

Grade 1



Overview of Topics

Grade 1

Language Arts

- I. Listening and Speaking
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 - 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
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History and Geography

World:

- I. Geography
 - A. Spatial Sense
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- 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:

- 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
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 - B. Line
 - C. Shape
 - D. Texture
- III. Kinds of Pictures: Portrait and Still Life

Music

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

Mathematics

- I. Patterns and Classification
- II. Numbers and Number Sense
- III. Money
- IV. Computation
 - A. Addition
 - B. Subtraction
 - C. Solving Problems and Equations
- V. Measurement
- VI. Geometry

Science

- I. Living Things and Their Environments
 - A. Habitats
 - B. Oceans and Undersea Life
 - C. Environmental Change and Habitat Destruction
 - D. Special Classifications of Animals
- II. The Human Body
 - A. Body Systems
 - B. Germs, Diseases, and Preventing Illness
- III. Matter
- IV. Properties of Matter: Measurement
- V. Introduction to Electricity
- VI. Astronomy
- VII. The Earth
 - A. Geographical Features of the Earth's Surface
 - B. What's Inside the Earth
- VIII. Science Biographies

Language Arts: Grade 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.

For Grade 1, domains include: Early World Civilizations; Modern Civilization and Culture: Mexico; Early American Civilizations; Early Exploration and Settlement; From Colonies to Independence: The American Revolution; Early Exploration of the American West; Living Things and Their Environments; The Human Body; Matter; Introduction to Electricity; Astronomy: Introduction to the Solar System; The Earth.

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 on-going 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" (see page 34).

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 child's ability to understand what he hears far outpaces his 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; 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 on pages 32–34. 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, children 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 listed on pages 35–47, 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 children 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, children 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 children 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 children write their own poems. To bring children 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 children 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 children 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 children 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.) Children 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

Note: Children 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.

VII. Sayings and Phrases

Teachers: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many children, 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.

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

History and Geography: Grade 1

Teachers: In first grade, children 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

History and
Geography

I. Geography

A. SPATIAL SENSE (Working with Maps, Globes, and Other Geographic Tools)

Teachers: Foster children's 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 major oceans: Pacific, Atlantic, Indian, Arctic.
- Review the seven continents: Asia, Europe, Africa, North America, South America, Antarctica, Australia.
- Locate: Canada, United States, Mexico, Central America.
- Locate: the Equator, Northern Hemisphere, Southern Hemisphere, North and South Poles.

B. GEOGRAPHICAL TERMS AND FEATURES

- peninsula, harbor, bay, island

II. Early World Civilizations

Teachers: As you introduce children to early civilizations, keep in mind the question, What is civilization? Help children 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
- 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
 - Africa
 - Sahara Desert
- Importance of Nile River, floods and farming
- Pharaohs
 - Tutankhamen
 - Hatshepsut, woman pharaoh
- Pyramids and mummies, animal gods, Sphinx
- Writing: hieroglyphics

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

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 children 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

- Indian and Spanish heritage
- Traditions: fiesta, piñata
- National holiday: September 16, Independence Day

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

American History & Geography



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 (the land bridge as one possibility)
From hunting to farming
Gradual development of early towns and cities

B. EARLY AMERICAN CIVILIZATIONS

Teachers: Children 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 children 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
- Aztecs in Mexico
Moctezuma (also called Montezuma)
Tenochtitlan (Mexico City)
- Inca in South America (Peru, Chile)
Cities in the Andes, Machu Picchu

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

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

II. Early Exploration and Settlement

A. COLUMBUS

Teachers: Review from kindergarten the story of Columbus’s voyage in 1492.

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
- Slavery, plantations in Southern colonies
- Massachusetts
Pilgrims, Mayflower, Thanksgiving Day
Massachusetts Bay Colony, the Puritans



See below, Symbols and
Figures: Liberty Bell.

See also Music 1: “Yankee
Doodle.”

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”
- 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
 - Sacagawea
- 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

Visual Arts: Grade 1

SEE INTRODUCTION, “The Arts in the Curriculum.”

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. While the following guidelines specify a variety of artworks in different media and from various cultures, they are not intended to be comprehensive. Teachers are encouraged to build upon the core content and expose children to a wide range of art and artists.

