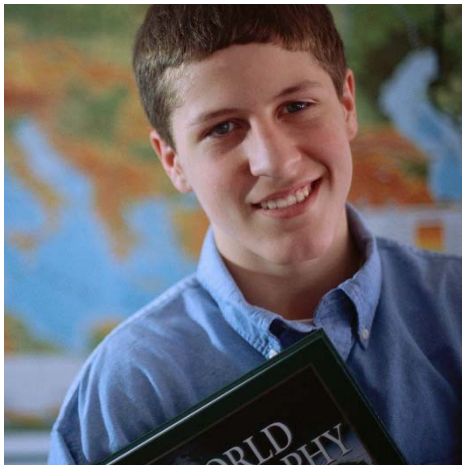


SAU29



4



social studies - english language arts - math - science - health



Curriculum Guides
Updated 2010

Fourth Grade

SAU 29 Curricula

English Language Arts

- Literature
- Informational Text
- Foundations
- Writing
- Speaking/Listening
- Language

Mathematics

- Operations & Algebraic Thinking
- Number & Operations in Base Ten
- Number & Operations—Fractions
- Measurement & Data
- Geometry
- [Mathematical Practices]

Science

- Earth & Space Science
- Life Science
- Physical Science

Health

- Alcohol
- Community/Environmental Health
- Family Life
- Injury Prevention
- Mental Health
- Nutrition
- Personal/Consumer Health
- Physical Activity
- Tobacco

Social Studies

- Economics
- Civics/Government
- History
- Geography

Fourth Grade: Literature

Essential Questions

How does studying the details of a character, event or the setting help to be able to summarize what happen at the end of a story?

(Studying details of a the character or event make them seem more life-like or believable)

How does the person telling the story impact the way we perceive what is happening?

(The point of view will vary according to whether the story is told by one of the characters, called the first person, or by a narrator, the third person, about the characters)

➤ *The bulleted language is to guide instruction*

Fourth Grade	Student Friendly
1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. <ul style="list-style-type: none"> ➤ Discuss and determine main ideas in a text ➤ Identify details that support the ideas. ➤ Model how the author use details to support the main idea. 	I can use details and examples from a text to tell about the story.
2. Determine a theme of a story, drama, or poem from details in the text; summarize the text. <ul style="list-style-type: none"> ➤ Define theme ➤ Discuss and identify key details of a story as well as the impact of characters, setting and events ➤ Model how to use that information to determine what the theme would be 	I can summarize a story and identify the theme using details and examples from the text.
3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words, or actions). <ul style="list-style-type: none"> ➤ Discuss and identify main details in a text ➤ Explain which detail describes characters, setting, or an event ➤ Model how to use information about an event, setting or character in the text, to help describe it: Example of setting: (Pumpkins, lack-o-lanterns, scarecrows, and ghost figures lined the street, before the Halloween parade.) 	I can tell about character qualities, setting and event details using information from the text.
4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).	Introduce
5. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.	Introduce

Fourth Grade	Student Friendly
<p>6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.</p> <ul style="list-style-type: none"> ➤ Define first and third person narrator ➤ Discuss the difference between the first person and third person narrators ➤ Review how the narrator’s point of view may change the tone of the story. 	<p>I can identify the point of view of a story, explaining the difference between the first person (I) and third person (narrator is not a character in the story).</p>
<p>7. Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.</p>	<p>Introduce</p>
<p>8. (Not applicable to literature)</p>	
<p>9. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.</p>	<p>Introduce</p>
<p>10. Read literature, independently, proficiently, and fluently with grade 4–5 text complexity read texts at the high end of the range with scaffolding as needed.</p> <ul style="list-style-type: none"> ➤ Model how to decode independently ➤ Recognize and demonstrate fluent reading 	<p>I can read fourth grade stories fluently and independently by the end of the year.</p>

Fourth Grade: Informational Text

Essential Questions

How do we demonstrate comprehension of informational text?

(Informational text can be summarized.)

(A variety of devices/strategies can be used to show summaries including (but not limited to), oral summaries, written summaries, graphic organizers,

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Fourth Grade	Student Friendly
<p>1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <ul style="list-style-type: none"> ➤ Model how to find details in the text ➤ Explain how to choose details from the text to support statements 	<p>Using details from the text, I can explain the meaning of the text.</p>
<p>2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.</p> <ul style="list-style-type: none"> ➤ Explain how to identify main ideas ➤ Model how to determine supporting details ➤ Model how to summarize main ideas 	<p>I can summarize the text by identifying the main idea and supporting details.</p> <p><i>I can paraphrase what I read including the main point and details.</i></p>
<p>3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.</p> <ul style="list-style-type: none"> ➤ Model how to identify events in a historical or scientific text ➤ Explain how to sequence events from a historical or scientific text 	<p>I can describe the sequence of events of what I read.</p>
<p>4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i>.</p> <ul style="list-style-type: none"> ➤ Explain how to identify general academic language and domain-specific words ➤ Model how to identify unfamiliar words or phrases ➤ Model how to use context clues to discover meaning ➤ Model how to use dictionary, glossary to discover meaning 	<p>I can define grade 4 vocabulary in math, science social studies and language arts.</p>
<p>5. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.</p> <ul style="list-style-type: none"> ➤ Discuss and identify text structures: chronology, comparison, cause/effect, problem/solution 	<p>I can find information using a book or a computer.</p>

Fourth Grade	Student Friendly
<p>6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.</p>	<p><i>Introduce</i></p>
<p>7. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p> <ul style="list-style-type: none"> ➤ Explain how to examine illustrations for factual information ➤ Model how to analyze information in illustrations ➤ Discuss how to find connections between illustration and text 	<p>I can understand charts, diagrams, time lines, and Promethean board activities and I can explain how they helped me understand the text.</p>
<p>8. Explain how an author uses reasons and evidence to support particular points in a text.</p> <ul style="list-style-type: none"> ➤ Explain how to find details in a text ➤ Explain why certain evidence is used in the text 	<p>I can explain how an author uses details to support his main idea.</p>
<p>9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.</p> <ul style="list-style-type: none"> ➤ Demonstrate how to locate two or more text on a certain subject ➤ Demonstrate how to find the main ideas for each text ➤ Explain how to combine the information presented 	<p>I can use two or more texts to give me more information on a topic.</p>
<p>10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.</p> <ul style="list-style-type: none"> ➤ Model how to decode independently ➤ Demonstrate fluent reading 	<p>I can read informational text independently and fluently at the fourth grade level.</p>

Fourth Grade: Foundation Skills

Essential Questions

How do I analyze unfamiliar words?

