FOSS and Common Core ELA — Grade 1

Contents

INTRODUCTION

Each FOSS investigation follows a similar design to provide multiple exposures to science concepts. The design includes these pedagogies.

- Active investigation, including outdoor experiences
- Writing in science notebooks to answer focus questions
- Reading in *FOSS Science Resources*
- Assessment to monitor progress and motivate student reflection on learning

In practice, these components are seamlessly integrated into a continuum designed to maximize every student's opportunity to learn. An instructional sequence may move from one pedagogy to another and back again to ensure adequate coverage of a concept.

The FOSS instructional design recognizes the important role of language in science learning. Throughout the pedagogical design elements, students engage in the practices of the Common Core State Standards for English Language Arts. The purpose of this chapter is to provide the big picture of how FOSS provides opportunities for the development and exercising of these practices through science. On the following pages, there is a chart that identifies the opportunities for first grade and where the relevant opportunities are found within the three FOSS modules.

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Guiding Principles

When integrating language-arts instruction with FOSS, keep in mind these guiding principles:

- FOSS investigations follow a clear and coherent conceptual flow and a consistent instructional design. Students develop science knowledge by building a framework of concepts and supporting ideas.
- Common Core State Standards for ELA are introduced, developed, and practiced in the context of learning science content and engaging in the science and engineering practices. Students read and comprehend complex science texts related to their prior experience and knowledge. They write informational/explanatory texts, arguments to support claims, and narratives about experience in science. They engage in collaborative discussions about science and learn new vocabulary and language structures in context.
- The decision to use additional science texts, writing tasks, oral discourse opportunities, and vocabulary development activities is based on how well they address the science as well as the ELA standards.
- Instruction is differentiated to meet the needs of all students; the linguistic accommodations that are made for English learners support comprehensible input and accelerate academic language development. Language objectives for English learners in science instruction include the application of strategies that support construction of meaning from academic discussions and complex text, participation in productive discourse, and the ability to express ideas in writing clearly and coherently according to task, purpose, and audience.
- Formative assessment tools are used routinely to measure progress toward science understanding, use of science and engineering practices, and meeting literacy and language development goals. Assessment is viewed as a way to make student thinking visible and to determine next steps for instruction for both science and literacy. Instruction includes opportunities for students to assess themselves and peers.

Adhering to these guiding principles optimizes instructional time and, most importantly, benefits student learning by providing authentic and relevant contexts for building content knowledge, applying meaning-making strategies, and developing language and literacy skills.

First grade is an exciting year as students learn the skills that enable them to read, write, and communicate with increasing independence.

They are developing their abilities to decode and make meaning from texts read aloud and on their own. Their vocabularies increase and they are continuing to develop their communication skills. First graders are expected to use the science and engineering practices to demonstrate their understanding of the core ideas. To accomplish this, students learn to find patterns and evidence in texts, describe how images support ideas, use text features to locate information, and communicate their ideas orally and in written form using models, drawings, and writing.

Instructional Flow

In almost all investigations, the instructional flow is the same and provides these opportunities for effective integration of ELA standards.

- When **setting the context** for the lesson, students activate prior knowledge through class or small-group discussions where they ask and answer questions to gather additional information and clarify understanding (SL 3), or describe their experience and ideas (SL 4).
- During the **active investigation**, students are expected to work with partners and in collaborative groups, and to engage in teacher-led discussions where they follow rules for discussion, build on each other's talk and ask each other questions (SL 1).
- In the **data management** phase, students make and record observations, and organize data in their notebooks (W 7). The notebook provides a space for students to recall information from experiences and to gather information to answer the focus question (W 8) and to use words and phrases acquired through conversations and readings (L 6).
- The **analysis** phase involves discussing observations, constructing explanations, and engaging in argumentation (SL 1). Students make meaning by writing explanatory texts (W 2), writing opinion pieces supporting a point of view with reasons (W 1), or participating in a shared research or writing project (W 7).
- **Reading** articles in *FOSS Science Resources* and other recommended readings provides a plethora of opportunities to address all the first-grade reading standards for informational text.
- Lastly, the **assessment** tools and next-step strategies for engaging students in high-level critical thinking support the development of the Common Core State Standards capacities of the literate individual: demonstrate independence, build strong content knowledge, comprehend as well as critique, and value evidence.

Again, we have provided you with some examples of how FOSS connects to the first-grade ELA standards; there are many more opportunities waiting to be created and explored by you and your students.

TEACHING NOTE

Throughout the first-grade FOSS modules, opportunities for addressing the ELA standards have been noted; however, these examples should not be considered the only places for integrating literacy skills.

READING STANDARDS FOR INFORMATIONAL TEXT

	Standard	Sound and Light Module
Key Ideas and Details	1. Ask and answer questions about key details in a text.	Discuss articles in *FOSS Science Resources* Inv 1, Part 1, Steps 9, 10; Inv 1, Part 2, Steps 22-24 Inv 2, Part 1, Step 19; Inv 2, Part 2, Steps 15-16; Inv 2, Part 3, Steps 15, 17 Inv 3, Part 2, Steps 15-16 Inv 4, Part 2, Step 17; Inv 4, Part 3, Steps 14-15; Inv 4, Part 4, Step 22
	2. Identify the main topic and retell key details of a text.	Discuss and review articles in *FOSS Science Resources* Inv 1, Part 1, Step 10; Inv 1, Part 2, Step 24 Inv 2, Part 1, Steps 18-19; Inv 2, Part 2, Step 16; Inv 2, Part 3, Step 17 Inv 3, Part 2, Steps 15-16 Inv 4, Part 2, Steps 16-17; Inv 4, Part 3, Steps 14-15; Inv 4, Part 4, Steps 20-21
	3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.	Discuss articles in *FOSS Science Resources* Inv 2, Part 1, Step 18; Inv 2, Part 2, Step 16; Inv 2, Part 3, Step 16 Inv 3, Part 2, Steps 15-16 Inv 4, Part 2, Steps 16-17; Inv 4, Part 3, Steps 14-15; Inv 4, Part 4, Steps 20-21
Craft and Structure	4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	All investigations provide opportunities for students to ask and answer questions to determine the meaning of new words and phrases while reading articles in *FOSS Science Resources.* Selected examples Inv 1, Part 1, Step 11; Inv 1, Part 2, Step 23 Inv 4, Part 2, Step 17; Inv 4, Part 3, Step 14; Inv 4, Part 4, Step 22
	5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.	Read and discuss articles in *FOSS Science Resources* Inv 1, Part 1, Steps 8, 11; Inv 1, Part 2, Steps 22-23 Inv 2, Part 1, Steps 18; Inv 2, Part 2, Step 16 Inv 4, Part 3, Step 14

Common Core State Standards for English language arts and literacy in history/social studies science and technical subjects (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2010).