I. Art from Long Ago

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

- Look at and discuss
 - Cave paintings
 - Art of Ancient Egypt
 - Great Sphinx
 - Mummy cases: Tutankhamen’s coffin
 - Bust of Queen Nefertiti

See also World History 1:
Ancient Egypt.

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
 - Claude Monet, *Tulips in Holland*
 - James A. McNeill Whistler, *Arrangement in Black and Gray* (also known as *Whistler’s Mother*)
 - Diego Rivera, *Piñata*

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

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, one of her *Shell* paintings

C. SHAPE

- Recognize basic geometric shapes—square, rectangle, triangle, circle, oval—in nature, man-made objects, and artworks, including
 - Jacob Lawrence, *Parade*
 - Grant Wood, *Stone City, Iowa*

D. TEXTURE

Teachers: Provide opportunities for children 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 (such as a pomo basket)
Edgar Degas, *Little Fourteen-Year-Old Dancer* (also known as *Dressed Ballet Dancer*)
Albrecht Dürer, *Young Hare*

III. Kinds of Pictures: Portrait and Still Life

Teachers: Introduce children to the terms we use to describe different kinds of paintings, discuss examples, and provide opportunities for children to create their own works in different genres. When you look at the specified works, ask the children 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 a portrait or self-portrait:
Leonardo da Vinci, *Mona Lisa*
Francisco Goya, *Don Manuel Osorio Manrique de Zuñiga*
Vincent van Gogh, *Self-Portrait* [1889]
- Recognize as a still life:
Vincent van Gogh, *Irises*
Paul Cézanne, studies with fruit, such as *Apples and Oranges*
- Recognize as a mural (a painting on a wall):
Diego Rivera, *The History of Medicine in Mexico*

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

Music: Grade 1

SEE INTRODUCTION, "The Arts in the Curriculum."

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.).
 - 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.
 - Play simple rhythms and melodies.
 - Recognize like and unlike phrases.
 - Recognize that music has timbre or tone color.
 - Sing unaccompanied, accompanied, and in unison.
- Understand that music is written down in a special way and become familiar with the following notation:
 - ♩ whole note ♪ half note ♪ quarter note

II. Listening and Understanding

Teachers: Expose children 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)*.
- 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*.

Note: Children 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 children to the Suite from Tchaikovsky's *Sleeping Beauty*, in relation to the story in Language Arts 1, "Sleeping Beauty."

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 children 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.

III. Songs

Teachers: You may also wish to teach children 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 1: Poetry).

America the Beautiful
Billy Boy
Dry Bones
For He's a Jolly Good Fellow
Frère Jacques
La Cucaracha
Make New Friends
Michael, Row the Boat Ashore
Oh, Dear, What Can the Matter Be?
Oh, John the Rabbit
Oh! Susanna
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

Mathematics: Grade 1

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. Patterns and Classification

- Establish concepts of likeness and difference by sorting and classifying objects according to various attributes: size, shape, color, amount, function, etc.
- Define a set by the common property of its elements.
- In a collection of objects that includes a given set and an item that does not belong, indicate which item does not belong.
- Recognize patterns and predict the extension of a pattern.

II. Numbers and Number Sense

Teachers: Review and build on topics from kindergarten.

- Write numbers 0 - 100.
- Count from 0 - 100 by ones; twos; fives; tens.
- Count by tens from a given single-digit number.
- Count forward and backwards.
- Use tallies.
- Identify ordinal position, 1st to 10th.
- Identify dozen; half-dozen; pair.
- Recognize place value: ones, tens, hundreds.
- Identify more and less; counting how many more or less.
- Given a number, identify one more and one less; ten more and ten less.
- Compare quantities using the signs $<$, $>$, and $=$.
- Recognize fractions as part of a whole: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$
- Create and interpret simple pictorial graphs and bar graphs.

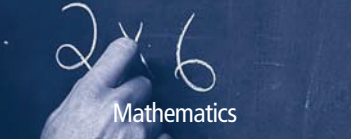
III. Money

- Identify and recognize relative value of penny, nickel, dime, quarter.
- Recognize and use dollar (\$) and cents (¢) signs.
- Show how different combinations of coins equal the same amounts of money.