(Fluent readers can decode words with multi-syllables, using their knowledge of phonics and reading strategies.)

How can I improve my reading?

(Good readers increase their reading rate [words per minute] and comprehension by reading more often.)

➤ *The bulleted language is to guide instruction*

Fourth Grade	Student Friendly
1. Not in CC	
2. Not in CC	
3. Know and apply grade-level phonics and word analysis skills in decoding words. <ul style="list-style-type: none"> a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. <ul style="list-style-type: none"> ➤ Teach the sounds and spelling of diphthongs including: <i>au, aw, ew, ui</i> and <i>ue</i>. 	I can use my phonics skills to decode multisyllabic words as I read them. I can read and spell words with irregular vowel teams (i.e.: pause, flaw, drew, fruit, and hue).
4. Read with sufficient accuracy and fluency to support comprehension. <ul style="list-style-type: none"> a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. 	I can improve my reading accuracy and words per minute through reading orally as well as to myself. I use various reading strategies to self correct as I read and to aid in my comprehension.

Fourth Grade: Writing

Essential Questions

How can I use vocabulary to make my writing more informative?

(Each subject area uses specific words to explain its concepts.)

(Transition words are used to link ideas.)

(Planning and revision is essential to the writing process.)

How do I choose the type of writing I need?

(There are four types of writing: persuasive, where you influence the reader, narrative, where you tell a story, expository, where you explain something to the reader, and descriptive, where you use five senses to create a picture in words.)

➤ *The bulleted language is to guide instruction*

Fourth Grade	Student Friendly
<p>1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</p> <p>a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer’s purpose.</p> <p>b. Provide reasons that are supported by facts and details.</p> <p>c. Link opinion and reasons using words and phrases (e.g., <i>for instance, in order to, in addition</i>).</p> <p>d. Provide a concluding statement or section related to the opinion presented.</p> <ul style="list-style-type: none"> ➤ Review how to state an opinion about a topic, issue or book ➤ Review how to create and/or use a graphic organizer to list and group reasons and ideas ➤ Model how to choose reasons for opinion by using details and facts ➤ Define and show examples of adverbial conjunctions ➤ Show how to use conjunctions to link reasons and details ➤ Develop a closing statement or section 	<p>I can give my opinion of a topic and in a graphic organizer to show the key details supporting my opinion.</p> <p>I can use words such as: <i>so then, for instance, in addition</i> to link my opinion to the reason.</p> <p>I can write a closing sentence.</p> <p>I can present my opinion respectfully.</p>
<p>2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p>a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.</p> <p>c. Link ideas within categories of information using words and phrases (e.g., <i>another, for example, also, because</i>).</p> <p>d. Use precise language and domain-specific vocabulary to inform about or explain the topic.</p>	<p>I can write an informative paragraph clearly stating the topic using facts, details and stating information from other sources.</p> <p>I can use words such as <i>also, another, and, in addition</i> and <i>more</i> to connect my ideas.</p> <p>I can use vocabulary from different subject areas.</p> <p>I can write a conclusion.</p>

Fourth Grade	Student Friendly
<p>e. Provide a concluding statement or section related to the information or explanation presented.</p> <ul style="list-style-type: none"> ➤ Discuss and determine a topic for a informative/explanatory piece ➤ Review how to list facts or details in a graphic organizer ➤ Review how to introduce a topic clearly ➤ Model how to develop topic sentences ➤ Organize similar information in paragraphs and sections. ➤ Define and give examples of quotations. ➤ Review how to create sentences from facts, supporting details and quotations. ➤ Review how to use different types of conjunctions to link ideas within categories. ➤ Explain how to use vocabulary appropriate to the topic. ➤ Review how to develop a closing statement or section. 	
<p>3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.</p> <p>a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.</p> <p>b. Use dialogue and description to develop experiences and events or show the responses of characters to situations.</p> <p>c. Use a variety of transitional words and phrases to manage the sequence of events.</p> <p>d. Use concrete words and phrases and sensory details to convey experiences and events precisely.</p> <p>e. Provide a conclusion that follows from the narrated experiences or events.</p> <ul style="list-style-type: none"> ➤ Discuss and determine a situation for a narrative ➤ Introduce and describe narrator and/or characters ➤ Review how to use dialogue. ➤ Show how to use dialogue and description to show character's thoughts and responses to events. ➤ Discuss and determine the events in the narrative or story. ➤ Review how to sequence the events of the story using temporal words (adverbs) words and time phrases . ➤ Define and find examples of sensory words. ➤ Demonstrate how to use sensory words to convey events and experiences. ➤ Review how to develop conclusion appropriate for the events. 	<p>I can write a story with characters and narrators, setting and plot using dialogue and descriptions of actions, thoughts and feelings.</p> <p>I can use words such as <i>after, then, next, now, later</i> to show the order of the action.</p> <p>I can write a closing sentence.</p>

Fourth Grade	Student Friendly
<p>4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)</p> <ul style="list-style-type: none"> ➤ Demonstrate style and find examples. ➤ Discuss and define audience. ➤ Introduce and discuss purpose. 	<p>I can write clear and understandable sentences and paragraphs.</p> <p>I can write for a specific audience and purpose.</p>
<p>5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 4 on pages 28 and 29.)</p> <ul style="list-style-type: none"> ➤ Discuss a piece of writing. ➤ Review how to include additional details to a piece of writing. ➤ Review how to revise writing. 	<p>With support, I can improve my writing through planning, revising and editing.</p>
<p>6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.</p> <ul style="list-style-type: none"> ➤ Demonstrate opening, typing and saving a document ➤ Review how to type work on the computer ➤ Model using computer tools to edit writing 	<p>With help, I can use the computer to type my paper, using spell and grammar check.</p>
<p>7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.</p> <ul style="list-style-type: none"> ➤ Review how to locate information on a topic. ➤ Review organizing information. ➤ Model how to write a short report. 	<p>I can find research about different aspects of a topic.</p>
<p>8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.</p> <ul style="list-style-type: none"> ➤ Model how to read text from print or digital sources on a topic and/or ➤ Investigate the topic. ➤ Model how to identify details from the text and take notes. ➤ Explain details from investigation and take notes. ➤ Review how to sort information into categories. ➤ Demonstrate how to restate information from text. ➤ Define bibliographic information and demonstrate proper bibliographic format. 	<p>I can use what I know and what I learn from written material, take notes on the material and sort the information into categories.</p> <p>I can write about the information I found.</p> <p>I can list my sources that I used in a bibliography.</p>

Fourth Grade	Student Friendly
<p>9. Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>a. Apply <i>grade 4 Reading standards</i> to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”).</p> <p>b. Apply <i>grade 4 Reading standards</i> to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).</p> <ul style="list-style-type: none"> ➤ Model how to respond to grade 4 informational text by drawing on details from the text. ➤ Model how to respond to grade 4 literature by drawing on details from the text. 	<p>I can explain how an author uses evidence or key details to support his claim (belief).</p> <p>Now, I can write a response to what I learned by using details from the text.</p> <p>I can read 4th grade material with understanding.</p>
<p>10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p> <ul style="list-style-type: none"> ➤ Encourage students to write often for different purposes, tasks and audiences. 	<p>I can write responses for many reasons: for example, research, reflection, narration, opinion.</p>

Fourth Grade: Speaking and Listening

Essential Questions

How does gathering information from other sources improve my oral reports?