Plants and Animals Module	Air and Weather Module
Discuss articles in *FOSS Science Resources* Inv 1, Part 1, Steps 25, 26; Inv 1, Part 2, Step 20; Inv 1, Part 4, Steps 14, 15 Inv 3, Part 1, Step 21; Inv 3, Part 2, Steps 23, 24; Inv 3, Part 4, Step 17 Inv 4, Part 3, Step 16	Discuss articles in *FOSS Science Resources* Inv 1, Part 2, Steps 17-20 Inv 2, Part 2, Step 23; Inv 2, Part 3, Steps 5-7, 13; Inv 2, Part 4, Steps 7-9 Inv 3, Part 4, Steps 12, 13; Inv 3, Part 5, Step 12 Inv 4, Part 2, Steps 11-13; Inv 4, Part 3, Steps 9-12
Discuss and review articles in *FOSS Science Resources* Inv 1, Part 1 Step 24; Inv 1, Part 3, Step 19; Inv 1, Part 4, Step 14 Inv 3, Part 1, Steps 20-21; Inv 3, Part 2, Steps 22-24; Inv 3, Part 3, Step 7; Inv 3, Part 4, Steps 16-17; Inv 4, Part 3, Step 16	Discuss and review articles in *FOSS Science Resources* Inv 1, Part 2, Steps 18-19 Inv 2, Part 2, Steps 22-23; Inv 2, Part 3, Steps 6-7, 12-13; Inv 2, Part 4, Steps 7-8 Inv 3, Part 4, Steps 12, 13; Inv 3, Part 5, Step 12 Inv 4, Part 2, Step 12; Inv 4, Part 3, Steps 10, 12
Discuss articles in *FOSS Science Resources* Inv 1, Part 1, Step 25; Inv 1, Part 3, Step 19 Inv 3, Part 1, Steps 20-21; Inv 3, Part 2, Step 22; Inv 3, Part 3, Step 7; Inv 3, Part 4, Step 16	Discuss articles in *FOSS Science Resources* Inv 1, Part 2, Step 19 Inv 2, Part 2, Step 23; Inv 2, Part 3, Steps 12-13; Inv 2, Part 4, Steps 7-9 Inv 3, Part 5, Step 12 Inv 4, Part 2, Steps 11-13; Inv 4, Part 3, Steps 10, 12
All investigations provide opportunities for students to ask and answer questions to determine the meaning of new words and phrases while reading articles in *FOSS Science Resources*. Selected examples Inv 1, Part 3, Step 19 Inv 3, Part 1, Step 20; Inv 3, Part 3, Step 7 Inv 4, Part 3, Steps 15-16	All investigations provide opportunities for students to ask and answer questions to determine the meaning of new words and phrases while reading articles in *FOSS Science Resources*. Selected examples Inv 1, Part 2, Step 20 Inv 2, Part 2, Step 22; Inv 2, Part 3, Step 6; Inv 2, Part 3, Step 12 Inv 3, Part 4, Step 12 Inv 4, Part 3, Step 11
Read and discuss articles in *FOSS Science Resources* Inv 1, Part 1, Step 24; Inv 1, Part 3, Step 19; Inv 1, Part 4, Step 13 Inv 3, Part 1, Step 20; Inv 3, Part 2, Step 22; Inv 3, Part 3, Steps 5, 7 Inv 4, Part 3, Steps 15-16	Read and discuss articles in *FOSS Science Resources* Inv 1, Part 2, Steps 17, 20 Inv 2, Part 2, Step 22; Inv 2, Part 3, Step 12 Inv 3, Part 4, Steps 12, 14

READING STANDARDS FOR INFORMATIONAL TEXT (*continued*)

	Standard	Sound and Light Module
Craft and Structure	6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	Read and discuss articles in *FOSS Science Resources* Inv 1, Part 1, Steps 8, 9, 11; Inv 1, Part 2, Step 23 Inv 2, Part 1, Step 18; Inv 2, Part 2, Step 15; Inv 2, Part 3, Steps 15-17 Inv 3, Part 2, Steps 14-15 Inv 4, Part 2, Steps 16-17; Inv 4, Part 3, Steps 13-14
Integration of Knowledge and Ideas	7. Use the illustrations and details in a text to describe its key ideas.	All investigations provide opportunities for students to use the photographs and diagrams to describe key ideas in the *FOSS Science Resources* articles. Selected examples Inv 1, Part 1, Steps 8-10; Inv 1, Part 2, Steps 22-23 Inv 2, Part 1, Step 19; Inv 2, Part 2, Step 15; Inv 2, Part 3, Steps 16-17 Inv 3, Part 2, Steps 14-15 Inv 4, Part 2, Steps 16-17; Inv 4, Part 3, Steps 13-15; Inv 4, Part 4, Step 20
	8. Identify the reasons an author gives to support points in a text.	Read and discuss articles in *FOSS Science Resources* Inv 1, Part 1, Step 10; Inv 1, Part 2, Step 23 Inv 3, Part 2, Step 15 Inv 4, Part 2, Step 16
	9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	Students can read their *FOSS Science Resources* as well as readings suggested on FOSSweb to compare and contrast how science ideas are communicated. Selected examples Inv 3, Part 2, Step 16; Inv 3 Language Extension. Inv 4, Language Extension.
Range of Reading Level of Text Complexity	10. With prompting and support, read informational texts appropriately complex for grade 1.	All investigations provide opportunities for students to develop their ability to read and comprehend complex informational science text such as *FOSS Science Resources*. Inv 1, Part 1, Step 9; Inv 1, Part 2, Step 22 Inv 2, Part 1, Steps 17, 18; Inv 2, Part 2, Step 15; Inv 2, Part 3, Step 16 Inv 3, Part 2, Steps 14-15 Inv 4, Part 2, Steps 15-16; Inv 4, Part 3, Steps 13-14; Inv 4, Part 4, Step 20

Plants and Animals Module	Air and Weather Module
Read and discuss articles in *FOSS Science Resources* Inv 1, Part 3, Step 19; Inv 1, Part 4, Step 13 Inv 3, Part 1, Steps 20-21; Inv 3, Part 3, Steps 6-7 Inv 4, Part 3, Step 15	Read and discuss articles in *FOSS Science Resources* Inv 1, Part 2, Step 20 Inv 2, Part 2, Steps 22-23; Inv 2, Part 3, Steps 6, 12 Inv 3, Part 4, Step 12; Inv 3, Part 5, Step 11
All investigations provide opportunities for students to use the photographs and diagrams to describe key ideas in the *FOSS Science Resources* articles. Selected examples Inv 1, Part 1, Step 24; Inv 1, Part 3, Step 19; Inv 1, Part 4, Step 14 Inv 3, Part 1, Steps 20-21; Inv 3, Part 2, Step 22; Inv 3, Part 3, Step 7; Inv 3, Part 4, Step 16 Inv 4, Part 3, Step 15	All investigations provide opportunities for students to use the photographs and diagrams to describe key ideas in the *FOSS Science Resources* articles. Selected examples Inv 1, Part 2, Step 19 Inv 2, Part 2, Steps 22-23; Inv 2, Part 3, Steps 6, 12-13 Inv 3, Part 4, Steps 12, 13; Inv 3, Part 5, Steps 11-12 Inv 4, Part 3, Steps 10, 12
Read and discuss articles in *FOSS Science Resources* Selected examples Inv 1, Part 4, Step 15 Inv 3, Part 4, Step 17 Inv 4, Part 3, Step 16	Read and discuss articles in *FOSS Science Resources* Selected examples Inv 1, Part 2, Step 19 Inv 2, Part 3, Step 7 Inv 3, Part 5, Step 11
Students can read their *FOSS Science Resources* as well as readings suggested on FOSSweb to compare and contrast how science ideas are communicated. Selected example Inv 1, Part 3, Step 19	Students can read their *FOSS Science Resources* as well as readings suggested on FOSSweb to compare and contrast how science ideas are communicated. Selected examples Inv 2, Part 3, Step 7; Inv 2 Language Extension. Inv 3 Language Extension.
All investigations provide opportunities for students to develop their ability to read and comprehend complex informational science text such as *FOSS Science Resources*. Inv 1, Part 3, Step 20; Inv 1, Part 4, Step 13 Inv 3, Part 2, Step 22; Inv 3, Part 4, Step 16 Inv 4, Part 3, Step 15	All investigations provide opportunities for students to develop their ability to read and comprehend complex informational science text such as *FOSS Science Resources*. Inv 1, Part 1, Step 17 Inv 2, Part 2, Step 22; Inv 2, Part 3, Steps 5, 6, 12; Inv 2, Part 4, Step 7 Inv 3, Part 4, Step 12 Inv 4, Part 3, Steps 9, 11

READING STANDARDS: FOUNDATIONAL SKILLS

	Standard	Sound and Light Module
Print Concepts	1. Demonstrate understanding of the organization and basic features of print. a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).	All investigations provide opportunities for students to demonstrate understanding of the organization and basic features of print in *FOSS Science Resources* .
Phonological Awareness	2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Distinguish long from short vowel sounds in spoken single-syllable words. b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).	All investigations provide opportunities for students to demonstrate understanding of spoken words, syllables, and sounds while reading articles in *FOSS Science Resources*.
Phonics and Word Recognition	3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Know the spelling-sound correspondences for common consonant digraphs. b. Decode regularly spelled one-syllable words. c. Know final -e and common vowel team conventions for representing long vowel sounds. d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. e. Decode two-syllable words following basic patterns by breaking the words into syllables. f. Read words with inflectional endings. g. Recognize and read grade-appropriate irregularly spelled words.	All investigations provide opportunities for students to apply phonics and word analysis skills in decoding words while reading articles in *FOSS Science Resources*.
Fluency	4. Read with sufficient accuracy and fluency to support comprehension. a. Read grade-level text with purpose and understanding. b. Read grade-level text 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.	All investigations provide opportunities for students to practice reading with accuracy and fluency. Selected examples Inv 1, Part 1, Step 9; Inv 1, Part 2, Step 22 Inv 2, Part 1, Steps 17, 18; Inv 2, Part 2, Step 15; Inv 2, Part 3, Step 16 Inv 3, Part 2, Steps 14-15 Inv 4, Part 2, Step 16; Inv 4, Part 3, Steps 13-14

Plants and Animals Module	Air and Weather Module
All investigations provide opportunities for students to demonstrate understanding of the organization and basic features of print *FOSS Science Resources*.	All investigations provide opportunities for students to demonstrate understanding of the organization and basic features of print *FOSS Science Resources*.
All investigations provide opportunities for students to demonstrate understanding of spoken words, syllables, and sounds while reading articles in *FOSS Science Resources*.	All investigations provide opportunities for students to demonstrate understanding of spoken words, syllables, and sounds while reading articles in *FOSS Science Resources*.
All investigations provide opportunities for students to apply phonics and word analysis skills in decoding words while reading articles in *FOSS Science Resources*.	All investigations provide opportunities for students to apply phonics and word analysis skills in decoding words while reading articles in *FOSS Science Resources*.
All investigations provide opportunities for students to practice reading with accuracy and fluency. Selected examples Inv 1, Part 3, Step 20 Inv 3, Part 2, Step 22	All investigations provide opportunities for students to practice reading with accuracy and fluency. Selected examples Inv 1, Part 1, Step 17 Inv 2, Part 2, Step 22; Inv 2, Part 3, Steps 5, 6, 12; Inv 2, Part 4, Step 7 Inv 3, Part 4, Step 12 Inv 4, Part 3, Steps 9, 11

WRITING STANDARDS

Text Types and Purposes

Standard	Sound and Light Module
1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.	All investigations provide opportunities for students to write about a science topic, stating their opinion or claim, supported by reasons in answer to the focus questions and in the I-Check assessments. Selected examples Inv 1, Part 2, Step 19 Inv 4, Part 3, Steps 16, 18
2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	All investigations provide opportunities for students to write explanatory texts to examine the science topic they are learning. Students write an explanation as part of their answer to the focus question in the I-Check assessments, and in response to the readings. Selected examples Inv 1, Part 1, Step 17 Inv 2, Part 1, Step 12; Inv 2, Part 2, Step 12; Inv 2, Part 3, Step 13 Inv 3, Part 1, Step 13 Inv 4, Part 1, Step 15
3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.	All investigations provide opportunities for students to write narratives. Students describe their observations and experiences with the science ideas they are exploring. Selected examples Inv 1, Part 3, Step 10 Inv 2, Part 4, Step 15 Inv 3, Part 2, Step 13; Inv 3, Part 3, Step 13 Inv 4, Part 4, Step 19

Plants and Animals Module	Air and Weather Module
All investigations provide opportunities for students to write about a science topic, stating their opinion or claim, supported by reasons in answer to the focus questions and in the I-Check assessments. Selected examples Inv 1, Part 1, Step 22 Inv 2, Part 2, Step 19; Inv 2, Part 3, Step 11 Inv 3, Part 2, Step 16 Inv 4, Part 1, Step 16; Inv 4, Part 2, Step 19	All investigations provide opportunities for students to write about a science topic, stating their opinion or claim, supported by reasons in answer to the focus questions and in the I-Check assessments. Selected examples Inv 2, Part 2, Step 21; Inv 2, Part 4, Step 16 Inv 3, Part 3, Step 11; Inv 3, Part 5, Step 9
All investigations provide opportunities for students to write explanatory texts to examine the science topic they are learning. Students write an explanation as part of their answer to the focus question in the I-Check assessments, and in response to the readings. Selected examples Inv 1, Part 2, Step 11; Inv 1, Part 3, Step 18; Inv 1, Part 4, Step 16 Inv 2, Part 1, Steps 14, 18 Inv 3, Part 1, Step 19; Inv 3, Part 3, Step 11; Inv 3, Part 4, Step 14; Inv 3, Language Extension. Inv 4, Part 3, Step 18	All investigations provide opportunities for students to write explanatory texts to examine the science topic they are learning. Students write an explanation as part of their answer to the focus question in the I-Check assessments, and in response to the readings. Selected examples Inv 1, Part 1, Step 12; Inv 1, Part 2, Step 16; Inv 1, Part 3, Step 15; Inv 1, Part 4, Step 21; Inv 1, Part 5, Step 8 Inv 3, Part 1, Step 9; Inv 3, Part 3, Step 10; Inv 3, Part 4, Step 10 Inv 4, Part 1, Steps 8, 13; Inv 4, Part 2, Step 9
All investigations provide opportunities for students to write narratives. Students describe their observations and experiences with the science ideas they are exploring. Selected examples Inv 1, Part 2, Step 3 Inv 3, Part 2, Step 19; Inv 3, Part 3, Step 12; Inv 3, Language Extension.	All investigations provide opportunities for students to write narratives. Students describe their observations and experiences with the science ideas they are exploring. Selected examples: Inv 2, Part 1, Step 12; Inv 2, Part 3, Step 15; Inv 2 Language Extension. Inv 4, Part 1, Step 13; Inv 4, Part 3, Step 10; Inv 4 Language Extension; Inv 4 Home/School Connection

WRITING STANDARDS *(continued)*

	Standard	Sound and Light Module
Production and Distribution of Writing	5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.	The Wrap-Up/Warm-Up section of each investigation part, provides the opportunity for students to strengthen their notebook entries by revising and adding in new information. The next-step strategies after taking the I-Check also serve as a method for strengthening writing. Selected examples Inv 1, Part 1, Step 20 Inv 2, Part 1, Step 20; Inv 2, Part 2, Step 18
	6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.	
Research to Build and Present Knowledge	7. Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).	In every investigation students record their observations in their notebooks They also write about articles in *FOSS Science Resources*. Selected examples Inv 1, Science Extensions Inv 2, Science Extensions Inv 3, Science Extensions; Home/School Connection Inv 4, Science Extensions
	8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.	All investigations provide students with the opportunity to write about their science experiences and record their observations in their science notebooks. Students also take notes and organize information when reading articles in *FOSS Science Resources*. Selected examples Inv 1, Part 1, Steps 17, 18 Inv 2, Part 1, Steps 12, 18; Inv 2, Part 2, Step 12; Inv 2, Part 3, Step 13; Inv 2, Part 4, Steps 15, 17 Inv 3, Part 1, Step 13; Inv 3, Part 2, Step 13; Inv 3, Part 3, Steps 13, 17 Inv 4, Part 1, Step 15; Inv 4, Part 2, Step 12; Inv 4, Part 3, Step 16; Inv 4, Part 4, Steps 19, 23

Plants and Animals Module	Air and Weather Module
The Wrap-Up/Warm-Up section of each investigation part, provides the opportunity for students to strengthen their notebook entries by revising and adding in new information. The next-step strategies after taking the I-Check also serve as a method for strengthening writing. Selected examples Inv 1, Part 3, Step 24 Inv 2, Part 1, Step 19 Inv 3, Part 1, Step 23 Inv 4, Part 1, Step 18	The Wrap-Up/Warm-Up section of each investigation part, provides the opportunity for students to strengthen their notebook entries by revising and adding in new information. The next-step strategies after taking the I-Check also serve as a method for strengthening writing. Selected examples Inv 2, Part 3, Step 24
In every investigation students record their observations in their notebooks They also write about articles in *FOSS Science Resources*. Selected examples Inv 1, Part 1, Step 20; Inv 1, Part 3, Step 20; Inv 1 Language Extension. Inv 2, Part 2, Step 14; Inv 2, Part 3, Step 10 Inv 3, Part 1, Steps 20-22; Inv 3, Part 2, Steps 2, 12, 17, 22; Inv 3, Part 4, Steps 9-12 Inv 4, Part 2, Step 14	In every investigation students record their observations in their notebooks They also write about articles in *FOSS Science Resources*. Selected examples Inv 2, Part 1, Step 10; Inv 2, Part 2, Steps 18-19; Inv 2, Part 3, Step 23; Inv 2, Part 4, Steps 10, 13, 18, 19
All investigations provide students with the opportunity to write about their science experiences and record their observations in their science notebooks. Students also take notes and organize information when reading articles in *FOSS Science Resources*. Selected examples Inv 1, Part 1, Step 22; Inv 1, Part 2, Step 11; Inv 3, Part 3, Step 18; Inv 1, Part 4, Steps 12, 19 Inv 2, Part 1, Step 18; Inv 2, Part 2, Step 19; Inv 2, Part 3, Steps 11, 13 Inv 3, Part 1, Steps 20-21: Inv 3, Part 2, Step 16; Inv 3, Part 2, Step 20; Inv 3, Part 3, Step 11; Inv 3, Part 4, Steps 14-15; Inv 3, Part 4, Steps 19-20 Inv 4, Part 1, Step 16; Inv 4, Part 3, Steps 18, 22	All investigations provide students with the opportunity to write about their science experiences and record their observations in their science notebooks. Students also take notes and organize information when reading articles in *FOSS Science Resources*. Selected examples Inv 1, Part 1, Step 12; Inv 1, Part 2, Steps 16, 25; Inv 1, Part 3, Step 15; Inv 1, Part 4, Step 21; Inv 1, Part 5, Step 8, 10 Inv 2, Part 1, Step 12; Inv 2, Part 3, Step 15; Inv 2, Part 4, Steps 16, 17, 19 Inv 3, Part 1, Steps 8, 9; Inv 3, Part 2, Step 11; Inv 3, Part 3, Step 10; Inv 3, Part 4, Step 10; Inv 3, Part 5, Steps 9, 13 Inv 4, Part 1, Step 13; Inv 4, Part 1, Steps 1, 7, 9, 10, 11; Inv 4, Part 2, Step 9; Inv 4, Part 3, Steps 8, 13

SPEAKING AND LISTENING STANDARDS

Comprehension and Collaboration

Standard	Sound and Light Module
1. Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion.	All investigations provide students ample opportunities to engage in collaborative discussions. Students discuss before, during, and after the active investigation, when reading articles in the *FOSS Science Resources*, and during the Wrap-Up/Warm-Up section. Selected examples Inv 1, Part 1, Step 20; Inv 1, Part 2, Step 25 Inv 2, Part 1, Step 20; Inv 2, Part 2, Step 18; Inv 2, Part 3, Step 18 Inv 3, Part 1, Step 15; Inv 3, Part 2, Steps 7-9, 18; Inv 3, Part 3, Step 16 Inv 4, Part 1, Step 16; Inv 4, Part 2, Step 17; Inv 4, Part 3, Step 18; Inv 4, Part 4, Step 14
2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.	All investigations provide opportunities for students to ask and answer questions about key details in *FOSS Science Resources* articles and information presented orally. This module also includes video discussions. Selected examples Inv 1, Part 1, Steps 5, 7, 9, 10; Inv 1, Part 2, Steps 10, 14, 20-23; Inv 1, Part 3, Step 13 Inv 2, Part 1, Steps 9, 19; Inv 2, Part 2, Steps 16, 17; Inv 2, Part 3, Steps 10, 17; Inv 2, Part 4, Step 17 Inv 3, Part 1, Steps 10-11; Inv 3, Part 2, Steps 1,15-17; Inv 3, Part 3, Steps 11, 15, 16 Inv 4, Part 1, Step 12; Inv 4, Part 2, Steps 10, 17; Inv 4, Part 3, Step 15; Inv 4, Part 4, Step 22
3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.	All investigations provide students with the opportunity to ask and answer questions about the focus question during the Wrap-Up/Warm-Up. There are other opportunities to present information to the group/class. Selected examples Inv 1, Part 1, Steps 1, 20; Inv 1, Part 2, Steps 10, 14; Inv 1, Part 3, Steps 2, 6, 8, 11 Inv 2, Part 1, Steps 1, 7, 8; Inv 2, Part 2, Steps 1-3; Inv 2, Part 3, Steps 2, 5, 6, 9; Inv 2, Part 4, Steps 1, 9 Inv 3, Part 1, Step 5; Inv 3, Part 2, Steps 1, 2, 9; Inv 3, Part 3, Steps 1-4 Inv 4, Part 1, Steps 2, 5, 7; Inv 4, Part 2, Steps 1, 2, 6; Inv 4, Part 3, Step 7; Inv 4, Part 4, Steps 1, 2, 16

Plants and Animals Module	Air and Weather Module
All investigations provide students ample opportunities to engage in collaborative discussions. Students discuss before, during, and after the active investigation, when reading articles in the *FOSS Science Resources*, and during the Wrap-Up/Warm-Up section. Selected examples Inv 1, Part 1, Steps 25-27; Inv 1, Part 2, Steps 14, 16; Inv 1, Part 3, Step 16; Inv 1, Part 4, Steps 10-11 Inv 2, Part 1, Steps 13, 17, 19; Inv 2, Part 2, Steps 14, 18, 21; Inv 2, Part 3, Steps 1, 2, 12 Inv 3, Part 1, Steps 9, 14, 17, 23; Inv 3, Part 2, Steps 1-3, 27; Inv 3, Part 3, Step 7, 14 Inv 4, Part 1, Step 12, 13, 18; Inv 4, Part 2, Steps 1, 18, 21; Inv 4, Part 3, Steps 5, 11-13, 16	All investigations provide students ample opportunities to engage in collaborative discussions. Students discuss before, during, and after the active investigation, when reading articles in the *FOSS Science Resources*, and during the Wrap-Up/Warm-Up section. Selected examples Inv 1, Part 1, Step 14; Inv 1, Part 3, Step 17; Inv 1, Part 4, Step 23 Inv 2, Part 2, Step 24; Inv 2, Part 3, Step 24 Inv 3, Part 1, Step 11; Inv 3, Part 2, Step 13; Inv 3, Part 3, Step 12; Inv 3, Part 4, Step 15 Inv 4, Part 1, Step 14; Inv 4, Part 2, Step 14; Inv 4, Part 3, Step 10
All investigations provide opportunities for students to ask and answer questions about key details in *FOSS Science Resources* articles and information presented orally. This module also includes video discussions. Selected examples Inv 1, Part 1, Steps 24-26; Inv 1, Part 2, Steps 13, 15; Inv 1, Part 3, Steps 3, 19; Inv 1, Part 3, Step 22; Inv 1, Part 4, Steps 14-17 Inv 2, Part 2, Steps 17, 18 Inv 3, Part 1, Step 12; Inv 3, Part 1, Step 21; Inv 3, Part 2, Steps 22-24, 26; Inv 3, Part 3, Steps 9, 13; Inv 3, Part 4, Steps 17-18 Inv 4, Part 1, Steps 12, 13; Inv 4, Part 2, Steps 11, 18, 20; Inv 4, Part 3, Steps 15, 16, 20, 21	All investigations provide opportunities for students to ask and answer questions about key details in *FOSS Science Resources* articles and information presented orally. This module also includes video discussions. Selected examples Inv 1, Part 2, Step 1 Inv 2, Part 2, Steps 3, 8, 12, 22, 23; Inv 2, Part 3, Steps 2, 4, 9, 17, 23; Inv 2, Part 4, Steps 1, 2, 7, 8, 12, 14, 18, 19 Inv 3, Part 1, Steps 1, 6, 8, 9; Inv 3, Part 2, Steps 1, 7, 8; Inv 3, Part 3, Steps 1, 7, 8; Inv 3, Part 4, Steps 1, 2, 7, 13; Inv 3, Part 5, Steps 1, 6-8, 12 Inv 4, Part 1, Steps 1, 7, 9, 10, 11; Inv 4, Part 2, Steps 7, 12, 13; Inv 4, Part 3, Steps 2, 6, 10-12
All investigations provide students with the opportunity to ask and answer questions about the focus question during the Wrap-Up/Warm-Up. There are other opportunities to present information to the group/class. Selected examples Inv 1, Part 1, Step 24; Inv 1, Part 2, Step 7; Inv. 1, Part 3, Steps 11, 12, 14, 16; Inv 1, Part 4, Steps 10-11 Inv 2, Part 2, Step 11 Inv 3, Part 2, Step 19; Inv 3, Part 3, Step 7 Inv 4, Part 3, Steps 10, 16, 20, 21	All investigations provide students with the opportunity to ask and answer questions about the focus question during the Wrap-Up/Warm-Up. There are other opportunities to present information to the group/class. Selected examples Inv 1, Part 2, Steps 8, 11, 12; Inv 1, Part 2, Step 24; Inv 1,Part 5, Steps 5, 6 Inv 2, Part 1, Step 10; Inv 2, Part 2, Step 24 Inv 4, Part 1, Step 6; Inv 4, Part 3, Step 3

SPEAKING AND LISTENING STANDARDS *(continued)*

Presentation of Knowledge and Ideas

Standard	Sound and Light Module
4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.	All investigations provide students with the opportunity to describe what they observe and learn about science topics. In the Wrap-Up/Warm-Up section students describe what they did in the investigation and share their answers to the focus question. Selected examples Inv 1, Part 1, Steps 5, 7, 10; Inv 1, Part 2, Step 21; Inv 1, Part 3, Step 1 Inv 2, Part 2, Step 14; Inv 2, Part 3, Steps 1, 10, 15; Inv 2, Part 4, Steps 5, 13 Inv 3, Part 1, Steps 1, 5; Inv 3, Part 2, Steps 1, 9; Inv 3, Part 3, Step 9 Inv 4, Part 1, Steps 1, 7; Inv 4, Part 2, Steps 1, 6, 15; Inv 4, Part 3, Steps 1, 7, 10; Inv 4, Part 4, Step 8; Inv 4, Part 4, Steps 16, 20
5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.	Students add drawings to their notebook entries to clarify their ideas and answers to the focus questions. Inv 2, Part 3, Steps 10, 17; Inv 2, Part 4, Step 13 Inv 3, Part 1, Step 17 Inv 4, Part 1, Steps 15-16; Inv 4, Part 4, Steps 8, 15, 16
6. Produce complete sentences when appropriate to task and situation.	All investigations provide students with the opportunity to speak in complete sentences to provide details or clarification about their science learning. Sentence frames are provided for those students that need scaffolding. Selected examples Inv 1, Part 1, Steps 18, 20; Inv 1, Part 2, Steps 19, 25; Inv 1, Part 3, Step 10 Inv 2, Part 1, Steps 12, 20; Inv 2, Part 2, Steps 12, 18; Inv 2, Part 3, Step 13; Inv 2, Part 4, Step 15 Inv 3, Part 1, Step 13; Inv 3, Part 2, Step 13 Inv 4, Part 1, Steps 15-16; Inv 4, Part 2, Step 12; Inv 4, Part 3, Step 16; Inv 4, Part 4, Step 19

Plants and Animals Module	Air and Weather Module
All investigations provide students with the opportunity to describe what they observe and learn about science topics. In the Wrap-Up/Warm-Up section students describe what they did in the investigation and share their answers to the focus question. Selected examples Inv 1, Part 1, Step 24; Inv 1, Part 3, Steps 3, 19; Inv 1, Part 4, Step 1; Inv 1, Part 4, Step 13 Inv 2, Part 1, Step 1; Inv 2, Part 2, Steps 1, 5 Inv 3, Part 1, Steps 1, 3; Inv 3, Part 2, Steps 10, 12, 17, 22; Inv 3, Part 3, Steps 1-4, 5-7; Inv 3, Part 4, Steps 1, 10, 12, 16 Inv 4, Part 1, Steps 1, 12, 13; Inv 4, Part 4, Step 15	All investigations provide students with the opportunity to describe what they observe and learn about science topics. In the Wrap-Up/Warm-Up section students describe what they did in the investigation and share their answers to the focus question. Selected examples Inv 1, Part 1, Step 8; Inv 1, Part 2, Step 25; Inv 1, Part 3, Steps 4, 6, 7, 10-12; Inv 1, Part 4, Steps 1-4, 7, 9, 12, 14-16; Inv 1, Part 5, Steps 1, 3, 5, 6 Inv 2, Part 1, Steps 1, 2, 8; Inv 2, Part 2, Steps 1, 3, 8, 12, 14, 19, 22; Inv 2, Part 3, Steps 2, 4, 9, 17, 23; Inv 2, Part 4, Steps 1, 2, 14, 18, 19 Inv 3, Part 1, Step 1; Inv 3, Part 2, Step 1; Inv 3, Part 3, Step 8; Inv 3, Part 4, Steps 1, 2; Inv 3, Part 5, Steps 1, 8, 11 Inv 4, Part 1, Steps 6, 11; Inv 4, Part 1, Steps 1, 7, 9, 10, 11; Inv 4, Part 2, Step 13
Students add drawings to their notebook entries to clarify their ideas and answers to the focus questions. Inv 1, Part 1, Step 27; Inv 1, Part 2, Step 7; Inv 1, Part 3, Step 24 Inv 3, Part 2, Step 19; Inv 3, Part 4, Step 19 Inv 3, Language Extension.	Students add drawings to their notebook entries to clarify their ideas and answers to the focus questions. Inv 1, Part 2, Step 26 Inv 2, Part 3, Step 24; Inv 2, Part 4, Steps 14, 18, 19 Inv 4, Part 3, Step 10
All investigations provide students with the opportunity to speak in complete sentences to provide details or clarification about their science learning. Sentence frames are provided for those students that need scaffolding. Selected examples Inv 1, Part 1, Steps 16, 26; Inv 1, Part 2, Step 14; Inv 1, Part 3, Step 3 Inv 2, Part 2, Step 14; Inv 2, Part 3, Step 1 Inv 3, Part 2, Steps 1-3; Inv 3, Part 3, Steps 6-7 Inv 4, Part 1, Step 12; Inv 4, Part 2, Step 1; Inv 4, Part 2, Step 18; Inv 4, Part 3, Steps 11-12	All investigations provide students with the opportunity to speak in complete sentences to provide details or clarification about their science learning. Sentence frames are provided for those students that need scaffolding. Selected examples Inv 1, Part 2, Step 8; Inv 1, Part 2, Step 25 Inv 2, Part 2, Steps 12, 24 Inv 3, Part 4, Steps 10, 15

LANGUAGE STANDARDS

	Standard	Sound and Light Module
Conventions of Standard English	1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Print all upper- and lowercase letters. b. Use common, proper, and possessive nouns. c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop*). d. Use personal, possessive, and indefinite pronouns (e.g., *I*, *me*, *my*; *they*, *them*, *their*; *anyone*, *everything*). e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home*; *Today I walk home*; *Tomorrow I will walk home*). f. Use frequently occurring adjectives. g. Use frequently occurring conjunctions (e.g., *and*, *but*, *or*, *so*, *because*). h. Use determiners (e.g., articles, demonstratives). i. Use frequently occurring prepositions (e.g., *during*, *beyond*, *toward*). j. Produce and expand complete simple and compounddeclarative, interrogative, imperative, and exclamatory sentences in response to prompts.	All investigations provide opportunities for students to apply the conventions of English grammar when writing and speaking. Selected examples Inv 1, Part 1, Step 17; Inv 1, Part 2, Step 19; Inv 1, Part 3, Step 10 Inv 2, Part 1, Steps 12, 20; Inv 2, Part 2, Step 12; Inv 2, Part 3, Step 13; Inv 2, Part 4, Step 14 Inv 3, Part 1, Steps 13, 15; Inv 3, Part 2, Step 13 Inv 4, Part 1, Step 15; Inv 4, Part 2, Step 12; Inv 4, Part 3, Step 16; Inv 4, Part 4, Step 19
	2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize dates and names of people. b. Use end punctuation for sentences. c. Use commas in dates and to separate single words in a series. d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.	All investigations provide opportunities for students to demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing in their science notebooks and the I-Checks.
Vocabulary Acquisition and Use	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 1 reading and content*, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Use frequently occurring affixes as a clue to the meaning of a word. c. Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks*, *looked*, *looking*).	All investigations provide opportunities for students to practice strategies for determining or clarifying the meaning of unknown and multiple-meaning words and phrases while discussing the investigations and articles in *FOSS Science Resources*. Selected examples Inv 1, Part 1, Step 11; Inv 1, Part 2, Step 23 Inv 4, Part 3, Step 13

Plants and Animals Module	Air and Weather Module
All investigations provide opportunities for students to apply the conventions of English grammar when writing and speaking. Selected examples Inv 1, Part 1, Steps 16, 26; Inv 1, Part 2, Step 14; Inv 1, Part 3, Step 3; Inv 1, Part 4, Step 12 Inv 2, Part 1, Step 18; Inv 2, Part 2, Step 14; Inv 2, Part 3, Step 11 Inv 3, Part 1, Step 19; Inv 3, Part 2, Steps 16, 26; Inv 3, Part 3, Step 11 Inv 4, Part 1, Step 16, Inv 4, Part 2, Step 18; Inv 4, Part 3, Steps 11-12	All investigations provide opportunities for students to apply the conventions of English grammar when writing and speaking. Selected examples Inv 1, Part 1, Step 6 Inv 2, Part 2, Step 12 Inv 3, Part 2, Step 11; Inv 3, Part 3, Step 10; Inv 3, Part 4, Step 10
All investigations provide opportunities for students to demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing in their science notebooks and the I-Checks.	All investigations provide opportunities for students to demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing in their science notebooks and the I-Checks.
All investigations provide opportunities for students to practice strategies for determining or clarifying the meaning of unknown and multiple-meaning words and phrases while discussing the investigations and articles in *FOSS Science Resources*. Selected examples Inv 1, Part 1, Step 24; Inv 1, Part 3, Steps 19, 21 Inv 3, Part 1, Step 18; Inv 3, Part 3, Step 7	All investigations provide opportunities for students to practice strategies for determining or clarifying the meaning of unknown and multiple-meaning words and phrases while discussing the investigations and articles in *FOSS Science Resources*. Selected examples Inv 2, Part 2, Step 22 Inv 4, Part 3, Step 11

LANGUAGE STANDARDS (*continued*)

Vocabulary Acquisition and Use

Standard	Sound and Light Module
5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. b. Define words by category and by one or more key attributes (e.g., a *duck* is a bird that swims; a *tiger* is a large cat with stripes). c. Identify real-life connections between words and their use (e.g., note places at home that are *cozy*). d. Distinguish shades of meaning among verbs differing in manner (e.g., *look*, *peek*, *glance*, *stare*, *glare*, *scowl*) and adjectives differing in intensity (e.g., *large*, *gigantic*) by defining or choosing them or by acting out the meanings.	All investigations provide students with opportunities to demonstrate understanding of word relationships (e.g., concept maps) and nuances of certain words that have a specific meaning in science, such as **back-and-forth motion, compare, identify, information, properties, sound receiver, sound sources, vibrate, communicate, device, direction, pitch, system, travel, volume, instrument, blocks, dark, light, beam, opaque, shade, shadow, sunlight, transparent, translucent, angle, light detector, mirror, redirect, reflection, seeing, vision, and model.** Selected examples Inv 1, Language Extension. Inv 1, Home/School Connection Inv 2, Part 1, Step 16 Inv 3, Part 3, Step 5
6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *because*).	All investigations provide opportunities for students to use new science words and phrases acquired through science discussions and readings. Science vocabulary words are in bold when they are first introduced to students in *FOSS Science Resources.* Students also review the vocabulary in the *Review vocabulary* section for each part of each investigation. Selected examples Inv 1, Part 1, Steps 6, 13, 14, 17, 20; Inv 1, Part 2, Steps 2, 18, 24, 25; Inv 1, Part 3, Steps 12, 14 Inv 2, Part 1, Steps 5, 11, 12, 20; Inv 2, Part 2, Steps 11, 12, 16, 18; Inv 2, Part 3, Steps 12, 18 Inv 3, Part 1, Steps 1-5, 12, 13, 15; Inv 3, Part 2, Step 12; Inv 3, Part 3, Steps 5, 9, 10, 13 Inv 4, Part 1, Steps 3, 8, 14-16; Inv 4, Part 2, Steps 7, 11, 12, 17; Inv 4, Part 3, Steps 10, 11, 16, 18; Inv 4, Part 4, Steps 3, 4, 18

Plants and Animals Module	Air and Weather Module
All investigations provide students with opportunities to demonstrate understanding of word relationships (e.g., concept maps) and nuances of certain words that have a specific meaning in science, such as **nutrient, soil, sprout, fertilizer, blade, stem, structure, function, variation, organisms, node, tuber, eyes, buds, terrarium, habitat, system, shelter, behavior, survive, living, nonliving, offspring, and parent.** Selected examples Inv 1, Part 4, Step 18 Inv 3, Part 3, Steps 7, 9 Inv 4, Part 3, Step 8; Inv 4, Language Extension.	All investigations provide students with opportunities to demonstrate understanding of word relationships (e.g., concept maps) and nuances of certain words that have a specific meaning in science, such as **air, resistance, barrel, bubble, compress, distance, gas, plunger, pressure, push, submerge, syringe, wind, matter, space, change, measure, sunrise, sunset, weather, describe, vapor, breeze, direction, speed, and vane.** Selected examples Inv 1, Part 5, Step 7 Inv 2, Part 3, Step 2 Inv 4, Part 1, Steps 3-4; Inv 4, Part 3, Step 10
All investigations provide opportunities for students to use new science words and phrases acquired through science discussions and readings. Science vocabulary words are in bold when they are first introduced to students in *FOSS Science Resources*. Students also review the vocabulary in the *Review vocabulary* section for each part of each investigation. Selected examples Inv 1, Part 1, Step 27; Inv 1, Part 2, Step 10; Inv 1, Part 3, Step 17 Inv 2, Part 1, Steps 6, 16; Inv 2, Part 2, Steps 15, 19 Inv 3, Part 1, Steps 18, 23; Inv 3, Part 2, Step 25; Inv 3, Part 3, Steps 1, 11 Inv 4, Part 1, Steps 15, 16, 18; Inv 4, Part 2, Step 15; Inv 4, Part 3, Steps 12, 19	All investigations provide opportunities for students to use new science words and phrases acquired through science discussions and readings. Science vocabulary words are in bold when they are first introduced to students in *Science Resources*. Students also review the vocabulary in the *Review vocabulary* section for each part of each investigation. Selected examples Inv 1, Part 1, Step 11; Inv 1, Part 2, Steps 14, 16; Inv 1, Part 3, Steps 4, 8, 13, 14; Inv 1, Part 4, Steps 2, 4, 20, 21, 23; Inv 1, Part 5, Steps 3, 5, 7, 8 Inv 2, Part 1, Steps 1, 3, 5, 6, 8, 11, 12, 14; Inv 2, Part 2, Steps 1, 2, 8, 12, 13, 19-21, 24; Inv 2, Part 3, Steps 1, 2, 4, 8, 14, 15, 18, 22-24 Inv 3, Part 1, Steps 9-11; Inv 3, Part 2, Steps 3, 4, 10-11, 13; Inv 3, Part 4, Steps 1, 6, 9, 10, 15; Inv 3, Part 5, Steps 1, 9 Inv 4, Part 1, Steps 3, 6, 13, 14; Inv 4, Part 3, Steps 6, 7, 12; Inv 4, Part 3, Steps 6, 7, 10, 12