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Using Question Generation to Improve Reading Comprehension for Middle Grade Students

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Abstract

Students in the middle grades are expected to read complex texts to acquire content knowledge, particularly in social studies/history and science. Most students with disabilities are included in social studies/history and science classes and yet read below grade level, requiring significant support with accessing text knowledge. Question generation is one high-impact, evidence-based practice that content area teachers can use to support students as they read complex text. This practice has been studied in rigorous research studies, and findings suggest that students' reading comprehension increases when they apply the practice while reading. We provide an overview of question generation, including explanations of each step in the instructional process, so that content area teachers can integrate this reading comprehension practice into their instruction.

Using Question Generation to Improve Reading Comprehension for Middle Grade Students

Teaser Text: When students are taught to pause and generate questions while reading informational text, students learn to read more carefully and deepen their understanding of important ideas in the text.

Ms. Rangel is a seventh-grade social studies teacher. Many of her students struggle to understand history assignments and do not learn as much as she'd like from their reading. Mr. Wallace, a science teacher, has noticed the same thing. Students complete the readings in class, but when asked what they learned after reading, they are unable to recall important information or engage in meaningful discussions. Overall, students demonstrate difficulty with reading comprehension in their classes, and this is concerning considering state standards that require students to read and understand science and social studies texts. Ms. Rangel and Mr. Wallace are unsure how to help their students. After all, they are science and history experts, not reading specialists.

The school's instructional coach, Mr. Lazaro, offers an evidence-based practice for teaching students to generate questions while reading and then answer those questions by citing evidence. Ms. Rangel explains that she already asks students to answer questions about what they read nearly every class period. Mr. Lazaro explains that the practice he recommends teaches students to ask their own questions—students read the text carefully, pause to locate important information, reread if needed to monitor understanding, and then "flip" that information into a question. This practice also supports readers with connecting ideas across sections of texts and even between different texts! This practice requires a higher level of

thinking and engagement with the text, and students who are more engaged while reading are more likely to understand and remember what they read.

Ms. Rangel and Mr. Wallace agree that an instructional practice that helps students "read to learn" would be helpful. They set up a time to meet so they can learn more.

These teachers' challenges with supporting students' reading comprehension are not uncommon. As students transition to the middle grades, the demands related to content learning through text reading increase, especially in science and social studies. Students encounter increasingly complex texts that are often above their reading proficiency (Shanahan & Shanahan, 2008) and are expected to derive meaning from text, integrate information across texts, and engage in text-based discussions (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).

In short, students need advanced literacy skills, such as synthesizing information, evaluating arguments, understanding multiple perspectives, and assessing the credibility of sources of information (Murnane, Sawhill, & Snow, 2012). These advanced literacy skills contrast markedly with how many students view reading—a task to complete rather than an active, meaning-making process in which the reader engages with the text to construct meaning and learn new content.

Why is it important for students to master the advanced reading comprehension skills described previously? Our students will not be successful in a global economy without these skills (ACT, 2006; Biancarosa & Snow, 2006; Murnane et al., 2012). In fact, poor reading skills may have far-reaching implications, including limiting students' knowledge of science and social studies and putting them at higher risk for dropping out of high school and not attending postsecondary education, which inhibits career opportunities (ACT, 2006). To acquire these

advanced reading skills, students need to read text and participate in instruction that supports thinking critically, developing sound arguments, and assembling knowledge from texts.

Text use for instruction is common for English language arts and reading teachers; however, the shift toward using more text in science and social studies classrooms is challenging, particularly given the range of learners and the breadth of content that must be learned. Typically, science and social studies teachers are comfortable with more traditional instructional practices (i.e., lecture-based delivery) because these approaches are perceived as efficient for delivering content that will later be assessed on high-stakes assessments (Bolinger & Warren, 2007; Swanson et al., 2016).

Past observation studies (Greenleaf, 1995; Parker et al., 2013; Ratekin, Simpson, Alvermann, & Dishner, 1985) have noted a pattern of minimal text use in secondary content area classes for several decades. For example, Parker et al. (2013) observed that even when readings were assigned as homework, teachers regularly provided oral descriptions or summaries of content in class so that students could bypass reading and learning from text (Greenleaf & Valencia, 2017). Overall, models of instruction that circumvent reading are inadequate because they limit opportunities for students to practice reading, learn from text, and develop advanced reading comprehension skills.