(Use technology to search for ways to support reports, paraphrase information and supporting evidence)

➤ **The bulleted language is to guide instruction**

Fourth Grade	Student Friendly
<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on <i>grade 4 topics and texts</i>, building on others' ideas and expressing their own clearly.</p> <ul style="list-style-type: none"> a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. <ul style="list-style-type: none"> ➤ Model how to write down homework assignments ➤ Explain how to gather and record information about a topic to be used in discussion ➤ Review how to ask and answer relevant questions ➤ Model how to build on previous speakers ideas 	<p>I can come prepared for class discussions by having read the required material.</p> <p>I can use material from other sources to add to the discussions.</p> <p>I can ask questions to build on the ideas of other speakers.</p>
<p>2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p> <ul style="list-style-type: none"> ➤ Explain how to paraphrase the key information or ideas presented 	<p>I can paraphrase information or ideas stated in the lesson.</p>
<p>3. Identify the reasons and evidence a speaker provides to support particular points.</p> <ul style="list-style-type: none"> ➤ Explain how to find the purpose or main idea of a lesson ➤ Model how to locate supporting evidence 	<p>I can use the supporting evidence in a lesson to identify the purpose of the lesson.</p>
<p>4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.</p> <ul style="list-style-type: none"> ➤ Review how to gather facts, details and main idea of a topic ➤ Demonstrate how to outline information gathered on a topic ➤ Model how to create note cards for presenting topics orally using gathered information 	<p>I can organize information with descriptive details to present an oral report.</p>

Fourth Grade	Student Friendly
<p>5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</p> <ul style="list-style-type: none"> ➤ Introduce searching on the internet for photos ➤ Model copy-paste steps to save photos for a presentation ➤ Introduce resources where students can find visual media (school or town library, video store...) ➤ Explain how to decide if the visual will enhance the presentation 	<p>I can use technology to support my presentations.</p>
<p>6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 for specific expectations.)</p> <ul style="list-style-type: none"> ➤ Define formal and informal English ➤ Show examples where formal or informal English would be appropriate 	<p><i>Introduce</i></p>

Fourth Grade: Language

Essential Questions

How do I construct a complete and interesting sentence?

(Complete sentences are now to be confused by fragments or run-ons.)
 (Interesting sentences use descriptive words.)

How do I determine the meaning of unknown words?

(Words can be understood using: context clues, syntactic clues (e.g., the word's position or function in the sentence), spelling, affixes and consulting reference materials, both print and digital.)

How do I use words to clarify meaning?

(Words have shades of meaning which can clarify the author's thoughts.)
 (Figurative language makes language more interesting.)

➤ *The bulleted language is to guide instruction*

Fourth Grade	Student Friendly
<p>1. Observe conventions of grammar and usage.</p> <ul style="list-style-type: none"> a. Form and use the progressive (e.g., <i>I was walking, I am walking, I will be walking</i>) verb aspects. b. Form and use adjectives and adverbs (including comparative and superlative forms), placing them appropriately within sentences.* c. Produce complete sentences, avoiding rhetorically poor fragments and run-ons.* d. Correctly use frequently confused.* <ul style="list-style-type: none"> ➤ Review functions of nouns, pronouns, verbs and adjectives in sentences. ➤ Review formation of simple verb tenses. ➤ Review subject-verb and pronoun agreement ➤ Review simple, compound and complex sentences ➤ Present progressive verb aspects ➤ Explain adjectives and adverbs and how to place them appropriately within sentences. ➤ Discuss what poor fragment and run-on sentences look like ➤ Discuss frequently confused words (e.g., <i>to, too, two; there, their</i>). 	<ul style="list-style-type: none"> a. <i>Introduce</i> b. I can use adjectives and adverbs in the comparative and superlative form (taller, tallest or more slowly, most slowly). c. I can identify a complete sentence, a fragment and a run-on. d. I can correctly use easily confused words (e. g. to, two, too; there, their, they're).
<p>2. Observe conventions of capitalization, punctuation, and spelling.</p> <ul style="list-style-type: none"> a. Use quotation marks to mark direct speech and quotations from a text. b. Spell grade-appropriate words correctly, consulting references as needed. <ul style="list-style-type: none"> ➤ Discuss quotation marks to mark direct speech and quotations from a text ➤ Review spelling patterns and spelling dictionaries 	<ul style="list-style-type: none"> a. I can use quotation marks to mark direct speech or quotations from a text. b. I can spell grade appropriate words correctly, using a dictionary as needed.

Fourth Grade	Student Friendly
<p>3. Make effective language choices.</p> <ul style="list-style-type: none"> a. Use punctuation for effect.* b. Maintain consistency in style and tone.* c. Choose words and phrases to convey ideas precisely.* <ul style="list-style-type: none"> ➤ Review descriptive language and thesauruses ➤ Explain how punctuation can add to writing ➤ Discuss style and tone 	<p>a, b and c. <i>Introduce</i></p>
<p>4. Determine word meanings (<i>based on grade 4 reading</i>).</p> <ul style="list-style-type: none"> a. Determine or clarify the meaning of unknown or multiple-meaning words through the use of one or more strategies, such as using semantic clues (e.g., definitions, examples, or restatements in text); using syntactic clues (e.g., the word’s position or function in the sentence); analyzing the word’s sounds, spelling, and meaningful parts; and consulting reference materials, both print and digital. b. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., <i>telegraph, photograph, autograph</i>). c. Explain the meaning of simple similes and metaphors (e.g., <i>as pretty as a picture</i>). d. Paraphrase common idioms, adages, and proverbs. <ul style="list-style-type: none"> ➤ Review several ways for understanding meaning of words; analyzing word sounds, spelling, meaningful parts, glossaries, dictionaries in print and digital ➤ Discuss how to use semantic and syntactic clues when clarifying an unknown word ➤ Review and find examples of root words ➤ Review the meaning of new word by defining its root word and how a prefix, suffix, or affix can change the meaning ➤ Explain simple similes and metaphors ➤ Introduce paraphrasing common idioms, adages, and proverbs 	<p>Based on fourth grade text:</p> <ul style="list-style-type: none"> a. I can determine the meaning of unknown words in 4th grade text in a number of ways: context clues, word sounds, spelling and dictionaries. b. I can use a known word to understand a new word with the same base. c. I can explain the meaning of simple similes and metaphors (e.g. as pretty as a picture). d. <i>Introduce</i>
<p>5. Understand word relationships.</p> <ul style="list-style-type: none"> a. Build real-life connections between words and their various uses and meanings. b. Define relationships between words (e.g., how <i>ask</i> is like and unlike <i>demand</i>; what items are likely to be <i>enormous</i>). c. Distinguish a word from other words with similar but not identical meanings (synonyms). <ul style="list-style-type: none"> ➤ Demonstrate 4th grade vocabulary by using real life connections between words and their various uses and meanings ➤ Define relationships between words ➤ Explain how to distinguish a word from other words with similar but not identical meanings (synonyms). 	<ul style="list-style-type: none"> a. I can choose words that precisely describe a situation. b. I can identify the different meanings of grade 4 words. c. I can identify various meanings of similar words.

