grade levels (e.g., K–2) serve as the foundation for later learning (e.g., 3–5). When identifying topics for Grade 8, one would need to consider what prerequisite knowledge students would bring from Grade 7. For example, if the topic of the Cold War were taught in Grade 8, it would be important students first study World War II in Grade 7 in order to understand the events that occurred during this war, and the subsequent relationship between the US and Russia that led to the Cold War. Likewise, if World War II were taught in Grade 8, then it would be important for students to study World War I in Grade 7. Some reasons for this are that the state of Germany at the end of World War I served as one factor in the rise of the Nazi party, and that the brutality of World War I left many Americans reluctant to join the war effort.

Using CKHG to Implement a Redesigned Sequence

The design of the CKHG middle school program lends itself to be used in a flexible manner. Each chapter focuses on a specific topic, and can be taught in isolation. That is, the chapter content and corresponding activities do not rely on previous chapters. Thus, if educators redesign the Grades 7–8 sequence (e.g., moving select topics from Grade 8 into Grade 7 and vice versa), they can still use CKHG to support instruction. It would require identifying which corresponding chapters from CKHG correspond with their grade level topics, and then utilizing the corresponding pacing material to determine the amount of time to allot to each topic (chapter).

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Appendix D

Knowledge and Social Skills: Powerful Synergy for Productive Citizenship

Appendix D: Knowledge and Social Skills: Powerful Synergy for Productive Citizenship



Citizenship Readiness

Core Knowledge's instructional materials are designed to ensure that all students acquire the broad knowledge and skills needed to become responsible, productive citizens. While much of the education arena focuses on all students becoming college and career ready, Core Knowledge focuses on college, career, and citizenship.

The United States is a diverse nation. Its citizens include immigrants and descendants of indigenous people or individuals who (willfully or by force) migrated from around the world. Thus, being citizenship-ready necessitates the ability to speak with, listen to, and respect different perspectives of people from across this country. How does the *Core Knowledge Sequence* support this? It highlights the myriad ways in which different cultures, at different times, have scientifically, politically, and artistically enriched each other. Students build awareness and appreciation for cultures different from their own.

Citizenship-readiness also requires an understanding of America's past, and the lasting impact on its citizens. Through content outlined in the *Sequence*, students learn about our country's laudable and troubled history. This includes the opportunities and levels of freedom America afforded many of its citizens over the centuries, as well as its struggle to extend the principles of liberty and equality to **all** people.

The Role of Social Skills in Productive Citizenship

While shared knowledge is power, it, in and of itself may not be enough to break barriers that hinder productive citizenship. That is why we at the Core Knowledge Foundation, advocate that educators couple a content-rich curriculum with a framework designed to cultivate character education and social skills (e.g., expressing empathy, developing ethical awareness, building character, making responsible decisions, relating across differences, etc.). This synergy of knowledge and skills can promote effective communication. Working together, the two can build bridges through understanding and respect.

Sample Standards and Frameworks

The Core Knowledge Foundation encourages educators to identify specific social skills that could be applied to Core Knowledge instruction as a means of fostering citizenship-readiness. While not an exhaustive list, the standards and frameworks listed below offer varied pathways toward this goal. Specific examples of each are provided as a starting point. It is recommended that educators engage in further research in order to determine which approach, or approaches, would work best for their schools.

This latest edition of the *Core Knowledge Sequence* represents our pursuit to include more voices and cultural contributions that have impacted American society. We hope that this body of knowledge will cultivate understanding, foster tolerance, and facilitate citizenship readiness.

Character Education

A Framework for Character Education in Schools provides a holistic approach to character development, including the acquisition and cultivation of intellectual, moral, civic, and performance virtues. (www.jubileecentre.ac.uk/527/character-education/framework)

Social Justice Standards

Learning for Justice: A Framework for Anti-bias Education provides a roadmap for anti-bias education. (www.learningforjustice.org/frameworks/social-justice-standards)

Social-Emotional Learning Standards

CASEL's SEL Framework works within the classroom and wider school community to develop knowledge and skills across five competences: self-awareness, self-management, social awareness, relationship skills, and responsible decision making. (www.casel.org/sel-framework/)

Culturally Responsive-Sustaining Education

The Culturally Responsive-Sustaining (CR-S) Education Framework aids teachers with creating learning environments that: 1) recognize students' cultural identities; 2) establish high expectations; 3) support students in connecting across differences; 4) provide access to traditionally marginalized perspectives and voices; and, 5) promote social action. (www.nysed.gov/crs/framework)

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Appendix E:

Core Knowledge Resources

Appendix E: Core Knowledge Resources

The Core Knowledge Foundation offers content-rich curriculum materials for preschool through grade 8, including the Core Knowledge Curriculum Series™. Most materials are available via the Core Knowledge Bookstore  (www.coreknowledge.org/store/) and/or can be downloaded for free . (www.coreknowledge.org/curriculum/download-curriculum/).

Getting Started/Building Buy-In

Availability

Leader Starter Kit	
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Leader Starter Kit	
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Instructional Resources

Core Knowledge Curriculum Series™

(www.coreknowledge.org/curriculum/)

Kindergarten–Grade 8*

The Core Knowledge Curriculum Series™ provides comprehensive, content-rich learning materials based on the *Core Knowledge Sequence*. Student Readers, Teacher Guides, Activity Books, and other materials are available for Language Arts, History and Geography, and Science.

Availability

Core Knowledge Language Arts™ (CKLA)** (www.coreknowledge.org/curriculum/language-arts/)		Purchase via Amplify
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Core Knowledge History and Geography™ (CKHG) (www.coreknowledge.org/curriculum/history-geography/)	 	Student texts also available as interactive eBooks in English and Spanish; Visit bookstore for more details.
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Core Knowledge Science™ (CKSci) (www.coreknowledge.org/curriculum/science/)	 	Student texts also available as interactive eBooks in English and Spanish; Visit bookstore for more details.
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*At the time of this publication, CKLA (Grades 7–8), CKHG (Grade 8), and CKSci (Grades 6–8) are in development.

**CKLA offers a preschool program

Icon Key

 ➔ Core Knowledge Bookstore (www.coreknowledge.org/store/)

 ➔ Free Download (www.coreknowledge.org/curriculum/download-curriculum/)

Supplemental Resources by Grade available via the 

- Preschool**
- Core Knowledge Preschool Teacher Handbook
 - What Your Preschooler Needs to Know*
 - Preschool Activity Book – Level 1
 - Preschool Activity Book – Level 2
 - Music Collection
 - Preschool Schedule Cards
 - Preschool Snapshot
 - Preschoolers at Play: Dramatic Play Lessons
 - Stop and Think Songbook CD
 - Stop and Think Posters (*Only available as a **free download***)
- Kindergarten**
- What Your Kindergartener Needs to Know*
 - Art Resources
 - Music Collection
 - Listen My Children (*poetry anthology*)
- Grade 1**
- What Your First Grader Needs to Know*
 - Art Resources
 - Music Collection
 - Listen My Children (*poetry anthology*)
- Grade 2**
- What Your Second Grader Needs to Know*
 - Art Resources
 - Music Collection
 - Listen My Children (*poetry anthology*)
- Grade 3**
- What Your Third Grader Needs to Know*
 - Art Resources
 - Music Collection
 - Listen My Children (*poetry anthology*)
- Grade 4**
- What Your Fourth Grader Needs to Know*
 - Art Resources
 - Music Collection
 - Listen My Children (*poetry anthology*)
 - Core Classic – *Gulliver’s Travels*
 - Core Classic – *The Legend of Sleepy Hollow*
 - Core Classic – *King Arthur*
 - Core Classic – *Robin Hood*
 - Core Classic – *Robinson Crusoe*
 - Core Classic – *Treasure Island*

- Grade 5** *What Your Fifth Grader Needs to Know*
 Art Resources
 Music Collection
 Listen My Children (*poetry anthology*)
 Core Classic – *Don Quixote*
 Core Classic – *Little Women*
 Core Classic – *A Midsummer Night’s Dream*
 Core Classic – *Sherlock Holmes*
- Grade 6** *What Your Sixth Grader Needs to Know*
 Music Collection
Realms of Gold, Volume I
 Core Classic – *The Iliad and the Odyssey*
 Core Classic – *The Tragedy of Julius Caesar*
The Heritage of Ancient Greece and Rome
The Blessings of Liberty: Voices for Social Justice and Equal Rights in America
- Grade 7** Music Collection
Realms of Gold, Volume II
 Core Classic – *Dr. Jekyll and Mr. Hyde*
 Core Classic – *The Tempest*
 Core Classic – *The Time Machine*
The Genius of the Harlem Renaissance
- Grade 8** Music Collection
Realms of Gold, Volume III
 Core Classic – *Frankenstein*
 Core Classic – *Narrative of the Life of Frederick Douglass*
 Core Classic – *Twelfth Night*

NOTE: The Core Classics are also available as eBooks; visit  more details.

Core Knowledge at a Glance

	Preschool	Kindergarten	First Grade	Second Grade	Third Grade
Language Arts/English	<ul style="list-style-type: none"> I. Oral Language II. Nursery Rhymes, Poems, Finger-Plays, and Songs III. Storybook Reading and Storytelling IV. Emerging Literacy Skills 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction VII. Sayings and Phrases 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction VII. Sayings and Phrases 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction VII. Sayings and Phrases 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VII. Fiction VIII. Sayings and Phrases
History and Geography	<p><i>Time:</i></p> <ul style="list-style-type: none"> I. Vocabulary II. Measures of Time III. Passage of Time (Past, Present, Future) <p><i>Space:</i></p> <ul style="list-style-type: none"> I. Vocabulary II. Actual and Representational Space III. Simple Maps IV. Basic Geographic Concepts 	<p><i>World:</i></p> <ul style="list-style-type: none"> I. Geography: Spatial Sense II. Overview of the Seven Continents <p><i>American:</i></p> <ul style="list-style-type: none"> I. Geography II. Native American Peoples, Past and Present III. Early Exploration and Settlement IV. Presidents, Past and Present V. Symbols and Figures 	<p><i>World:</i></p> <ul style="list-style-type: none"> I. Geography II. Early World Civilizations III. Modern Civilization and Culture: Mexico <p><i>American:</i></p> <ul style="list-style-type: none"> I. Early People and Civilizations II. Early Exploration and Settlement III. From Colonies to Independence: The American Revolution IV. Early Exploration of American West V. Symbols and Figures 	<p><i>World:</i></p> <ul style="list-style-type: none"> I. Geography II. Early Asian Civilizations III. Modern Japanese Civilization IV. The Ancient Greek Civilization <p><i>American:</i></p> <ul style="list-style-type: none"> I. American Government: The Constitution II. The War of 1812 III. Westward Expansion IV. The Civil War V. Immigration and Citizenship VI. Fighting for a Cause VII. Geography of the Americas VIII. Symbols and Figures 	<p><i>World:</i></p> <ul style="list-style-type: none"> I. World Geography II. The Ancient Roman Civilization III. The Vikings <p><i>American:</i></p> <ul style="list-style-type: none"> I. The Earliest Americans II. Early Exploration of North America III. The Thirteen Colonies: Life and Times Before the Revolution
Visual Arts	<ul style="list-style-type: none"> I. Attention to visual detail II. Creating Art III. Looking and Talking about Art 	<ul style="list-style-type: none"> I. Elements of Art II. Sculpture III. Look & Discuss IV. Architecture 	<ul style="list-style-type: none"> I. Art from Long Ago II. Elements of Art III. Kinds of Pictures III. Architecture 	<ul style="list-style-type: none"> I. Elements of Art II. Sculpture III. Landscapes IV. Abstraction V. Architecture 	<ul style="list-style-type: none"> I. Elements of Art II. Native American Art III. Art of Ancient Rome and Byzantine Civilization IV. Architecture
Music	<ul style="list-style-type: none"> I. Attention to Differences in Sound II. Imitate and Produce Sounds III. Listen and Sing IV. Listen and Move 	<ul style="list-style-type: none"> I. Elements of Music II. Listening and Understanding III. Songs 	<ul style="list-style-type: none"> I. Elements of Music II. Listening and Understanding (Composers; Orchestra; Opera; Ballet; Jazz) III. Songs 	<ul style="list-style-type: none"> I. Elements of Music II. Listening and Understanding (Orchestra; Keyboards; Composers) III. Songs 	<ul style="list-style-type: none"> I. Elements of Music II. Listening and Understanding (Orchestra; Composers; Connections) III. Songs
Mathematics	<ul style="list-style-type: none"> II. Patterns and Classification II. Geometry III. Measurement IV. Numbers and Number Sense V. Addition and Subtraction with Concrete Objects VI. Money 	<ul style="list-style-type: none"> I. Counting and Cardinality II. Operations and Algebraic Thinking III. Number and Operations in Base Ten IV. Measurement and Data V. Geometry 	<ul style="list-style-type: none"> I. Operations and Algebraic Thinking II. Number and Operations in Base Ten III. Measurement and Data IV. Geometry 	<ul style="list-style-type: none"> I. Operations and Algebraic Thinking II. Number and Operations in Base Ten III. Measurement and Data IV. Geometry 	<ul style="list-style-type: none"> I. Operations and Algebraic Thinking II. Number and Operations in Base Ten III. Number and Operations—Fractions IV. Measurement and Data V. Geometry
Science	<ul style="list-style-type: none"> I. Human Characteristics, Needs and Development II. Animal Characteristics, Needs and Development III. Plant Characteristics, Needs and Growth IV. Physical Elements (Water, Air, Light) V. Introduction to Magnetism VI. Seasons and Weather VII. Taking Care of the Earth VIII. Tools 	<ul style="list-style-type: none"> I. Pushes and Pulls II. Needs of Plants and Animals III. Changing Environments IV. Weather Patterns V. The Human Body: Our Five Senses VI. Science Biographies 	<ul style="list-style-type: none"> I. Sun, Moon, and Stars II. Plant and Animal Survival III. Exploring Light and Sound IV. Simple Machines V. The Human Body: Human Body Systems VI. Science Biographies 	<ul style="list-style-type: none"> I. Properties of Matter II. Organisms and Their Habitats III. Exploring Land and Water IV. Electricity and Magnetism V. The Human Body: Cells and Digestion VI. Science Biographies 	<ul style="list-style-type: none"> I. Investigating Forces II. Life Cycles, Traits, and Variations III. Habitats and Change IV. Weather and Climate V. The Human Body: Systems and How Our Eyes and Ears Work VI. Science Biographies

	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade
Language Arts/English	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction VII. Speeches VIII. Sayings and Phrases 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction and Drama VII. Speeches VIII. Sayings and Phrases 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction and Drama VII. Sayings and Phrases 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction, Nonfiction, and Drama VII. Foreign Phrases Commonly Used in English 	<ul style="list-style-type: none"> I. Listening and Speaking II. Reading III. Writing IV. Language Conventions V. Poetry VI. Fiction, Nonfiction, and Drama VII. Foreign Phrases Commonly Used in English
History and Geography	<p><i>World:</i></p> <ul style="list-style-type: none"> I. World Geography (Spatial Sense; Mountains) II. Europe in Middle Ages III. The Spread of Islam and the "Holy Wars" IV. Early and Medieval African Kingdoms V. China: Dynasties and Conquerors <p><i>American:</i></p> <ul style="list-style-type: none"> I. The American Revolution II. Making a Constitutional Government III. Early Presidents and Politics IV. Reformers V. Symbols and Figures 	<p><i>World:</i></p> <ul style="list-style-type: none"> I. World Geography (Spatial Sense; Lakes) II. Early American Civilizations III. European Exploration, Trade, and the Clash of Cultures IV. The Renaissance and the Reformation V. England from the Golden Age to the Glorious Revolution VI. Russia: Early Growth and Expansion VII. Feudal Japan <p><i>American:</i></p> <ul style="list-style-type: none"> I. Westward Expansion II. The Civil War: Causes, Conflicts, Consequences III. Native Americans: Cultures and Conflicts IV. U.S. Geography 	<p><i>World:</i></p> <ul style="list-style-type: none"> I. World Geography (Spatial Sense; Deserts) II. Lasting Ideas from Ancient Civilizations III. The Enlightenment IV. The French Revolution V. Romanticism VI. Industrialism, Capitalism, and Socialism VII. Latin American Independence Movements <p><i>American:</i></p> <ul style="list-style-type: none"> I. Immigration, Industrialization, and Urbanization II. Reform 	<p style="text-align: center;">Survey of American History (Precolonial to the Present)</p>	<p style="text-align: center;">Survey of World History (20th and 21st Century)</p>
Visual Arts	<ul style="list-style-type: none"> I. Art and Architecture of the Middle Ages in Europe II. Islamic Art and Architecture III. Art of Africa IV. Art of China V. Art and Architecture of a New Nation 	<ul style="list-style-type: none"> I. Art and Architecture of the Renaissance II. Baroque Art and Architecture III. American Art: Nineteenth-Century United States IV. Native American Art V. Art of Japan VI. Russian Art and Architecture 	<ul style="list-style-type: none"> I. Art History: Periods and Schools (Classical; Gothic; Rococo; Neoclassical; Romantic; Realism; Impressionism; Post-Impressionism) II. Architecture in the Age of the Industrial Revolution 	<ul style="list-style-type: none"> I. Art History: Period and Schools (Fauvism/Expressionism; Cubism; Surrealism; Abstract Expressionism; Abstraction) and Abstraction; Modern American Painting) II. Organic Architecture 	<ul style="list-style-type: none"> I. Art History: Periods and Schools (Painting Since World War II; 20th-Century Photography; 20th-Century Sculpture; Contemporary Art) II. Post-Modern Architecture
Music	<ul style="list-style-type: none"> I. Elements of Music II. Listening and Understanding (Orchestra; Vocal Ranges; Composers; Connections) III. Songs 	<ul style="list-style-type: none"> I. Elements of Music II. Listening and Understanding (Composers; Connections) III. American Musical Traditions (Spirituals; Performers) IV. Songs 	<ul style="list-style-type: none"> I. Elements of Music II. Classical Music: From Baroque to Romantic (Bach, Handel, Haydn, Mozart, Beethoven, Schubert, Chopin, Schumann, Smyth) III. Songs 	<ul style="list-style-type: none"> I. Elements of Music II. Classical Music: Romantic and Patriotic (Brahms, Berlioz, Liszt, Wagner, Dvorak, Grieg, Tchaikovsky, Ponce) III. American Musical Traditions (Blues and Jazz) 	<ul style="list-style-type: none"> I. Elements of Music II. Non-Western Music III. Classical Music: Modern and Patriotic IV. Modern Musical Performers V. Vocal Music (Opera; American Musical Theater; Song Ballads)
Mathematics	<ul style="list-style-type: none"> I. Operations and Algebraic Thinking II. Number and Operations in Base Ten III. Number and Operations—Fractions IV. Measurement and Data V. Geometry 	<ul style="list-style-type: none"> I. Operations and Algebraic Thinking II. Number and Operations in Base Ten III. Number and Operations—Fractions IV. Measurement and Data V. Geometry 	<ul style="list-style-type: none"> I. Ratios and Proportional Relationships II. The Number System III. Expressions and Equations IV. Geometry V. Statistics and Probability 	<ul style="list-style-type: none"> I. Ratios and Proportional Relationships II. The Number System III. Expressions and Equations IV. Geometry V. Statistics and Probability 	<ul style="list-style-type: none"> I. The Number System II. Expressions and Equations III. Functions IV. Geometry V. Statistics and Probability
Science	<ul style="list-style-type: none"> I. Energy Transfer and Transformation II. Investigating Waves III. Structures and Functions of Living Things IV. Processes That Shape Earth V. Using Natural Resources for Energy VI. The Human Body: Our Circulatory & Respiratory Systems VII. Science Biographies 	<ul style="list-style-type: none"> I. Investigating Matter II. Energy and Matter in Ecosystems III. Modeling Earth's Systems IV. Protecting Earth's Resources V. Astronomy: Space Systems VI. The Human Body: Our Endocrine and Reproductive Systems VII. Science Biographies 	<ul style="list-style-type: none"> I. Light and Matter II. Thermal Energy III. Weather, Climate, and Water Cycling IV. Rock Cycling and Plate Tectonics V. Natural Hazards VI. Cells and Systems VII. The Human Body: Circulatory, Lymphatic, and Immune Systems VIII. Science Biographies 	<ul style="list-style-type: none"> I. Chemical Reactions and Matter II. Chemical Reactions and Energy III. Metabolic Reactions IV. Matter Cycling and Photosynthesis V. Ecosystem Dynamics VI. Natural Resources and Human Impact VII. Science Biographies 	<ul style="list-style-type: none"> I. Contact Forces II. Sound Waves III. Electromagnetic Waves III. Forces at a Distance IV. Earth in Space V. Genetics VI. Natural Selection and Common Ancestry VII. Science Biographies

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