In our view, content area teachers' limited use of text and their need to summarize important content for students is understandable. They are responsible for delivering a large scope of content, many students possess reading difficulties that these teachers have not been prepared to manage, and appropriate instructional resources and support are lacking. Education researchers address this ongoing need by identifying literacy practices appropriate for secondary

content area instruction and designing resources and support opportunities that make implementation feasible (Vaughn et al., 2011; 2013; 2015).

The purpose of this article is to support teachers, like Ms. Rangel and Mr. Wallace, with integrating a high-impact, evidence-based reading comprehension practice into their content instruction: question generation. We provide an overview of question generation and descriptions and examples of each step in the instructional process based on resources we developed in collaboration with middle school content area teachers. Our examples include sample science and social studies texts and emphasize the initial modeling phase of question generation instruction. Resources are provided in the More to Explore section so that teachers may implement question generation in their classrooms.

What Is Question Generation?

Question generation is an approach to teaching students to think about what they have read and to ask and answer questions that prompt discussion and a deeper understanding of the text (Palinscar & Brown, 1984; Raphael, 1982). Question generation is rooted in reader-response theory (Rosenblatt, 1978), which suggests that meaning does not reside solely in the text, but occurs as a result of the interaction between the reader and the text. Consequently, interpretation changes from reader to reader, depending on the reader's perspective and background knowledge. Reading instruction, therefore, should encourage students to engage in an active, meaning-making process as they read.

Questioning has also been a hallmark of reciprocal teaching (Palinscar & Brown, 1984), a collaborative learning approach in which students work in groups to summarize, question, clarify, and make predictions while reading. Questioning is an important practice because it improves comprehension while simultaneously encouraging readers to monitor their

understanding. Questioning has also been used in the question-answer-relationship (QAR) strategy, in which students learn how to analyze questions by type (e.g., right there, think and search, on your own; Raphael, 1982) to find the correct answers.

The question-writing practice presented in this article builds on this prior work and consists of three steps (see Figure 1). First, students read a text independently, with another student, or in a small group. Next, students pause at regular intervals—such as after a paragraph or more—to develop a question by identifying important information in the text and "flipping" it into a question. Finally, students answer their question and cite text evidence. Questions, answers, and evidence are recorded in a log or journal (see Figure 1). This routine promotes active engagement during reading, supports students' monitoring for meaning of specific paragraphs or sections of text, and helps students acquire knowledge from text (e.g., Vaughn et al., 2011).

Students write two types of questions (see Figure 2). **Specific questions** can be answered in one word or one sentence in the text and begin with one of the following question stems: *who*, *what*, *when*, *where*, *why*, or *how*. **Wide questions** can be answered using information from multiple places in the text, from the text and the reader's prior knowledge (e.g., inference making), or from the current text and another text. Wide questions are typically answered in more than one sentence and begin with one of the following stems: *who*, *what*, *when*, *where*, *why*, *how*, *describe*, *explain* or *summarize*.

Why Is Question Generation Important During Science and Social Studies?

It is important to equip content area teachers with evidence-based instructional practices that are feasible to implement, align with rigorous state standards, meet the needs of diverse learners, and improve content area learning through text reading. Question generation is one such

practice that helps students acquire knowledge from text in content area classes (e.g., Vaughn et al., 2011). First, teaching students to generate and respond to their own questions helps learners engage in close reading of text in a way that does not occur with teacher-generated questions. Second, the practice helps students identify and remember what they have read or heard. Finally, when implemented in small groups or collaborative learning pairs, question generation facilitates text-based discussion in which students control and engage in a higher level of academic talk.

Incorporating Teacher Input to Customize Question Generation

Recently, the authors of this paper, through an Institute of Education Sciences grant, identified question generation as one of several evidence-based literacy practices for middle school content area teachers. We collaborated with expert science and social studies middle school teachers to iteratively develop professional development materials, ongoing coaching and support systems, practice guides, and student materials for question generation. The goal of this collaboration was to make the practice understandable, usable, and feasible for content area teachers; this development process resulted in a set of publicly available materials for all educators to access (see More to Explore). Key takeaways from the development process include the following:

- **Teach two question types.** As previously discussed, we encourage teachers to use two key question types: specific questions, addressing basic fact recall, and wide questions, addressing inference making and connecting ideas within and across texts.
- **Provide teachers with examples of how to model question generation.** Teachers benefit from support with the actual implementation—or modeling—of the practice during science and social studies with corresponding texts. Researchers and teachers co-

developed model lesson packets that include sample science and social studies texts, prepared questions and answers, and "teacher talk" examples (see Figures 3 and 4).

Question Generation and Disciplinary Literacy

Shanahan and Shanahan (2008) describe the importance of mastering intermediate literacy skills (e.g., comprehension monitoring, access to more complex forms of text, critical thinking surrounding author intentions) before students develop less generalizable literacy skills that are specific to a particular discipline. Many middle school readers progress to developing disciplinary literacy skills and routines by the end of middle school; however, this may not be so for struggling readers in the general education classroom.

We implement question generation across content areas as a way to support middle school readers with developing intermediate literacy skills so they can move to mastering more discipline-specific literacy skills in the secondary grades. Even though the question generation can be applied across content areas, we recognize that science and social studies teachers may use discipline-specific literacy approaches while teaching this practice and that there will be nuances to how the question generation practice is applied in each content area.

Implementing Question Generation

Teachers implement question generation by (1) preparing a model lesson, (2) delivering the model lesson, and (3) integrating practice opportunities so students use question writing regularly to acquire content knowledge from text. Based on our collaborative work between researchers and educators, we offer a detailed description of preparing and delivering model lessons, including step-by-step examples of teacher talk for modeling specific questions and wide questions using science and social studies texts. Guidance on integrating question generation into instruction is provided to facilitate effective use in the classroom.

Prepare a Model Lesson

Prepare the model lesson using a text that (a) contains approximately five paragraphs or sections, (b) presents information on a familiar or interesting topic, and (c) is on students' reading level so that students can focus on learning the practice rather than tediously trying to decode or make sense of a complex text (i.e., once students learn how to generate questions, teachers can select more advanced texts for use during guided and independent practice).

Next, identify sections of text that focus on connected ideas or content. The text may already be divided into sections with existing headings; if not, identify sections of text that make sense for students to focus on when generating questions. Consider adding headings if it would assist students with identifying the key ideas in each section.

Finally, prepare questions and answers for each section of text. Keep the following guidelines in mind as you prepare your questions:

- Identify specific questions that use different question stems (i.e., *who*, *what*, *when*, *where*, *why*, and *how*). Consider modeling specific questions that start with *why* or *how* and yet still can be answered in one place in the text (e.g., "How many people fought in the Battle at the Alamo?").
- Check that your specific questions can be answered in one place or one sentence in the text.
- Identify wide questions that use different question stems (i.e., *who*, *what*, *when*, *where*, *why*, *how*, *describe*, *explain*, and *summarize*).
- Prepare wide questions that can be answered using information from multiple places (i.e., in the same text, in two different texts, in the text and using background knowledge).
- Check that your wide questions can be answered in more than one sentence.

Teach the Model Lesson

Finally, deliver the model lessons, at least one for specific questions and at least one for wide questions. When teaching any new practice, always begin by setting a purpose for learning. Provide a brief statement that explains the practice and why it is helpful. Then, explicitly introduce the practice by describing each step and the question types. Finally, model the practice with a think-aloud.

The following sections demonstrate how to model generating specific and wide questions. We provide sample social studies and science texts, accompanying "teacher talk," and completed question logs to illustrate the full modeling process. These examples are based on the support materials resulting from our collaborative work with educators. Depending on students' needs, teachers may choose to introduce specific questions first and introduce wide questions after students have a firm understanding of how to write and answer specific questions.

How to model specific questions. Teaching students how to generate specific questions is a good starting point. Most students typically learn to recognize and write specific questions quickly (i.e., after one modeling lesson) because the questions focus on details and facts stated directly in the text. Some students, especially those with learning disabilities, may experience difficulties and require an additional modeling lesson.

Step 1: Set a purpose for learning and introduce the practice. First, explicitly state the purpose for learning the new practice and how it will help students with their reading comprehension.

"Sometimes, when we read a science passage, we don't read carefully enough or we read too quickly. There are steps we can take to help us. Usually, I ask the questions while you read, but now, you will learn how to ask and answer your own questions while you read. This practice

will help you to understand the science concepts and remember the important information when you read."

Next, explain the steps for generating questions and tell students that they will learn how to generate specific questions.

"Here are the steps we'll use. First, you'll read a passage. Then, I'll give you a stopping point, where you will write a certain type of question in your question log. Finally, you'll answer that question using evidence from the passage. 'Evidence' means information or facts from the passage that help you answer the question.

"Today, you will learn about specific questions. Look at this poster or your cue card. A specific question asks about a single important fact or idea from the text. It can be answered in just one word or sentence. You can actually point to the answer, word for word, in the text. Specific questions usually start with 'who,' 'what,' 'when,' 'where,' 'why,' or 'how.' For example, a specific question might ask 'What is the largest ocean?' That question asks about a single fact, and the answer could probably be found in just one place in the text. You could point to the answer in the passage and answer it in just one phrase: 'the Pacific Ocean'."

Step 2: Introduce the passage and begin modeling. Next, begin the modeling process using a text that is interesting to students and at their independent reading level. For example, a sixth-grade science teacher might use the passage "What are Clouds?" (National Aeronautics and Space Administration, 2017; Figure 3). Selecting an appropriate text helps students focus on the steps of question generation rather than on reading the text. Introduce the passage and then read the first section of text (e.g., paragraphs 1–3) aloud to students.

"Now that I've described the question writing strategy and how to write specific questions, I will show you how to use it. Look at your passage, 'What Are Clouds.' I will read

this passage aloud and stop where it says I should write a question. I'll use the cue card and our classroom poster to help me. Follow along and watch as I show you how to do this."

Step 3: Model how to write a specific question while thinking aloud. After reading the first section of text aloud, stop and model how to generate a specific question. Remind students what a specific question is and then think aloud while developing the specific question. Ask students to watch as you fill in the question log.

"Remember that I will write a specific question—one that can be answered in one word or one sentence, and I can put my finger on the answer in the text word for word. First, I will locate a fact that tells who, what, when, where, why, or how information. I could ask 'How do clouds form?' because that's the heading for this section. But I will come up with another question. I remember that the paragraph talks about how the sky is full of water but you cannot see the water drops because they are in the form of a gas. This gas is called water vapor." (Underline this sentence in the passage.)

"Next, I'll turn this fact into a question. Because this fact explains why we can't see rain in the sky most of the time, I will ask a 'why' question: 'Why are drops of water usually too small to see in the sky?' Then I'll check to be sure the answer is in one place or one sentence. Yes, the answer is in one place in paragraph 3. Last, I'll write question, answer, and text evidence on the question log."

Question	**Answer**	**Text Evidence**
Why are drops of water usually too small to see in the sky?	Drops of water are too small to see because they turned into a gas called water vapor.	Paragraph 3

Step 4: Model another specific question. Next, model how to generate another specific question using the next section of text (e.g., paragraphs 4 and 5). Read this section aloud to

students as they follow along, think aloud as you generate the question, and complete the question log.

"Now, I will stop and write another specific question. Remember that a specific question can be answered in one word or one sentence. I can put my finger on the answer in the text. First, I will locate a fact that tells who, what, when, where, why, or how information. I remember reading about the shape of cumulus clouds; they look like giant cotton balls." (Underline this sentence in the passage.)

"Next, I'll turn this fact into a question. Because this fact describes the shape of cumulus clouds, I will flip the fact into a 'what' question: 'What do cumulus clouds look like?' I also remember that the paragraph describes where they are located, so I also could have asked a 'where' question: 'Where are cumulus clouds located?' Then I'll check to be sure the answer is in one place or one sentence. Yes, the answer is in one place in paragraph 5. Last, I'll write the question and answer on the question log."

Question	**Answer**	**Text Evidence**
What do cumulus clouds look like?	Cumulus clouds look like giant cotton balls in the sky.	Paragraph 5

How to model wide questions. Students may grasp specific questions fairly quickly, but wide questions tend to be more difficult. Consider modeling wide questions more than once or modeling this question type in a separate lesson. Adjust your instruction accordingly to meet the needs of your students and to address the instructional content for that particular day. This modeling example will use a social studies text.

Step 1: Set a purpose for learning and introduce the question type. First, review specific questions with students and tell them that they will learn about another type of question—wide questions. Describe how wide questions differ from specific questions.

"Students, we've been writing specific questions to help us understand and remember what we're reading. Remember, specific questions ask about a single important fact or idea from the text. You can put your finger on the answer to the question in one place.

"Today, you will learn how to write wide questions. A wide question is broader and asks about a big idea from the text. The answer may be in different parts of the same text, in the text you're reading and another text, or in the text and your head, using some information that you've already learned."

Step 2: Introduce the passage and begin modeling. Begin the modeling process by introducing the title of the passage (again, one that is interesting and at students' independent reading level) and asking students to follow along as you read the passage. This example uses the social studies passage "Traveling West" (Radner, 2005; Figure 4). A student cue card and poster may also be helpful while teaching wide questions (see More to Explore, Generating Questions Toolkit).

"Look at your passage, 'Traveling West.' I will read this passage aloud and stop where it says I should write a question. I'll use the cue card and our classroom poster to help me. Follow along and watch as I show you how to do this."

Step 3: Model how to write a wide question while thinking aloud. After reading the first section (paragraphs 1 and 2) aloud, stop and remind students what a wide question is, referring to the cue card or poster as needed. Next, think aloud as the wide question is developed. It is important to show students how to locate information in two different places and use the information to write a question. Record the question and answer on the question log as students watch.

"Remember, for a wide question, the answer can be found in multiple places and the answer usually requires more than one sentence. First, I will locate facts in two or more places in the text. I remember that paragraph 1 talks about people's desire to expand to the land out west, to farm new land, and to spread American customs. I think this was called manifest destiny." (Underline these facts in the passage.)

"Next, I'll think about how the facts are related. All of these facts explain the reasons why Americans wanted to travel out west, so I will write a 'why' question: 'Why did people want to travel west?' Then I'll check to be sure my answer comes from multiple sources (in the same text, in two texts, or from the text and in my head). Yes, the answer comes from multiple places in paragraphs 1 and 2. Last, I'll write the question, answer, and text evidence in my log."

Question	**Answer**	**Evidence**
Why did people want to travel west?	People wanted to travel west to find new farm land, to share American customs and practices, and to start a new life across the continent.	Paragraphs 1 and 2

Step 4: Model another wide question. Next, model how to generate another wide question using the next section of text (e.g., paragraph 3). Read this section aloud to students as they follow along, think aloud as you generate the question, and complete the question log.

"Now, I will stop and write another wide question. Remember, for a wide question, the answer can be found in multiple places and the answer likely requires more than one sentence. First, I will locate facts in two or more places in the text. This paragraph talked a lot about how difficult the journey was out west. For example, there weren't any roads, it was really dangerous, and it took a long time—more than a year. Sometimes, the wagons got stuck, too." (Underline these facts in the passage.)

"Next, I'll think about how the facts are related. All of these facts explain the reasons why traveling west was so difficult, so I will write another 'why' question: 'Why was travel from the East to the West so difficult?' Then I'll check to be sure my answer comes from multiple places (in the same text, in two texts, or from the text and in my head). Yes, the answer comes from multiple places in paragraph 3. Last, I'll write the question, answer, and text evidence in my log."

Question	**Answer**	**Evidence**
Why was travel from the East to the West so difficult?	Travel from the East to the West was difficult because it was slow and dangerous. People traveled in small wagons with limited supplies. If the ground was muddy, the wagons could get stuck.	Paragraph 3

Integrate Practice Opportunities After Modeling

After model lessons, teachers provide guided practice with various instructional formats—the whole class, small groups, collaborative learning pairs, or independent practice. These practice opportunities should always include feedback from the teacher so that students' question writing improves and they become independent users of question writing.

Question writing can be used with various lengths of text, depending on teachers' instructional goal and students' needs. For example, students can be organized into small groups and work together to generate questions for an entire chapter, passage, or primary source document. At other times, teachers may wish to use just one paragraph of text to emphasize or review an important concept, and a question can be generated and answered in the first 5 minutes of class as a warm-up.

Although question writing is intended to be used with text to help students monitor comprehension, it can occasionally be used **without text**. For example, students might complete

a science lab and then generate a wide question about lab results (e.g., “What is the difference between mass and weight?”). Or students might generate questions in collaborative learning pairs after a presentation or video clip in social studies (e.g., “What events lead to the American Revolution?”). Using question generation without text improves listening comprehension.

Conclusion

Teachers like Mr. Wallace and Ms. Rangel are eager to learn more about supporting students in understanding and learning from content area texts. The transition to using text more regularly to acquire content knowledge may be challenging for some content area teachers. Many students have difficulty recalling important information, “reading to learn,” and engaging in meaningful text-based discussions during science and social studies.

Question generation is one evidence-based practice that can be easily integrated into teachers’ existing instruction and that supports students’ text comprehension and content learning. Educators interested in implementing question generation may review the recommended resources in the More to Explore section of this paper. There, educators will find links to practice guides, instructional materials, videos, and teacher reference books.

Take Action!

Using Question Generation to Improve Comprehension

1. **Provide opportunities for students to read and learn from text daily.** Embed at least 5 minutes of text reading daily in science and social studies classes. Students can read a variety of text types, including informational text, persuasive arguments, procedural instructions, and primary source documents (e.g., scientific logs, official government documents).
2. **Select a text for your modeling lesson.** Identify a text that contains approximately five paragraphs or sections, presents information on a familiar or interesting topic, and is on students' independent reading level.
3. **Prepare the text for your model lesson.** Identify sections of text that make sense for students to focus on when generating questions. Next, prepare questions and answers for each section of text.
4. **Model writing specific and wide questions**. First, set a purpose for learning. Then, read a section of the prepared text aloud to the class. Describe the type of question you are modeling and show students how to ask and answer a question for that section of text (see Figures 3 and 4 for examples of how to model questions in your classroom).
5. **Provide opportunities for practice.** Students might grasp specific questions quickly; if so, move on to wide questions. If students struggle with the practice, model again with a lower-level text. Use knowledge of your students to gauge the pace, level of text, and additional modeling you may need to provide.

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More to Explore

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Figure 1
Question Log and Steps for Question Generation

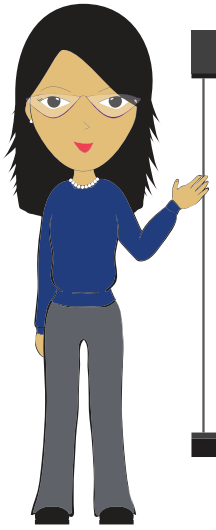
Question Log

Student(s): _____

Class and Period: _____ Name of Text: _____

Question	Answer	Text Evidence

The Question Writing Strategy



How is it done?

Step 1: Students read a text or learn new information, either in small groups, pairs, or independently.

Step 2: Students pause at regular intervals to generate their own questions and write the questions in a log or notebook.

Step 3: Students answer their questions and cite text evidence.

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Figure 2
Question Types

Writing Questions While I Read

While I read, I stop every once in a while to see whether the information makes sense. I check my understanding by challenging myself to ask a question, just like a teacher does.

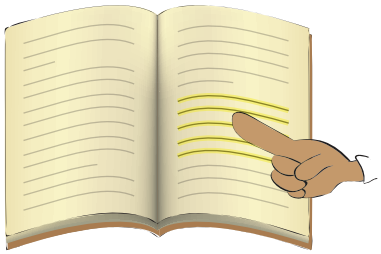
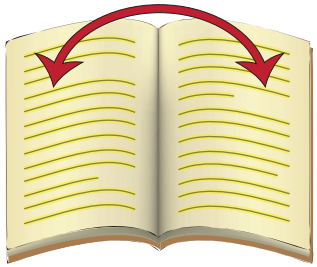
Question Type	Description	Possible Stems	Examples
Specific Questions 	• Questions can be answered in one word or one sentence. • Answers can be found word-for-word in the text.	• Who • What • When • Where • Why • How	ELA: In *Number the Stars*, why did Annemarie's parents burn their newspaper? Science: What is the largest ocean? Social studies: How many original colonies were there?
Wide Questions 	• Questions can be answered using information from multiple places in the text. • Questions can be answered by making inferences (combining your prior knowledge with information from the text). • Answers require one or more sentences.	• Who • What • When • Where • Why • How • Describe • Explain • Summarize	ELA: Explain how the setting in chapters 7 and 8 contrasts with the city setting of previous chapters. Science: Describe some of the dangers associated with earthquakes. Social studies: How was the experience of the Jamestown colonists different from what they expected?

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Figure 3

Sample Passage for Modeling Specific Questions

What Are Clouds?

By NASA
2014

(1) Spotting a cloud floating overhead is a common sign on our planet, but what are clouds made ot? Why do they look like they do? This informational text explains the formating of different clouds and how they contribute to different types of weather on Earth. As you read, take notes on how clouds can affect weather.

(2) A cloud is made of water drops or ice crystals floating in the sky. There are many kids of clouds. Clouds are an important part of Earth's weather.

"Untitled" by Pero Kalimero is licensed under CC0.

How Do Clouds Form?

(3) The sky can be full of water. But most of the time you can't see the water. The drops of water are too small to see. They have turned into a gas called water vapor. As the water vapor goes higher in the sky, the air gets cooler. The cooler air causes the water droplets to start to stick to things like bits of dust, ice, or sea salt.

STOP AND WRITE A QUESTION

What Are Some Types of Clouds?

(4) Clouds get their names in two ways. One way is by where they are found in the sky. Some clouds are high up in the sky. Low clouds form closer to Earth's surface. In fact, low clouds can even touch the ground. These clouds are called fog. Middle clouds are found between low and high clouds.

(5) Another way clouds are named is by their shape. Cirrus clouds are high clouds. They look like feathers. Cumulus clouds are middle clouds. These clouds look like giant cotton balls in the sky. Stratus clouds are low clouds. They cover the sky like bed sheets.

STOP AND WRITE A QUESTION

Adapted from NASA, 2014

Figure 4

Sample passage for Modeling Wide Questions

Traveling West

By Barbara Radner
2005

(1) During the 19th century in America, the idea of "manifest destiny" became very popular. Under this idea, many Americans believed that they were meant to expand throughout the North American continent. The idea of traveling westard to reach new land for farming, as well as to bring American customs and practices to newly acquired parts of the country, became very popular.

(2) Long ago, when people settled the United States, most lived in the East, and it was hard to travel west. There were no planes, trains, or automobiles. People traveled by wagon or boat, and it took many days to reach a destination. Although it was difficult, in the 1840s, many people traveled far across the United States from the East to the West. They were pioneers. They would settle in the western part of the country after a challenging journey to a new life.

"Untitled" by williamada is licensed under CC0.

STOP AND WRITE A QUESTION

(3) Getting to the West was very difficult because there were no roads and there were many obstacles to travel. People traveled in groups, and each family would buy a covered wagon, which is a big wooden wagon with a kind of tent on it. It was small, about the size or an automobile, but it would be home for the whole family while they traveled to their new home. Each family would pack the tools and supplies they needed to build a new life in the West. They would have to fit all they took in their wagon, so they would bring only the items that were essential. It was dangerous to travel west without protection, so families would travel together, combining their wagons into what was called a wagon train, or a group of wagons all going the same way. To prepare, they would meet with other families to plan their trip. When the families started the trip, they did not know each other; they met when the trip began, and they would spend more than a year together. Sometimes they would borrow tools from each other, and sometimes they shared food. When the wagons encountered a problem, such as a storm that caused wagons to stick in muddy holes, they would solve it together.

STOP AND WRITE A QUESTION

Radner, 2005; Adapted with permission.