Fourth Grade	Student Friendly
<p>6. Use grade-appropriate general academic vocabulary and domain-specific words and phrases (in English language arts, history/social studies, and science) taught directly and acquired through reading and responding to texts.</p> <ul style="list-style-type: none">➤ Demonstrate 4th grade newly learned vocabulary through conversations, reading and response to text	<p>a. I can learn and use 4th grade vocabulary words.</p>

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Numbers and Operations		Pacing:
<p>ESSENTIAL QUESTIONS:</p> <p>Can student extend understanding of fraction equivalence and ordering? Can students build fractions from unit fractions (1/2, 1/3, 1/4, etc.)? Can students write decimal notations for fractions and compare to decimals? Can students relate percentages to their fraction and decimal equivalents?</p> <p>NATIONAL STANDARDS: Number and Operations - Fractions</p>			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Fraction Equivalence and Ordering	<p>1. Students will explain why a fraction by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions: a/b is equivalent to a fraction $(n \times a)/(n \times b)$</p> <p>2. Students will compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. 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, e.g., by using a visual fraction model.</p>		<p>common denominators, common fractions, decimal, decimal addition, decimal estimations, decimal subtractions, estimation of fractions,</p> <p>fraction, fraction addition, fraction subtraction, fractions of different sizes,</p>
Build Fractions from Unit Fractions	<p>3. Students will demonstrate understanding of a fraction a/b with $a > 1$ as a sum of fractions $1/b$. ($3/4 = 1/4 + 1/4 + 1/4$)</p> <p>a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</p> <p>b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.</p>		<p>hundredths, improper fractions,</p>

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Numbers and Operations	Pacing:	
ESSENTIAL QUESTIONS: Can student extend understanding of fraction equivalence and ordering? Can students build fractions from unit fractions (1/2, 1/3, 1/4, etc.)? Can students write decimal notations for fractions and compare to decimals? Can students relate percentages to their fraction and decimal equivalents? NATIONAL STANDARDS: Number and Operations - Fractions			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Build Fractions from Unit Fractions	<p>c. Add and subtract mixed numbers with like denominators, d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</p> <p>4. Students will apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p>a. Understand a fraction a/b as a multiple of $1/b$. For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$. b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.) c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</p>		<p>mixed numbers, part to whole</p> <p>percent, regroup, rename, tenths, thousandths,</p>

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Numbers and Operations		Pacing:
ESSENTIAL QUESTIONS: Can student extend understanding of fraction equivalence and ordering? Can students build fractions from unit fractions (1/2, 1/3, 1/4, etc.)? Can students write decimal notations for fractions and compare to decimals? Can students relate percentages to their fraction and decimal equivalents? NATIONAL STANDARDS: Number and Operations - Fractions			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Understand & Compare Decimals to Fractions	5. Students will express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$. 6. Student will use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram. 7. Students will 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, e.g., by using a visual model. 8. Students will represents fractions and decimals using models, explanations, and other representations. 9. Students will demonstrate an understanding of decimals as hundredths within the context of money and tenths in the context of metric measurements 10. Students will demonstrate the addition and subtraction of positive fractions with like denominators and decimals to the tenths place.		truncation, unlike denominators,

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Numbers and Operations		Pacing:
ESSENTIAL QUESTIONS: Can student extend understanding of fraction equivalence and ordering? Can students build fractions from unit fractions (1/2, 1/3, 1/4, etc.)? Can students write decimal notations for fractions and compare to decimals? Can students relate percentages to their fraction and decimal equivalents? NATIONAL STANDARDS: Number and Operations - Fractions			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
(Develop) Understand & Compare Decimals to Fractions (Introduce) Understand & Compare Decimals to Fractions	11. Students will explore the meaning of 10%, 25%, 50%, 75%, and 100% and their fraction and decimal equivalents. 12. Students will use phys. models determine the sum or difference of decimals with different place values, and write an equation for it. (0.3+0.52= 0.82)		

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Numbers and Operations		Pacing:
<p>ESSENTIAL QUESTIONS:</p> <p>Can students generalize place value understanding for multi-digit whole numbers? Do students demonstrate place value understanding and properties of operation when performing multi-digit arithmetic?</p> <p>NATIONAL STANDARDS: Number and Operations - Base Ten</p>			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Place Value & Multi-Digit Whole Numbers	<ol style="list-style-type: none"> 1. Students will 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. example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division. For 2. Students will read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons. 3. Students will use place value understanding to round multi-digit whole numbers to any place. 4. Students will fluently add and subtract multi-digit whole numbers using the standard algorithm. 5. Students will multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 6. Students will find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 7. Students will compare whole numbers 0-1,000,000, decimals, and fractions using inequality symbols, number lines, or explanations. 		<p>addend, associative property, basic number combinations</p> <p>commutative property, distributive property, even numbers</p> <p>front-end digits, front-end estimation, integers number pairs, number triplet, odd numbers, operations</p> <p>order of operations, reversing order of operations, rounding</p>

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Numbers and Operations		Pacing:
ESSENTIAL QUESTIONS: Can students generalize place value understanding for multi-digit whole numbers? Do students demonstrate place value understanding and properties of operation when performing multi-digit arithmetic? NATIONAL STANDARDS: Number and Operations - Base Ten			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Place Value & Multi-Digit Whole Numbers (Develop) Place Value & Multi-Digit Whole Numbers	8. Students will apply the conventions of order of operations where the left to right computations are modified only by the use of parentheses. 9. Student will apply properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.	M(N&O)-4-8	

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Operations/Algebraic Thinking	Pacing:	
ESSENTIAL QUESTIONS: Can students use four operations with whole numbers to solve problems? Have students gained familiarity with factors and multiples? Can students generate and analyze patterns? Does the student use estimation to check if the answer is reasonable? NATIONAL STANDARDS:			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Estimation (Develop throughout year)	2. Students will use problem-solving strategies to investigate and understand mathematical content. 3. Student will formulate, solve, and verify problems from everyday mathematical situation and interpret the results. 1. Students will select an appropriate computational technique in the solution of problems and check the reasonableness of results through mental computation and estimation strategies. 2. Students will make estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation and evaluating the reasonableness of solutions appropriate to grade level GLEs across content stratnds. (Important: the intent of this GLE is to embed estimation throughout the instructional program, not to teach it as a separate unit.)		