IV. Computation

A. ADDITION (using concrete objects, and paper and pencil)

- Know the meaning of the plus (+) sign.
- Know what a “sum” is.
- Know addition facts to $10 + 10$ (untimed mastery).
- Add in any order.
- Know what happens when you add zero.
- Know how to write addition problems horizontally and vertically.
- Know that when you add 3 numbers, you get the same sum regardless of grouping of addends.
- Solve two-digit addition problems with and without regrouping.



B. SUBTRACTION (using concrete objects, and paper and pencil)

- Understand subtraction as “taking away.”
- Know the meaning of the minus sign (-).
- Know what a “difference” is.
- Know subtraction facts corresponding to addition facts (untimed mastery).
- Know how to write subtraction problems horizontally and vertically.
- Solve two-digit subtraction problems with and without regrouping.
- Mentally subtract 10 from a two-digit number.

C. SOLVING PROBLEMS AND EQUATIONS

- Write an addition or subtraction equation to solve basic one-step story and picture problems.
- Solve simple equations in the form of $___ - 2 = 7$; $5 + ___ = 7$.

V. Measurement

- Identify familiar instruments of measurement, such as ruler, scale, thermometer.
- Compare objects according to:
 - Linear measure
 - Measure length using non-standard units.
 - Measure length in inches and feet, and in centimeters.
 - Measure and draw line segments in inches and centimeters.
 - Weight
 - Compare weights of objects using a balance scale.
 - Measure weight in non-standard units and in pounds.
 - Capacity (volume)
 - Estimate and measure capacity in cups.
 - Identify quart, gallon.
 - Temperature: associate temperature in degrees Fahrenheit with weather.
- Time
 - Sequence events: before and after; first, next, last.
 - Compare duration of events: which takes more or less time.
 - Read a clock face and tell time to the half-hour.
 - Know the days of the week and the months of the year, both in order and out of sequence.
 - Orientation in time: today, yesterday, tomorrow; morning, afternoon, evening, night; this morning vs. yesterday morning, etc.

VI. Geometry

- Identify left and right hand.
- Identify top, bottom, middle.
- Know and use terms of orientation and relative position, such as:

closed, open	around
on, under, over	far from, near
in front, in back (behind)	above, below
between, in the middle of	to the right of, to the left of
next to, beside	here, there
inside, outside	
- Identify and draw basic plane figures: square, rectangle, triangle, circle.
- Describe square, rectangle, triangle according to number of sides.
- Identify basic solid figures: sphere, cube, cone.
- Identify basic shapes in a variety of common objects and artifacts (balls, cans, windows, pictures, books, buildings, cars, etc.).
- Make congruent shapes and designs.

Teachers: Effective instruction in science requires hands-on experience and observation. In the words of the 1993 report from the American Association for the Advancement of Science, *Benchmarks for Science Literacy*, "From their very first day in school, students should be actively engaged in learning to view the world scientifically. That means encouraging them to ask questions about nature and to seek answers, collect things, count and measure things, make qualitative observations, organize collections and observations, discuss findings, etc."

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. Living Things and Their Environments

Teachers: Introduce the idea of interdependence between living things and their environment.

A. HABITATS

- Living things live in environments to which they are particularly suited.
- Specific habitats and what lives there, for example:
 - Forest [oak trees, squirrels, raccoons, snails, mice]
 - Meadow and prairie [wildflowers, grasses, prairie dogs]
 - Underground [fungi, moles, worms]
 - Desert [cactus, lizard, scorpion]
 - Water [fish, oysters, starfish]
- The food chain: a way of picturing the relationships between living things
 - Animals: big animals eat little ones, big animals die and are eaten by little ones.
 - Plants: nutrients, water, soil, air, sunlight

B. OCEANS AND UNDERSEA LIFE

- Most of the earth is covered with water.
- Locate oceans: Pacific, Atlantic, Indian, Arctic.
- Oceans are salt water (unlike fresh water rivers and lakes).
- Coast, shore, waves, tides (high and low)
- Currents, the Gulf Stream
- Landscape of the ocean floor: mountain peaks and deep valleys (trenches)
- Diversity of ocean life: from organisms too small for the eye to see (plankton), to giant whales
- Dangers to ocean life (for example, overfishing, pollution, oil spills)

C. ENVIRONMENTAL CHANGE AND HABITAT DESTRUCTION

- Environments are constantly changing, and this can sometimes pose dangers to specific habitats, for example:
 - Effects of population and development
 - Rainforest clearing, pollution, litter

D. SPECIAL CLASSIFICATIONS OF ANIMALS

- Herbivores: plant-eaters (for example, elephants, cows, deer)
- Carnivores: flesh-eaters (for example, lions, tigers)
- Omnivores: plant and animal-eaters (for example, bears)
- Extinct animals (for example, dinosaurs)

Note: The food chain will be studied again in grade 3.



Note: Major body systems will be studied in greater detail in grades 2–6.

II. The Human Body

A. BODY SYSTEMS

Teachers: Introduce the idea of body systems, and have children identify basic parts of the following body systems:

- Skeletal system: skeleton, bones, skull
- Muscular system: muscles
- Digestive system: mouth, stomach
- Circulatory system: heart and blood
- Nervous system: brain, nerves

B. GERMS, DISEASES, AND PREVENTING ILLNESS

- Taking care of your body: exercise, cleanliness, healthy foods, rest
- Vaccinations

III. Matter

Note: Children are likely to have a notion of atoms that, in absolute scientific terms, is inaccurate. There is no need to be concerned with this inaccuracy at this grade level, since the goal here is simply to introduce concepts and terms that, over time, will be more precisely defined.

Teachers: Introduce children to the idea that everything is made of matter, and that all matter is made up of parts too small to see.

- Basic concept of atoms
- Names and common examples of three states of matter:
 - solid (for example, wood, rocks)
 - liquid (for example, water)
 - gas (for example, air, steam)
- Water as an example of changing states of matter of a single substance

IV. Properties of Matter: Measurement

Teachers: Have children describe and classify objects according to what they are made of, and according to their physical properties (color, shape, size, weight, texture, etc.).

- Units of measurement:
 - Length: centimeter, inch, foot
 - Volume: gallon, quart
- Temperature: degrees Fahrenheit

V. Introduction to Electricity

Teachers: Through reading aloud, observation and experiment, explore with children basic principles of electricity and electrical safety rules.

Note: Electricity will be studied in more detail in grade 4.

- Static electricity
- Basic parts of simple electric circuits (for example, batteries, wire, bulb or buzzer, switch)
- Conductive and nonconductive materials
- Safety rules for electricity (for example, never put your finger, or anything metallic, in an electrical outlet; never touch a switch or electrical appliance when your hands are wet or when you're in the bathtub; never put your finger in a lamp socket; etc.)

VI. Astronomy: Introduction to the Solar System

- Sun: source of energy, light, heat
- Moon: phases of the moon (full, half, crescent, new)
- The eight planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)
(Note: In 2006, Pluto was classified as a dwarf planet.)
- Stars
Constellations, Big Dipper
The sun is a star.
- Earth and its place in the solar system
The earth moves around the sun; the sun does not move.
The earth revolves (spins); one revolution takes one day (24 hours).
Sunrise and sunset
When it is day where you are, it is night for people on the opposite side of the earth.

See also World History and Geography: Spatial Sense.

VII. The Earth

A. GEOGRAPHICAL FEATURES OF THE EARTH'S SURFACE

- The shape of the earth, the horizon
- Oceans and continents
- North Pole and South Pole, Equator

B. WHAT'S INSIDE THE EARTH

- Inside the earth
Layers: crust, mantle, core
High temperatures
- Volcanoes and geysers
- Rocks and minerals
Formation and characteristics of different kinds of rocks: metamorphic, igneous, sedimentary
Important minerals in the earth (such as quartz, gold, sulfur, coal, diamond, iron ore)

Note: Topics in geology will be studied in more detail in grade 4.

VIII. Science Biographies

Rachel Carson (got people to stop using DDT)
Thomas Edison (invented an electric light bulb)
Edward Jenner (found a way to stop smallpox)
Louis Pasteur (made milk safe to drink)

See above, Environmental Change and Habitat Destruction, *re* Rachel Carson; Electricity, *re* Thomas Edison; Human Body: Vaccinations, *re* Edward Jenner; Human Body: Germs, Diseases, *re* Louis Pasteur.