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Measurement and Data		Pacing:
ESSENTIAL QUESTIONS: Can students solve problems involving measurement? Can students convert from larger to smaller units of measurement? Can students measure angles accurately? Can students plot and interpret coordinates on a first quadrant grid? Can student determine the probability of an event as a part to a whole relationship. NATIONAL STANDARDS: Measurement and Data			
CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Measurement/Conversions	<p>1. Students will demonstrate knowledge of relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit interms of a smaller unit.For example, know that 1 ft is 12 times as long as 1 in.Express the length of a 4 ft snake as 48 in</p> <p>2. Student will record measurement equivalentns in a two column table. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36) .</p> <p>3. Students will use the four operations to solve word problems converting larger units to smaller units. For instance: distance, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p>4. Student will apply the area and perimeter formulas for rectangles in real world, mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</p>		<p>acute angle, angle measurement tool, angle unit, area, capacity, centimeter, circumference, customary/ standard units of measurement, data, data cluster, data collection method, gram, elapsed time, English system of measurement estimation of length, estimation of width,event likelihood, extreme value function, gram, histogram, horizontal axis, improbability, investigation, kilometer, line graph, mean, median</p> <p>measures of central tendancy, measures of height, measures of length, measures of width, meter</p>

UNIT/ORGANIZING PRINCIPLE:	Grade 4: Measurement and Data	Pacing:
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ESSENTIAL QUESTIONS:
 Can students solve problems involving measurement?
 Can students convert from larger to smaller units of measurement? Can students measure angles accurately?
 Can students plot and interpret coordinates on a first quadrant grid?
 Can student determine the probability of an event as a part to a whole relationship.

NATIONAL STANDARDS: Measurement and Data

CONCEPTS/CONTENT	LEARNING TARGETS/SKILLS	GLEs	KEY TERMINOLOGY
Represent & Interpret Data	1. Students will make a line plot to display a set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection. 2. Students will interpret a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predicitions, or to solve problems. 3. Students will analyze patterns, trends, or distributions in data in a variety of context by determining or using measures of central tendency (median or mode) or range. 4.The students will demonstrate understanding of spatial relationships using location and position by interpreting and giving directions between locations on a map or coordinate grid (first quadrant) 5. The sample space may or may not contain equally likely outcomes, students will determine the theoretical probability of an event and expresses the result as part to whole (e.g. two out of five)		metric system, midpoint, mode, percent, pie chart, sample, scale shrinking patteren, studies, subset, survey, symbolic representation trial and error, valid agruement, variability, Venn diagram, vertical axis volume, mass
	1.Students will recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:		area, perimeter, formula

Fourth Grade: Earth & Space Science

	Essential Questions	Objectives
ESS-1	<ul style="list-style-type: none"> How does wind, water, or ice shape and reshape the Earth's surface? What are the stages of the water cycle? What are some of the geographic features of New Hampshire's landscape? How have geological processes shaped New Hampshire's landscape? How does the flow of the water and the slope of the land affect erosion and deposition? What are some landforms that result from the action of flowing water? 	<ol style="list-style-type: none"> Analyze soil components and describe them by physical features. Describe the concepts of erosion and deposition. Explain how wind, water, ice (re)shape Earth's surface. Use results from an experiment to draw conclusions about how water interacts with Earth's surface materials (percolation, erosion, frost heaves). Predict how landscape affects the flow of water. Identify examples of geographic features of NH landscape and geological processes that have shaped NH landscape. Given certain Earth materials (soils, rocks, or minerals) use physical properties to sort, classify, and/or describe them. Given information about Earth materials, explain how their characteristics lend themselves to specific uses. Describe that the Earth's surface is mostly covered by water. Explain that most of the Earth's water is salt water, which is found in the oceans. Fresh water is found in surface water, lakes, rivers, underground sources, glaciers, and the atmosphere. Describe the stages in the water cycle (freezing, melting, condensation, evaporation, precipitation). Based on data collected from daily weather observations, describe weather changes or weather patterns.
ESS 2-3	<i>None at this level</i>	<i>None at this level</i>
ESS	<i>None at this level</i>	<i>None at this level</i>
ESS-4	<ul style="list-style-type: none"> How do humans affect erosion and deposition? How are different scientific tools used to gather data about weather, analyze weather patterns, and predict the weather? 	<ol style="list-style-type: none"> Explain how humans can affect erosion and deposition (clearing land, planting vegetation, building dams, etc.). Investigate landscapes by designing and building models. Describe a variety of natural and man-made changes in the Earth's surface that have been observed (water level in streams and rivers, tidal changes). Investigate how wind, water, waves, and ice shape and reshape the Earth's surface by designing and building models (stream tables, wave tanks, etc.). Demonstrate how the use of scientific tools helps to extend senses and gather data about weather (weather-wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount). The metric system should be used.

Resources/Activities	Vocabulary
<ul style="list-style-type: none"> • STC: Land and Water Kit (Keene) • NH Science Water Fair. [It coincides with National Clean Drinking Water Week in May.] • Visit Beech Hill Preserve, Robin Hood Park, Goose Pond, Horatio Colony Trust Preserve, Chesterfield Gorge, etc. • Observe a stream/brook (moving body of water) throughout the year • Harris Center 	<p><i>anemometer</i> – an instrument wind speed in revolutions per minute</p> <p><i>barometer</i> – an instrument used for measuring the pressure of the atmosphere</p> <p><i>condensation</i> – the process of changing from a gas to a liquid</p> <p><i>deposition</i> – the process in which materials eroded by water, wind, or ice are dropped in a new place</p> <p><i>erosion</i> – the gradual wearing away of soil and rock</p> <p><i>evaporation</i> – the process of changing from a liquid to a gas</p> <p><i>geology</i> – the study of Earth and the materials it is made of</p> <p><i>groundwater</i> – water trapped in holes and cracks in rocks beneath the Earth’s surface – it can be brought to the surface by wells</p> <p><i>landform</i> – a natural shape or feature of Earth’s surface</p> <p><i>physical property</i> – a property that can be observed, measured, or changed without turning into a new substance</p> <p><i>precipitation</i> – the rain, snow, sleet, and hail that fall to Earth</p>

A detailed list of the standards (ESS-1 through ESS-4) can be found at the front of this curriculum guide.

Fourth Grade: Life Science

	Essential Questions	Objectives
LS-1	<ul style="list-style-type: none"> How does the human body work? How do the major organ systems work together? How do the systems in the human body work together to keep it alive and healthy? 	<ol style="list-style-type: none"> Identify major internal systems and associate them with their function (circulatory system: blood flow, nervous system: sensation). Describe and identify major organ systems of the human body, their major functions, and describe some of their interactions (the heart and lungs working together in circulation). Relate the structure of body parts to function (e.g. molars are for grinding).
2-3	<i>None at this level</i>	<i>None at this level</i>
LS	<i>None at this level</i>	<i>None at this level</i>
LS-4	<ul style="list-style-type: none"> How does the human body remain healthy and fight disease? What is the difference between inherited and acquired traits? What are some safe ways to handle and prepare food? How does your body move? How does your body protect you? 	<ol style="list-style-type: none"> Identify major body structures (when shown a picture or a model, by the major bones and joints in the body). Describe how certain attributes or characteristics of humans are related to their life functions or behaviors (e.g. reflexes). Identify what the physical structures of humans do (e.g. sense organs – eyes, ears, skin, etc.) Compare physical structures of humans to similar structures of animals. Understand the difference between acquired and inherited characteristics or traits. Describe and identify similarities/differences among multiple offspring of same parents, and between parents and offspring. Recognize that an individual organism’s behavior is affected by internal cues, such as hunger and thirst; describe how an organism uses its senses to understand/respond to these cues. Explain how the human body remains healthy and fights disease (immune system and microorganisms such as bacteria and viruses), and how factors influence well-being (nutrition, vitamins/minerals, diet and exercise, proper rest/recreation). Recognize behaviors that may be unsafe or unhealthy for themselves and others. Explain how proper food preparation and appropriate food handling practices can maintain the safety and quality of food.
LS-5	<ul style="list-style-type: none"> What are some of the tools you see at the doctor’s office? What are some jobs/careers associated with health care? 	<ol style="list-style-type: none"> Recognize that medical technology provides information about a body’s condition, such as determining blood pressure, and recognizing the need to repair, replace, and support the affected body parts. Identify and describe the purpose of tools used by health care professionals, such as X-rays and stethoscopes. Identify some jobs/careers that require knowledge and use of life science content and/or skills.

Human Body

Resources/Activities	Vocabulary
<ul style="list-style-type: none"> • Human Body Resource Kit (Keene) • CIRRT has numerous resources on the human body (DVDs, videos, models, die cut patterns of major organs) • www.HealthTeacher.com (fee for subscription) • Use data gathered from food labels and dietary guidelines, such as the food pyramid, to distinguish between healthy and unhealthy food choices • www.nutri-facts.com (an interactive food label site that allows users to identify the serving size and nutritional content for any of about 6,000 different foods) • Can coordinate this unit with the fourth grade Health Curriculum (available on First Class by following this path: SAU Conferences Curriculum Conferences SAU 29 Health Committee) • Great American Smoke Out (Cheshire Medical Center) • Boston Science Museum (Specifically for human body exhibit) • Cheshire Medical Center (Visit or have medical professionals come to the class) • Research parts of the body and have children create models 	<p><i>bacteria</i> – a minute organism that lives in soil, water, plants, and animals</p> <p><i>blood</i> – a tissue made up of blood cells, floating in a liquid that carries materials throughout the body</p> <p><i>cartilage</i> – tissue in the skeleton system that is strong but more flexible than bone</p> <p><i>cell</i> – the smallest living part of an organism</p> <p><i>characteristic</i> – a feature or trait that is inherited by a plant or animal from its parents</p> <p><i>circulatory system</i> – the organ system that moves blood throughout the body</p> <p><i>digestive system</i> – the group of organs that work together to break food down into nutrients that the body can use</p> <p><i>disease</i> – a condition that impairs a living organism’s ability to function properly</p> <p><i>function</i> – a “job” that a body part does in an organism</p> <p><i>immune system</i> – a bodily system that provides defense against disease</p> <p><i>joint</i> – a place where two or more bones meet</p> <p><i>microorganism</i> – a living thing so tiny that it can only be seen with a microscope</p> <p><i>muscular system</i> – a group of organs that cause movement of body parts</p> <p><i>nervous system</i> – a group of organs that control all body activities</p> <p><i>organ</i> – a group of different tissues that work together to perform a certain function in an organism</p> <p><i>organism</i> – a living thing</p> <p><i>respiratory system</i> – the group of organs that work together to take in oxygen and release waste gases</p> <p><i>skeletal system</i> – a group of bones, cartilage, and other tissues and organs that work together to hold the body up</p> <p><i>system</i> – a set of connected parts working together to form a whole</p> <p><i>tissue</i> – a group of cells that work together to perform a certain function in an organism</p> <p><i>virus</i> – an invasive agent that reproduced inside a living cell causing illness</p>

Fourth Grade: Physical Science

	Essential Questions	Objectives
PS-1	<i>None at this level.</i>	<i>None at this level.</i>
PS-2	<p>Light</p> <ul style="list-style-type: none"> • How does light travel? • What happens when light hits an object? a prism? • How do shadows change with the change in the position of light sources? • What materials are transparent, translucent, and opaque? • How are refraction and reflection different? • What are some sources of light? <p>Sound</p> <ul style="list-style-type: none"> • How does sound travel? • What happens when sound hits a solid or liquid? • How does vibration affect the pitch of a sound? • What are some examples of materials you might use to check sound frequency? • How can sound be amplified? <p>Heat</p> <ul style="list-style-type: none"> • How can matter change from one state to another? • What is the relationship between friction and heat? • How do different materials insulate or conduct heat? • What are some sources of heat? • How does heat energy move from warmer regions to cooler regions? • How does convection affect room temperature? • What materials conduct heat? 	<p>Light</p> <ol style="list-style-type: none"> 1. Observe how light waves travel. 2. Explain how light can be reflected, refracted, and absorbed. 3. Explore how light can be concentrated using reflectors or lenses. 4. Observe what happens when light passes through a prism or lens. 5. Explain how shadows vary with changes in the position of light sources. 6. Distinguish among opaque, translucent, and transparent objects. 7. Identify ways in which light can be generated (heat, electricity, chemicals). 8. Recognize and give examples of the various forms of energy. <p>Sound</p> <ol style="list-style-type: none"> 1. Observe how sound waves travel. 2. Explore how sound can be concentrated. 3. Produce sounds by causing several types of objects to vibrate. 4. Relate the pitch of the sound to the rapidity of the object's vibration. 5. Identify the relationship between the pitch of the sound and the frequency of the sound wave. 6. Recognize and give examples of the various forms of energy. <p>Heat</p> <ol style="list-style-type: none"> 1. Explain how some materials, such as water, can change from one state of matter to another by heating or cooling. 2. Explain the effects of rubbing two objects together (hands, sticks). 3. Explore sources of heat (chemical, mechanical, absorption of radiation). 4. Identify the effect of heat on common substances. 5. Explore temperature changes of hot/cold water when placed in various containers (aluminum can, paper/foam cup, glass, thermos). 6. Observe how temperature changes when the environment changes. 7. Recognize and give examples of the various forms of energy. 8. Describe how heat energy moves from warmer materials or regions to cooler ones through conduction, convection, and radiation.
PS-3	<i>None at this level.</i>	<i>None at this level.</i>
PS-4	<ul style="list-style-type: none"> • In designing your own house, what type of heating system would you use? Explain why. 	<ol style="list-style-type: none"> 1. Identify various heating systems and explain how they work using charts, pictures, and/or models.

Resources/Activities	Vocabulary
<ul style="list-style-type: none"> • PSNH Consultant (Lucile Wilson) • Using recycled materials create an energy project that demonstrates heat, light, or sound • Montshire Museum • Energy Kit (Keene) • megaphone <div data-bbox="175 1436 618 1829" style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>A detailed list of the strands (PS-1 through PS-4) can be found at the front of this curriculum guide.</p> </div>	<p><i>absorption</i> – the taking in or soaking up of light rays</p> <p><i>concave</i> – curved inward like the inside of a bowl</p> <p><i>conduction</i> – the movement of heat between objects that touch each other</p> <p><i>convection</i> – the movement of heat energy through liquids and gases in currents</p> <p><i>convex</i> – curved outward like the outside of a bowl</p> <p><i>current</i> – a constant flow of electrons through a conductor</p> <p><i>energy</i> – the physical ability, force, or power to act or work</p> <p><i>friction</i> - a force caused when two objects rub together, slowing their motion</p> <p><i>lens</i> – a curved piece of glass or plastic that bends light rays</p> <p><i>opaque</i> –not able to see through; not transmitting or reflecting light</p> <p><i>pitch</i> – how high or low a sound is</p> <p><i>radiation</i> – the movement of energy through space as waves</p> <p><i>reflection</i> – the bouncing back of light rays from a rface</p> <p><i>refraction</i> – the bending of light rays</p> <p><i>sound waves</i> – the vibrations that carry sound through the air and some solids and liquids</p> <p><i>translucent</i> – allowing some light to pass through; objects cannot be seen clearly</p> <p><i>transparent</i> – allowing light to pass through so that objects can be seen clearly</p> <p><i>vibration</i> – a rapid back and forth movement that produces sound</p> <p><i>waves</i> – a repeating up and down or back and forth movement of matter</p>

Health

	Essential Questions	Objectives <i>Students need to know:</i>
Alcohol	<p>What are the effects of alcohol on the body?</p> <p>What are the benefits of not using alcohol?</p>	<p>2.4 Signs of alcohol use on the body.</p> <p>2.5 Benefits of not using alcohol.</p>
Comm/Enviro Health	<i>Not at this level</i>	<i>Not at this level</i>
Family Life & Sexuality	<p>How does the body grow and change?</p> <p>What are emotional and physical changes during growth?</p>	<p>2.5 About growing and aging</p> <p>2.1, 2.2 Physical and emotional changes during growth</p>
Injury Prevention	How do you keep yourself safe while riding your bike?	<p>4.1 Importance of using a helmet while biking</p> <p>4.5 Strategies for bike safety</p>
Mental Health	What are the characteristics you would want in a good friend?	3.1 How to meet and keep friends

Skills linked to assessment	Resources	
Accessing Information Self Management (Alcohol)	http://kidshealth.org/classroom http://kidshealth.org http://www.NChealthyschools.org	Alcohol
<i>Not at this level</i>	<i>Not at this level</i>	Comm/Enviro Health
Decision Making (Family Life/Sexuality)	http://kidshealth.org/classroom http://kidshealth.org http://www.NChealthyschools.org	Family Life & Sexuality
Self management (Injury Prevention)	http://kidshealth.org/classroom http://kidshealth.org http://www.NChealthyschools.org	Injury Prevention
Analyzing Influences (Mental Health)	http://kidshealth.org/classroom http://kidshealth.org http://www.NChealthyschools.org	Mental Health

Health

	Essential Questions	Objectives <i>Students need to know:</i>
Nutrition	What is the importance of proper food handling and preparation?	5.1 Food sanitation methods (hands, utensils, surfaces) 5.2 Techniques for safe food preparation ,serving and storage
Pers/Consumer Health	What are diabetes, asthma, and allergies? How are these managed?	2.7 Ways to manage diabetes, asthma, and allergies
Physical Activity	What is healthful physical activity?	1.1 Benefits of physical activity, including mental and social benefits. 1.2 - 1.5 Phases of a workout, types of exercise, how to develop personal plans, developing personal plans (Covered in Physical Education Class)
Tobacco	What are the benefits of being tobacco free?	4.1 -4.3 The physical, mental, social, and financial benefits of not using tobacco.

Skills linked to assessment	Resources	
Accessing Information Self management (Nutrition)	http://kidshealth.org/classroom http://kidshealth.org http://nourishinteractive.com http://mypyramid.gov http://www.NChealthyschools.org	Nutrition
Not at this level (Peer Consumer)	Not at this level	Pers/Consumer Health
Self-Management (Physical Activity)	http://kidshealth.org/classroom http://kidshealth.org http://www.NChealthyschools.org Physical Education Class	Physical Activity
Decision making (Tobacco)	http://kidshealth.org/classroom http://kidshealth.org http://www.NChealthyschools.org	Tobacco

SAU29 SOCIAL STUDIES CURRICULUM

Grade: 4

Theme: New Hampshire: Economics

Content Understandings:

Essential Questions:

How are natural resources connected to a country's economy?

How do your economic decisions affect your life?

How do economic decisions of others affect your life?

Objectives: Students Will...

Explain why needs and wants are unlimited while resources are limited

Describe different ways individuals, families, and governments make economic decisions

Analyze the consequences of economic decisions made by individuals, families, and by the state government

Define supply and demand and describe factors that can cause a change in supply and demand

Illustrate cycles of economic growth and decline (woolen mills) and how these changes can impact peoples' lives

Identify the resources found in New Hampshire and different ways they can be utilized

Explain why some resources are in greater demand

Explain why countries import and export goods

Essential Skills for Social Studies addressed:

(From the NH Social Studies Curriculum Frameworks)

Essential Vocabulary and Key Concepts:

scarcity	market	barter	trade	resources	consumer
economy	supply	demand	goods	services	taxes
production	limited	unlimited	import	export	

Essential People/Groups:

State Standards addressed:

SS:EC:4:2.1, SS:EC:4:2.2, SS:EC:4:2.3, SS:EC:4:2.4, SS:EC:4:3.1,SS:EC: 4:3.2,SS:EC: 4:4.1,SS:EC: 4:5.1, SS:EC:4:5.2, SS:EC:4:5.3

Activities and Projects:

Resources and Materials:

Assessments:

SAU29 SOCIAL STUDIES CURRICULUM

Grade: 4

Theme: New Hampshire: Civics and Government

Content Understandings:

Essential Questions:

How is our state government organized?

How are decisions and laws made in New Hampshire?

What are the rights and responsibilities of a NH citizen?

Objectives: Students will...

Describe the structure of New Hampshire's government in reference to the national government

Identify the role of each branch of the NH government

Explain how laws and policies are created at the state level

Describe the rights and responsibilities of citizens as outlined by the NH Constitution

Identify New Hampshire's role in the ratification of the Constitution and in the NH primaries

Trace the political development of our state governance from self governance through the New Hampshire Constitution

Essential Skills for Social Studies addressed:

(From the NH Social Studies Curriculum Frameworks)

Key Concepts/Essential Terms:

counties	government	democracy	senator	representative	judicial
election	ballot	candidate	capitol	house of representatives	executive
bill	senate	governor	law	NH Constitution	legislative
ratification					

Essential People/Groups:

State Standards addressed:

SS:CV:4:1.2, SS:CV:4:2.1, SS:CV:4:2.2, SS:CV:4:4.1

Activities and Projects:

Resources and Materials:

Assessments:

SAU29 SOCIAL STUDIES CURRICULUM

Grade: 4

Theme: New Hampshire: History

Content Understandings:

Essential Questions:

In what ways have famous New Hampshire people impacted our state and nation?

What makes New Hampshire unique from other states?

How has New Hampshire changed over time?

Objectives: Students Will...

Explore key figures with New Hampshire connections having an impact on state/ national history or culture

Trace the political development of our state governance from self governance through the New Hampshire Constitution

Describe the significance of New Hampshire institutions (state house), symbols (flag, bird, flower, song, motto, etc.), and documents (NH Constitution)

Explain how groups have enhanced the art, music, and literature of our state

Examine how New Hampshire's major technological developments have improved economic productivity (mills, agriculture, transportation, etc.)

Explain the unique contributions of different ethnic and religious groups to our state's history and culture (Shakers, French Canadians, etc.)

Recognize that major global and national events can have an effect on New Hampshire

Describe the reasons that various groups have come to New Hampshire

Essential Skills for Social Studies addressed:

(From the NH Social Studies Curriculum Frameworks)

Key Concepts/ Essential Terms:

political monument symbol biography governance migration immigration
ethnic religious agriculture technology Constitution cultural diversity emigrate
value tradition belief assembly line manufacturing assembly line mass production

Essential People:

Franklin Pierce, John Mason, Benning Wentworth, Sarah Hale, Robert Frost, Alan Shepard, Amos Fortune, Christa McAuliffe, Passaconaway, Jonathan Daniels, Matthew Thornton

These are suggestions- an SAU wide survey will take place during the upcoming school year to create a consistent list

State Standards addressed:

SS:HI:4:1.1, SS:HI:4:1.2, SS:HI:4:1.3, SS:HI:4:3.3, SS:HI:4:4.1, SS:HI:4:4.2, SS:HI:4:5.1, SS:HI:4:5.2,

Activities and Projects:

Resources and Materials:

Assessments:

SAU29 SOCIAL STUDIES CURRICULUM

Grade: 4

Theme: New Hampshire: Geography

Content Understandings:

Essential Questions:

What does the study of geography teach us about New Hampshire?

How do people use the natural resources of New Hampshire?

How have people changed the physical environment of New Hampshire?

What impact has migration had on the state of New Hampshire?

Objectives: Students Will...

Explore and describe the characteristics and purposes for various geographic tools (community grid maps, population density)

Create a map to display geographic information

Locate major geographic features specific to New Hampshire (see essential places)

Identify the human and natural features that together have shaped our state (landforms, population, etc.)

Identify those natural resources that attracted settlers to our state (forests, timber, lumber, fish, whale)

Explore the ways that renewable and non renewable resources impact economy in New Hampshire (fishing, whaling, ship building, agriculture: wool)

Define the various reasons that human migration occurs

Examine the historical patterns of migration and the cultural impact on our state

Recognize the causes of population distribution in New Hampshire

Illustrate how people have modified the physical environment of New Hampshire throughout history (urbanization, stone walls, dams, mills, etc.)

Differentiate between climate systems and weather patterns and apply to New Hampshire

Essential Skills for Social Studies addressed: (From the NH Social Studies Curriculum Frameworks)

Key Concepts/ Essential Terms:

geography topographic map Tropic of Capricorn physical map renewable map key cape delta
equator prime meridian Tropic of Cancer political map compass rose island bay ocean
region cardinal directions longitude latitude continent isthmus gulf state
town population distribution capital mountain climate weather lake city
river basin non renewable desert migration culture

Essential Places:

White Mtns., Atlantic Ocean, Lake Winnepesaukee, Merrimack River, Connecticut River Valley, Mt. Monadnock, Concord, Ashuelot River, Portsmouth Harbor

State Standards addressed:

SS:GE:4:1.1, SS:GE:4:1.2, SS:GE:4:1.3, SS:GE:4:1.4, SS:GE:4:2.1, SS:GE:4:2.2, SS:GE:4:2.3, SS:GE:4:3.1, SS:GE:4:4.1, SS:GE:4:4.2, SS:GE:4:4.3, SS:GE:4:5.1, SS:GE:4:5.2, SS:GE:4:5.3

Activities and Projects:

Resources and Materials:

Assessments: