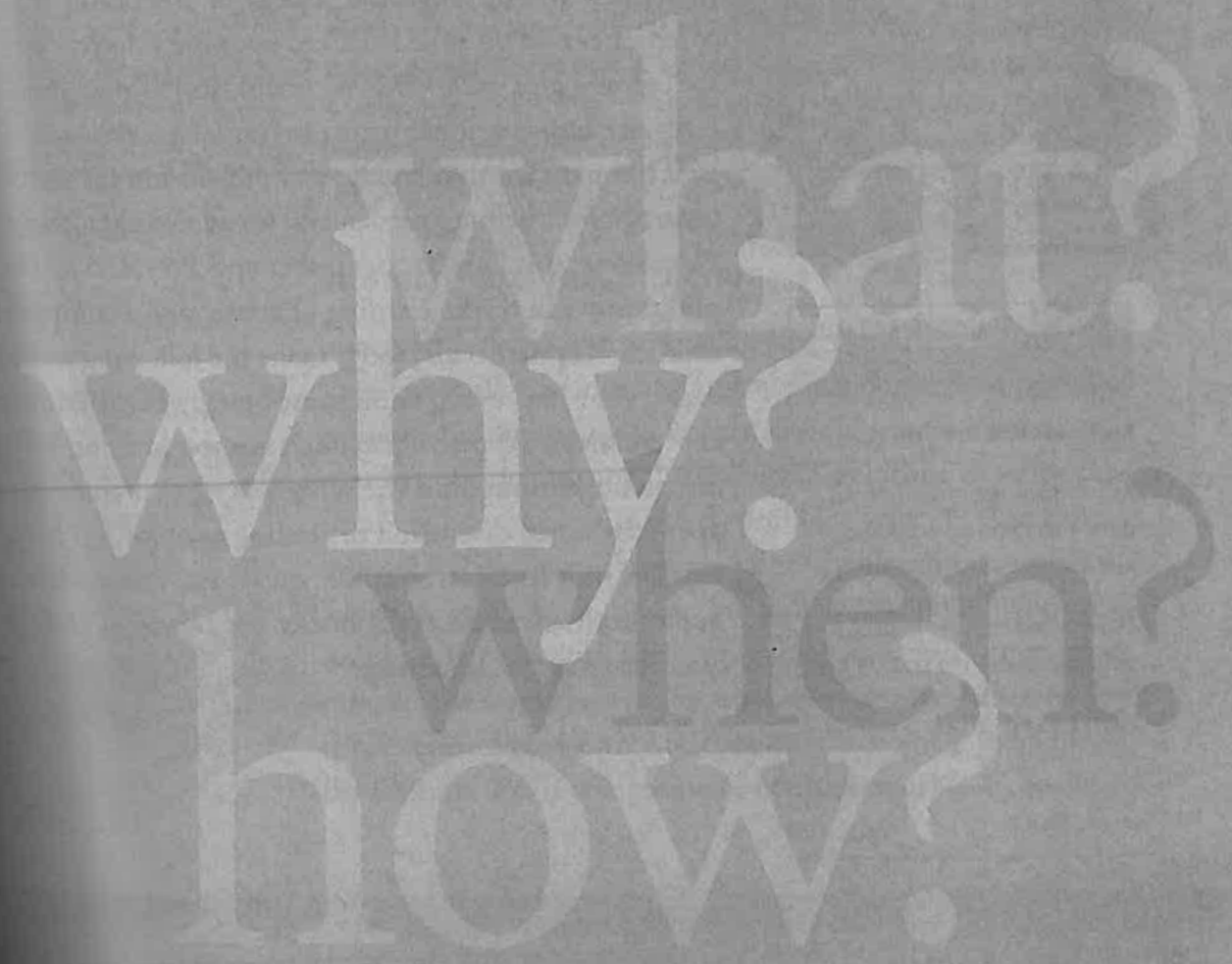
CHAPTER

15

Informational Text



what? Informational Text

Types of Informational Texts

- Assembly instructions
- Autobiographies
- Biographies
- Brochures
- Catalogs
- Digital sources
- Directions
- Encyclopedias
- Forms
- Historical texts
- Literary nonfiction
- Magazine articles
- News articles
- Recipes
- Repair manuals
- Scientific texts
- Signs
- Technical texts
- Textbooks
- Websites

CCSS READING STANDARDS

Informational Text

Key Ideas and Details

Ask and answer questions to demonstrate understanding of key details in a text. (RI.K-3.1)

Determine the main idea of a text; summarize the text. (RI.3-4.2)

Craft and Structure

Describe the overall structure in a text. (RI.4.5)

Informational, or expository, text communicates facts about the natural or social world (Duke 2006). It can be found in a wide range of genres and formats, from content-area textbooks to cookbooks to websites. Informational text tends to be more complex, diverse, and challenging than literary text (RRSG 2002). Reading and understanding informational text involves more abstract thinking than does reading and understanding the typical story. Readers must compare and contrast ideas, recognize complex causality, synthesize information, and evaluate solutions proposed for problems.

In content-area reading, "the priority of instructing for reading comprehension must be balanced with the priority of teaching the content area itself" (RRSG 2002). Just as it is important to integrate informational texts into language arts instruction, so it is important to integrate comprehension instruction into content-area teaching, particularly for adolescents (Sadler 2001; Alvermann and Eakle 2003; Fisher and Frey 2004). Doing so can improve both the learning of content and comprehension abilities. Torgesen et al. (2007) make the following recommendations for improving adolescent literacy instruction in the content areas: (1) provide explicit comprehension strategies instruction throughout the school day, (2) include plenty of open, sustained discussion of reading content, (3) hold high standards for text, conversation, questions, and vocabulary, (4) build motivation and engagement with reading, and (5) teach essential content knowledge.

Informational Text Structures and Signal Words

Text Structure	Signal Words or Phrases	Sample Topic Sentences
DESCRIPTION Explains, defines, or illustrates a concept or topic	for example, for instance, main parts, such as, this particular	A flowering tree has four main parts: roots, stems, leaves, and flowers. Each part has several elements, each with a distinct function. For example, the roots include . . .
COMPARE-CONTRAST Presents similarities and differences between two or more objects, places, events, or ideas	*compare:* like, alike, just as, similar, both, also, too *contrast:* unlike, differ, but, in contrast, on the other hand, however	Although both literary and informational texts are useful for building reading comprehension, these types of text differ in several ways.
CAUSE-EFFECT Presents the reasons an event happened and its results	because, due to, since, therefore, so, as a result, consequently, lead to, this is why, the reason, result in, consequences	Higher fuel prices can result in a variety of consequences . . .
PROBLEM/SOLUTION Poses a problem and suggests possible solutions	*problem:* problem, question, the trouble *solution:* solution, answer, in response	Loss of trees poses a problem for the environment by increasing levels of carbon dioxide in the atmosphere. In response, there are several actions one can take.
TIME ORDER (SEQUENCE) Groups ideas by order or time	first, next, then, afterward, later, last, finally, now, after, before, stages, steps	The development of a butterfly follows four distinct stages. First, . . .

SEE ALSO . . .

The Text, p. 610

Recognizing Informational Text Structure, p. 687

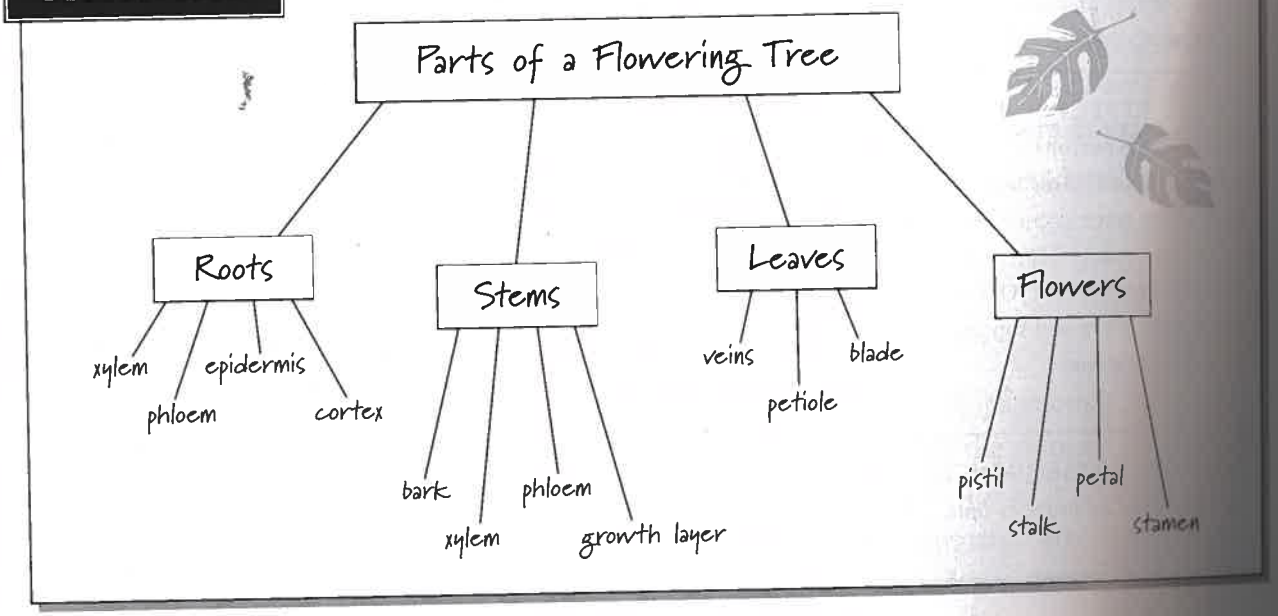
Informational Text Structure

Informational text is organized, or structured, in a specific way to guide readers in identifying key information and making connections among ideas. Informational texts use a limited number of organizational structures, including description, compare-contrast, cause-effect, problem/solution, and time order. Each of these informational text structures is associated with a set of signal words that can indicate the underlying organization. For example, texts using the compare-contrast structure include words such as *like, similar, in contrast.* When readers come across these words while reading, it can help them identify that the text is comparing or contrasting.

Graphic Organizers

Because they are concrete representations, graphic organizers provide a means for students to (1) record information about underlying text structures, (2) see how concepts fit within text structures, (3) focus on the most important ideas in the text, (4) examine relationships among text concepts, (5) recall key text information, and (6) write well-organized summaries (Armbruster et al. 2001; Trabasso and Bouchard 2002).

DESCRIPTION



COMPARE-CONTRAST

	TYPE OF TEXT	
ATTRIBUTE	LITERARY	INFORMATIONAL
Instructional usefulness	Building reading comprehension	Building reading comprehension
Major purposes	To entertain To teach a moral lesson	To inform To teach a procedure
Where found	Storybooks Magazines Novels Comic books	Textbooks Magazines Recipes Manuals

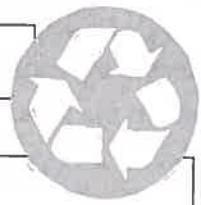
CAUSE-EFFECT

PRICE OF FUEL INCREASES

- Drivers spend more money on gas.
- Shipping rates increase.
- More people take public transportation.

PROBLEM/SOLUTION

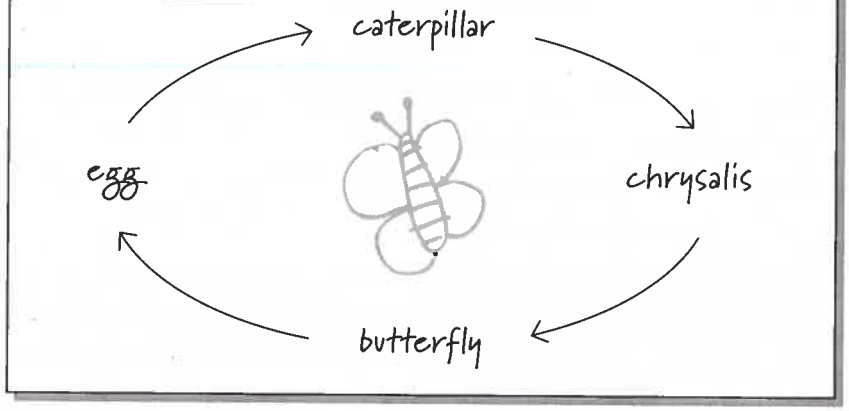
PROBLEM: Loss of trees increases level of carbon dioxide



ACTION	RESULT
1) Reduce—Use washable sponges for housecleaning.	1) Less paper used to make paper towels
2) Reuse—Use the other side of used paper to make drawings or notes.	2) Less writing paper used
3) Recycle—Take used papers to curbside for recycling.	3) Old paper made into new paper

END RESULT: More trees absorb more carbon dioxide.

TIME ORDER (SEQUENCE)



SEE ALSO . . .

The Text, p. 610

A considerate text is a text that facilitates comprehension and learning from reading.

—ARMBRUSTER, 1996

Considerate Texts

Considerate texts facilitate comprehension and learning. In contrast, inconsiderate texts can be more difficult for students to comprehend. The idea of considerate texts applies mostly to informational text whose main purpose is to help the reader acquire new information. Three overlapping features characterize and help define considerate text: structural cues, coherence, and audience appropriateness (Armbruster 1996).

Structural Cues

The more apparent the text structure is to the reader, the higher the probability that the reader will learn from reading. Structural cues are aspects of text that suggest, indicate, or emphasize its structure. They can function as a map or outline of the main ideas in the text, alerting readers to the important idea(s). These cues include introductions, summaries, and glossaries as well as graphic features such as chapter titles, headings, sidebars, charts and tables, type font, type style, bulleted or numbered lists, and the use of icons.

Coherence

Coherence refers to clarity of writing, that is, logically and clearly explaining events and ideas in text. Several features characterize coherence: (1) main ideas that are explicitly stated and located in prominent places, (2) information limited to that which supports the development of the main idea, (3) a logical ordering of events and ideas, (4) the use of signal words to clarify the relationships between events and ideas, (5) the use of precise terms rather than ambiguous pronouns, and (6) smooth transitions between topics (Armbruster 1996).

Audience Appropriateness

Considerate texts build on the existing world knowledge that readers are likely to have. Audience appropriateness is the extent to which the text matches this knowledge. Conceptual density, or the number of new concepts introduced per unit of text, influences audience appropriateness. The denser the conceptual load, the more difficult the text (Kintsch and Keenan 1973).

SEE ALSO . . .

Comprehension Strategies, p. 614

Comprehension Strategies

SEE ALSO . . .

The Text, p. 610

Informational Text Structures and Signal Words, p. 683

Graphic Organizers, p. 684

Almost any approach to teaching the structure of informational text improves both comprehension and recall of key text information.

—DUKE & PEARSON, 2002

Strategy Application

All comprehension strategies are applicable to informational text. With informational texts, reading purposes and tasks often drive the selection and application of comprehension strategies (Blanton, Wood, and Moorman 1990). Particularly when comprehension instruction is tied to content-area learning, it is important to read with a purpose in mind (Neufeld 2005). Whenever possible, informational reading instruction should be done in meaningful contexts and for authentic purposes—that is, for the kinds of reasons that would engage a student outside the school context (Dreher 2002; Guthrie and Ozgungor 2002; Duke 2006). The RAND Reading Study Group (RRSG 2002) asserts that when comprehension strategies are closely linked with knowledge in a content area, students are more likely to learn the strategies fully, perceive strategies as valuable tools, and use them in new learning situations.

Recognizing Informational Text Structures

Learning the text structures and clues for identifying them can improve students' comprehension and recall of informational text (Duke and Pearson 2002; Taylor and Beach 1984). Understanding a text's organizational structure can also help students summarize text by helping them locate and keep track of important information to include in a summary.

The ability to recognize informational text structures can be developed through the use of signal words, physical features, and graphic organizers (Williams 2005; Williams and Stafford 2005). Students can learn to detect signal words that distinguish particular text structures. They can also note text features, such as headings, sidebars, boldface type, and tables, that cue the overall organization of text. Students can create graphic organizers to demonstrate how text is constructed, to lay out relevant information, and to make order out of text.

SEE ALSO . . .

Motivation and Engagement with Reading, p. 695

CCSS READING STANDARDS

Literature • Informational Text

Key Ideas and Details

Read closely to determine what text says explicitly. (CCR.1)

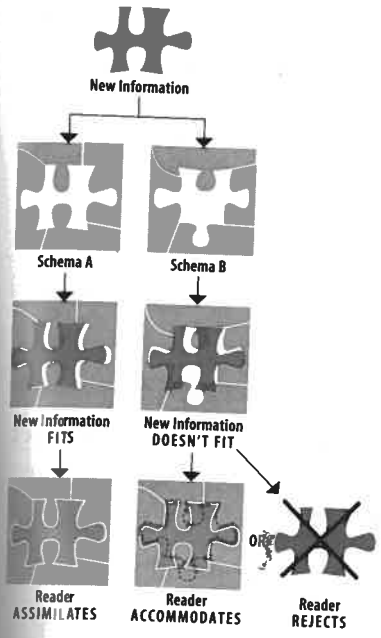
Monitoring Comprehension

Particularly when reading to learn new information, students must be actively aware of whether they understand the text and must deal with comprehension problems as they arise. Strategic monitoring requires metacognitive awareness, which includes knowledge about ourselves, the tasks we face, and the strategies we use (Garner 1987). Locating information is frequently the purpose or task one faces when reading informational texts. Therefore, monitoring one's reading of informational text includes strategies that guide students in the processes of searching, scanning, and skimming (Duke 2006; Dreher 2002). Dreher (2002) developed a model that outlines characteristics of an efficient text search, along with monitoring questions to guide each step in the search process (see also Guthrie and Mosenthal 1987).

Text-Search Model: Reading to Locate Information

Search Process	Description	Questions for Monitoring Text Search Tasks
Goal Formation	Set one's own goal or figure out what to do with an assigned task.	Exactly what information do I need?
Category Selection	Determine what categories will lead to the target information. May use index, table of contents, headings.	How should I approach this material? How is this material organized? What are the available features?
Information Extraction	Distinguish useful from irrelevant information.	Is the information I need located here? Does the information here make sense?
Integration	Integrate information in ongoing synthesis between prior knowledge and goal-relevant information.	Do I need to combine this information with other material that I have located or already know?
Recycling	Assess whether more information is needed. Continue through previous components until goal is met.	Do I have all the information that I need? If not, I should continue searching.

Based on Dreher 2002.



Connecting to World Knowledge

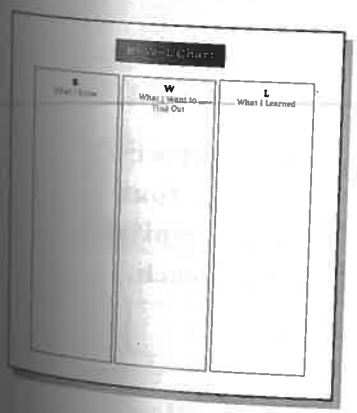
Students learn new information from text by linking it with knowledge that stems from their previous experiences. Readers' world knowledge shapes the way they perceive information in text (Anderson and Pearson 1984). When readers' world knowledge matches what is presented in the text, they assimilate the new information—connecting it readily into their existing schema for the topic. In contrast, when their world knowledge conflicts with information presented in the text, either readers accommodate by modifying their schema to fit the new information or they reject the information and maintain their previous understanding (Pardo 2004). Particularly in the content areas, such as science, students may tap into world knowledge that is either inaccurate or irrelevant to the text (Pressley and Block 2002). To avoid being distracted or led astray, students need teacher guidance when connecting their world knowledge with informational text.

K-W-L

Step 1: What I Know
(accessing what students know)

Step 2: What I Want to Find Out
(identifying what students want to learn)

Step 3: What I Learned
(noting what students learned from the text)



K-W-L The K-W-L procedure (Ogle 1986) is a frequently used technique for tapping into students' world knowledge. The procedure involves three steps: (1) accessing what students know, (2) identifying what students want to learn, and (3) noting what students learned from the text.

Predicting

A prereading skim of the text often results in an informed guess—based on world knowledge and clues in the text—about what is going to be covered. Students make predictions about informational text based on scanning structural cues that indicate its organization. As students preview the layout of the text, headings, and graphic organizers, they use their knowledge of such cues to predict the purpose of the text as a whole, as well as the functions of various parts of the text (Block 2004). Previewing in this way organizes students' thinking, preparing them to learn the information presented in text.

Most of the required reading in college and workforce training programs is informational in structure and challenging in content.

—COMMON CORE STATE STANDARDS, 2010

CCSS

SEE ALSO . . .

Types of Teacher Questions, p. 621

Bloom's Taxonomy, p. 638

Asking Questions

Asking oneself questions about the text being read is a particularly useful strategy for learning technical information (Allison and Shrigley 1986; Graesser and Person 1994). Students need instruction in how to ask higher-level questions that help them learn from informational text. *Elaborative interrogation* is a complex name for a simple questioning strategy that encourages students to generate hypotheses as a way to remember facts (Wood, Pressley, and Winne 1990). Upon encountering a new fact in text, students simply ask themselves, "Why does this fact make sense?" Asking "why" serves as a form of *interrogation* (questioning) that helps students to *elaborate* on (expand or explain) text information, thus personalizing it and making it easier to remember. Elaborative interrogation is particularly useful with concept-dense content, such as math and science texts, and it has consistently and greatly improved text recall (Pressley 2000a).

Practice using elaborative interrogation to learn facts about brain geography. As you read the excerpt, stop and ask yourself "why" questions, then try to answer them. Even if your answer isn't technically accurate, it can help you remember the information by forming connections with your world knowledge. Here is a possible "why" question and answer for the first fact: *Why does it make sense that the two sides of the brain are called hemispheres?* (Possible answer: *A sphere is a ball shape, like a circle; the prefix* hemi- *means "half." The two sides of the brain are like half-circles.*) (See Answer Key, p. 800.)

The brain is made up of two mirror-image sides, or hemispheres. Each hemisphere of the brain is divided into four lobes, or sections: frontal, parietal, temporal, and occipital. The left hemisphere of the brain is associated with speech, language processing, and reading.

Questions and tasks should require thinking about the text carefully and finding evidence in the text itself to support the response.

—COLMAN & PIMENTEL, 2012

SEE ALSO . . .

LESSON MODEL: QAR (Question-Answer Relationships), p. 702

Answering Questions

One type of question-answering instruction focuses on developing students' understanding of question-answer relationships (Raphael and Pearson 1985). The Question-Answer Relationships (QAR) framework developed by Taffy Raphael (1986) clarifies for students how they can approach the task of reading texts and answering questions. QAR is based on the idea that a three-way relationship exists among the type of question, the text to which it refers, and the reader's prior knowledge (Pearson and Johnson 1978). The vocabulary of QAR—Right There, Think and Search, On My Own, and Author and Me—provides teachers and students with a shared language for talking about these relationships and improving questioning practices (Raphael and Au 2005).

Question-Answer Relationships (QAR)

In the Text	In My Head
RIGHT THERE (literal) The answer to the question is "right there" in one sentence; the question and answer have the same wording.	ON MY OWN (inferential and evaluative) The answer to the question comes entirely from students' world knowledge.
THINK AND SEARCH (literal) The answer to the question requires searching across the text; the question and answer have different wordings.	AUTHOR AND ME (inferential) The answer to the question comes from understanding the text in conjunction with students' world knowledge.

Based on Raphael 1982, 1986.

Constructing Mental Images

Constructing mental images has proved to be an effective strategy for comprehending complex informational text. Readers can create pictures of the author's words in their minds as they read, depicting the content of the text. As the text provides new information, the readers' images also change. Gambrell and Bales (1986) found that by making mental images of informational passages, students were able to detect when information was incomplete or inconsistent, and thus were able to determine when they needed further clarification. While reading a passage aloud to students, teachers can model the thinking process involved in mental imagery. These think-aloud activities can help students to learn how to visualize independently. Here is an example:

The nervous system is a network of cells called neurons, which transmit information in the form of electrical signals.

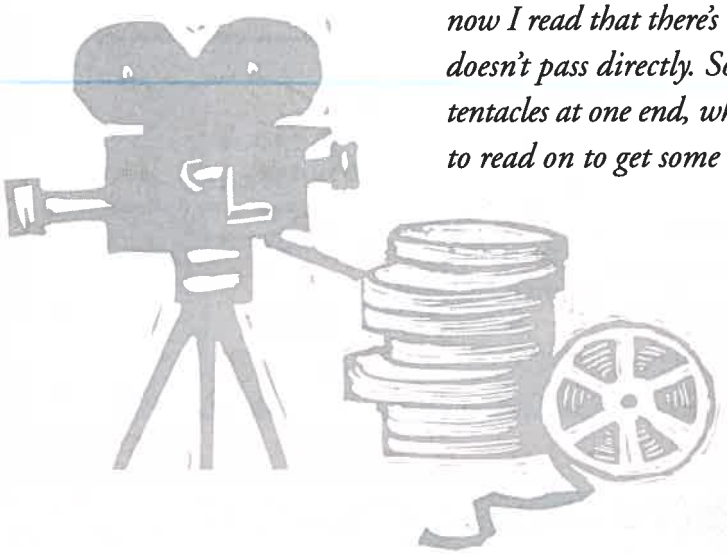
THINK ALOUD

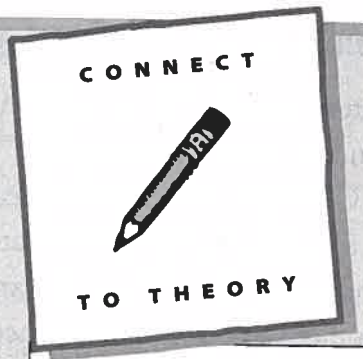
THINK ALOUD *I'm picturing all of these round cells smooshed together, and I'm imagining sparks coming out of the cells, moving through one cell to the next one.*

When a nerve impulse reaches the synapse at the end of a neuron, it cannot pass directly to the next one.

THINK ALOUD

THINK ALOUD *Okay, I need to change my picture because now I read that there's this synapse thing at the end and the impulse doesn't pass directly. So, now I'm picturing the cells having little tentacles at one end, which is how I'm imagining the synapse. I need to read on to get some more information for my mental picture.*





Practice modeling the strategy of constructing mental images by developing a think-aloud for each of the remaining sentences in the passage about the nervous system. Remember to adapt your mental image as new information is presented in the text. (See Answer Key, p. 800.)

Instead, it triggers the neuron to release a chemical neurotransmitter that drifts across the gap between the two neurons. On reaching the other side, it fits into a tailor-made receptor on the surface of the target neuron, like a key in a lock. This docking process converts the chemical signal back into an electrical nerve impulse.

SEE ALSO . . .

LESSON MODELS

Strategies for Summarizing, p. 711

CSR (Collaborative Strategic Reading), p. 720

SEE ALSO . . .

Informational Text Structure, p. 683

Recognizing Informational Text Structures, p. 687

Summarizing

Being aware of the explicit structure of informational text is an aid in summarizing it. There is more than one research-based approach to summarizing informational text. In the paragraph shrinking approach demonstrated by Fuchs et al. (2007), students first identify the most important information about a paragraph, or the main idea. They then shrink this information into one main-idea statement of 10 words or less. In Collaborative Strategic Reading (CSR), this process is called getting the gist (Klinger et al. 2007). In the rule-based approach developed by Brown, Campione, and Day (1981), students follow a set of rules or steps to produce a summary: (1) substitute a more general term for a list of specific terms; (2) delete redundant information, (3) delete information that is not absolutely necessary, or central, to overall meaning; and (4) select or create a topic sentence. Once students have developed summaries, or main-idea statements, for individual paragraphs, they combine them to make a final summary of the whole passage.

SEE ALSO . . .

LESSON MODEL: CSR (Collaborative Strategic Reading), p. 720

CSR Strategies

- **Preview**
- **Click and Clunk**
- **Get the Gist**
- **Wrap Up**

Klingner et al. 2001.

Multiple-Strategy Instruction Program: CSR

Instruction in multiple, coordinated reading comprehension strategies improves literacy (Biancarosa and Snow 2006). Collaborative Strategic Reading (CSR) is a research-validated program in which students learn to use comprehension strategies that support their understanding of informational text (Klingner et al. 2001). The development of CSR was influenced significantly by Reciprocal Teaching (Palincsar and Brown 1984) and Transactional Strategies Instruction (Pressley, El-Dinary et al. 1992). According to Klingner et al. (2007), CSR provides an "independent way to interact with grade-level textbooks and learn important content." CSR encourages students to self-monitor their comprehension by using a set of four comprehension strategies.

Reader Response

Even when reading factual text, readers use their existing knowledge and experiences to respond to the information and to the author's point of view or biases. Responding to informational text in personal ways allows students to deepen their learning from a reading, building further connections between the text and their own lives. Discussion-oriented instruction and writing for content-area learning are two ways to enhance reader interactions with informational text.

SEE ALSO . . .

LESSON MODEL: QtA (Questioning the Author), p. 733

Discussion-Oriented Instruction

Directed discussion can focus students' attention on text content and ideas. The Questioning the Author (QtA) approach, developed by Isabel Beck and Margaret McKeown (2006), uses teacher-posed queries during reading to keep text discussion flowing as students build understanding of a text. Queries are designed to engage students in a way that helps them uncover the author's intent and meaning. Emphasizing the fallibility of the author, QtA teaches students to question what they read, to think, to probe, to associate, and to critique.

SEE ALSO . . .

LESSON MODEL: Book Club: Writing in Response to Literature, p. 677

Engaged reading is the primary pathway toward the competencies and expertise needed for achievement.

—GUTHRIE, 2005–6

SEE ALSO . . .

LESSON MODEL: CORI (Concept-Oriented Reading Instruction), p. 739

Engaged Readers

- **Motivated**
- **Knowledge-driven**
- **Socially interactive**
- **Strategic**

McPeake and Guthrie 2007.

Writing for Content-Area Learning

In content-area instruction, students are often expected to write about what they read. Thus, writing is a particularly important form of response to informational text. Nell Duke (2006) emphasizes the importance of having students make reading/writing connections with informational text by studying authors' writing styles,writing reviews of texts, making improvements to existing texts, and producing their own informational texts.

Motivation and Engagement with Reading

Engaged readers are strongly motivated to learn from what they are reading—taking satisfaction in successful reading, believing in their reading skills, and persisting in the face of difficulty. They are knowledge-driven, gaining conceptual understanding of science through reading. They are socially interactive, interacting with other students to learn. They are strategic, possessing a variety of cognitive comprehension strategies for learning from texts (Guthrie 2005–6). When students are engaged with text, they are also more likely to use a variety of effortful strategies to gain understanding (Guthrie et al. 2004).

Concept-Oriented Reading Instruction (CORI), developed by John Guthrie and his colleagues (Guthrie et al. 1998), integrates literacy instruction with content-area instruction, particularly in science or social studies. CORI is one of the few approaches in which understanding the content and learning the process (i.e., comprehension strategies) share equal weight (Liang and Dole 2006). According to John Guthrie (2005–6), students' growth in reading comprehension is substantially influenced by their amount of engaged reading. Therefore, CORI's primary aim is to increase students' reading engagement. McPeake and Guthrie (2007) have identified the five instructional practices that enhance motivation for and engagement with reading. These motivational practices are relevance, choice, collaboration, success, and conceptual theme.

Challenges of Web-Based Text
• seeing less of the text at once
• having little control over the timing or speed of text presentation
• navigating hyperlinks, scrolling, accessing files, computer skills
• dealing with lack of linearity and clear beginning and ending
• choosing among multiple paths through a body of text
• identifying useful links
• evaluating the relevance of linked information
• being distracted by intriguing but irrelevant links
• integrating text with multimedia
• getting a sense of the text overall
• comprehending difficult text (often several grade levels higher than intended audience)
• reading critically, judging accuracy, and assessing credibility

Alvermann and Eakle 2003; Kim and Kamil 2003; Spires and Estes 2002.

Web-Based Text

Web-based text offers both opportunities and challenges for instruction (RRSG 2002). Readers can follow links to definitions, background, or more detailed explanations to support comprehension (Kim and Kamil 2003; RRSG 2002). Research has shown that when students lack world knowledge about a topic, they often learn more easily from web-based text than from printed text, as long as options for navigation and browsing are limited (Mayer 1997; Shin, Schallert, and Savenye 1994). Electronic text also can be more engaging than traditional text, especially for struggling readers (Alvermann and Eakle 2003). For example, O'Brien (1998, 2001) found that even adolescents identified as "at risk" of dropping out of high school were highly literate with electronic texts.

Instruction for Reading on the Web

Reading on the web requires specialized strategy applications. The additional complexities and distractions of web-based text create the need for further strategic support. Through explicit instruction, students can learn to adapt and transfer their strategies to meet these challenges.

Dodge (1997) developed a method for maximizing students' efficient use of the web. This method, called WebQuest, poses an open-ended problem that students solve using internet resources (Spires and Estes 2002). Providing key internet links to students, the WebQuest organizes the learning task and prevents endless searching for information. Small-group collaboration provides opportunities for students to work together to construct meaning. Incorporating web resources at varying levels of difficulty and readability gives all students a chance to participate and contribute.

Strategy Application in Web-Based Text

Strategy	In addition to being able to . . .	Web readers must . . .
Recognizing Text Structure	identify the way text is organized	switch quickly and adeptly among various text structures
Monitoring Comprehension	be actively aware of whether text is making sense	determine the relevance of volumes of information in layers of potentially distracting links
Connecting to World Knowledge	connect previous experiences with ideas in the text	draw from previous experiences of navigating websites and search engines
Predicting	make informed guesses about what will come next	make predictions about the most relevant links and how to move through text to find information
Asking Questions	ask themselves questions about the text being read	condense questions into keywords that are most likely to lead to relevant links
Answering Questions	find and use information from text to answer teacher questions	identify the most promising and accessible resources for answering questions, which may include web browsers, search engines, etc.
Constructing Mental Images	create their own mental pictures	learn to use, evaluate, and integrate the many visuals on the web—such as video clips, photographs, clip art, and charts
Summarizing	summarize information found in a single text	synthesize information gathered from a whole website or several websites

Based on Eagleton and Dobler 2007.

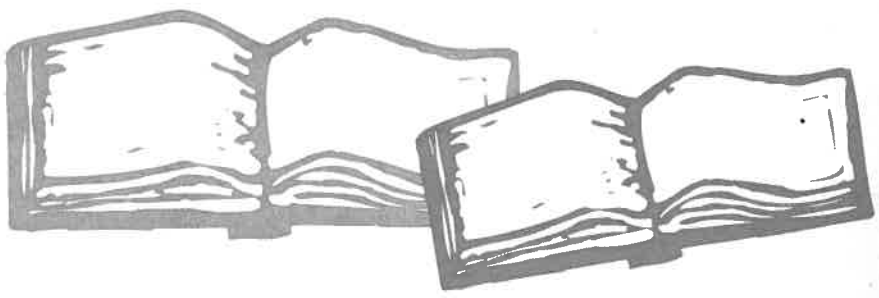
why? Informational Text

Informational literacy is central to success, and even survival, in advanced schooling, the workplace, and the community.

—DUKE, 2000b

Informational text has gained increasing importance in early reading instruction. Reading informational text serves several functions for young readers: it builds content knowledge and vocabulary; capitalizes on students' interests, curiosities, and experiences; presents opportunities for students to develop areas of expertise; prepares students for the type of texts they will read most frequently as adults; supports students in both answering and raising questions; and serves as a tool for both solving and posing problems (Duke 2004, 2006).

Students' success or failure in school is closely tied to their ability to comprehend informational text. As students progress through school, understanding informational text becomes both more essential and more challenging. Informational text increasingly becomes the source of students' new knowledge and information. The demands of learning from text also increase as text becomes more complicated in middle and high school. In addition to informational text found in books and articles, students frequently must access information via the web and other multimedia sources. To improve their level of reading proficiency—or just to maintain it—students must become more advanced in both the range and the flexibility of their reading comprehension strategies (Duke and Pearson 2002).



Research Findings . . .

Achieving success in subject areas ranging from social studies to science requires that students be able to comprehend the texts of such subjects.

—NEUFELD, 2005

Middle- and high-school students spend most of their time in content-area classes and must learn to read expository, informational, content-area texts with greater proficiency.

—TORGESEN ET AL., 2007

Informational text can be a vehicle to gain, work through, and communicate knowledge about the . . . world, a vehicle to inspire and attract students to literacy.

—DUKE, 2000b

Suggested Reading . . .

Effective Instruction for Adolescent Struggling Readers: A Practice Brief (2008) by Alison Boardman et al. Portsmouth, NH: RMC Research Corporation, Center on Instruction.

Essentials of Assessing, Preventing, and Overcoming Reading Difficulties (2015) by David A. Kilpatrick. Hoboken, NJ: Wiley.

Improving Reading Comprehension in Kindergarten Through 3rd Grade: A Practical Guide (2010) by Timothy Shanahan et al. Washington, DC: U.S. Department of Education.

Teaching Reading Comprehension to Students with Learning Disabilities, 2nd Edition (2015) by Janette K. Klingner, Sharon Vaughn & Alison Boardman. New York: Guilford.

Text Complexity: Stretching Readers with Texts and Tasks, 2nd Edition (2016) by Douglas Fisher, Nancy Frey & Diane Lapp. Newbury Park, CA: Corwin.

What Content-Area Teachers Should Know About Adolescent Literacy (2007) by the National Institute for Literacy. Washington, DC: U.S. Department of Education.

when? Informational Text

Providing more experience with informational texts in the early grades may help to mitigate the substantial difficulty many students have with this form of text in later schooling.

—DUKE, 2000b

When to Teach

Primary-grade students need increased instructional time with informational text (Duke 2004). Because of their natural curiosity, young children often prefer age-appropriate informational texts such as dinosaur encyclopedias and bug books (Block 2004; Duke 2006). Students who have had informational text read aloud to them are more likely to select this type of text for independent reading (Dreher and Dromsky 2000). Listening to informational text can also build knowledge, especially when combined with other ways of learning (Anderson and Guthrie 1999). After Grade 3, reading content-area informational texts becomes increasingly important in helping students expand their knowledge of science, social studies, mathematics, and other subjects (Torgesen et al. 2007). It is critical to balance and integrate explicit comprehension strategies instruction with an emphasis on the content of the text at hand.

SEE ALSO . . .

When to Assess and Intervene, p. 646

When to Assess and Intervene

No single test captures the complexity of comprehension; the best way to assess reading comprehension is with a combination of measures (RRSG 2002). Tests of reading comprehension vary according to response format, or how students demonstrate understanding of what they have read (Spear-Swerling 2006). Response formats may include cloze, Maze CBM, open-ended and multiple-choice question answering, retelling, and thinking aloud. Regardless of format, it is important that comprehension assessment texts be at students' instructional level of difficulty —at least a 90 percent rate of accuracy (Klingner et al. 2007).

Particularly for diagnostic purposes, it is necessary to assess comprehension processes as well as outcomes (RRSG 2002). For example, assessments should examine students' ability to use comprehension strategies appropriately to understand text (Lehr and Osborn 2005). When assessment reveals that students are either misusing or not using a specific strategy, the teacher can respond with instructional support. Students' own comprehension monitoring also serves as a form of self-assessment of both comprehension and strategies use (Afflerbach 2002).

SEE ALSO . . .

CORE Literacy Library

Assessing Reading: Multiple Measures, Revised 2nd Edition

Comprehension Assessment: Response Formats	
Cloze	Students fill in blanks in a passage by choosing, from a bank of suggested words, the one word that best completes the sentence. EXAMPLE: The rooster _____ at the break of dawn.
Maze CBM	Students choose the one out of three possible words that makes the best sense in the sentence. EXAMPLE: Can you (jump, hit, sneeze) the ball to me?
Open-Ended	Students construct oral or written responses to questions about a passage.
Multiple-Choice	Students select the best response to a question about a passage.
Retelling	Students are prompted to orally retell or reconstruct what they remember about a passage.
Think Aloud	Students talk about their thinking as they read a passage, responding periodically to teacher prompts.

Based on Spear-Swerling 2006; Klingner et al. 2007; Hosp, Hosp, and Howell 2007; Lehr and Osborn 2005.

Purpose	✓	Comprehension Assessment	Publisher
Screening Progress Monitoring		FastBridge CBMcomp	FastBridge Learning
Screening Progress Monitoring Diagnostic		FastBridge COMPefficiency	FastBridge Learning

LESSON MODEL FOR

Question Answering

Benchmarks

- ability to answer factual, inferential, and evaluative questions
- ability to identify factual, inferential, and evaluative questions
- ability to use background knowledge to answer questions

Strategy Grade Level

- Grade 3 and above

Grouping

- whole class
- small group or pairs

Sample Text (Resources)

- "Albert Einstein Asks a Question" Complexity Level: Grades 3–4

Activity Master (Resources)

- QAR Worksheet

Materials

- PDF and copies of "Albert Einstein Asks a Question"
- PDF and copies of QAR Worksheet

QAR (Question-Answer Relationships)

According to the National Reading Panel (2000), teaching students strategies for answering questions is an important part of comprehension instruction. QAR is a research-based method and language framework developed by Taffy Raphael (1986) for enhancing students' ability to talk about and answer comprehension questions. Applicable to both literary and informational texts, QAR helps students understand that answers come from one of two main sources of information: In the Text and In My Head. These sources are further divided into four QAR categories: Right There, Think and Search, On My Own, and Author and Me. This language of QAR is introduced through analyzing the differences between questions with answer sources in the text and those with answer sources coming from students' own background knowledge or experiences (Raphael and Au 2005).

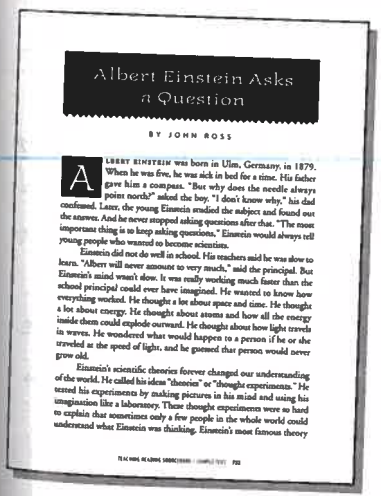
In this sample lesson model, sample text is used to represent a selection at students' independent reading level. The same model can be adapted and used to enhance comprehension instruction for literary or informational text in any commercial reading or content-area program—as long as the text is at the appropriate level.

Question-Answer Relationships (QAR)	
IN THE TEXT	**IN MY HEAD**
Right There The answer to the question is "right there" in one sentence; the question and answer have the same wording.	**On My Own** The answer to the question comes entirely from students' world knowledge.
Think and Search The answer to the question requires searching across the text; the question and answer have different wordings.	**Author and Me** The answer to the question comes from understanding the text in conjunction with students' world knowledge.

Based on Raphael 1982, 1986.

Introduce QAR

Display a Question-Answer Relationships (QAR) teaching chart, such as the example shown above. Cover the chart, except for the title and the first row. Explain to students that they can use QAR, or Question-Answer Relationships, whenever they need to answer questions about what they are reading. Point out that the QAR strategy for answering questions has its own language. Then point to the headings In the Text and In My Head. Tell students that there are two main places to find the answer to a question. Explain that one place to find an answer is in what they are reading, or In the Text. The other place to find an answer is from what they already know or have experienced, or In My Head.



Albert Einstein Asks a Question

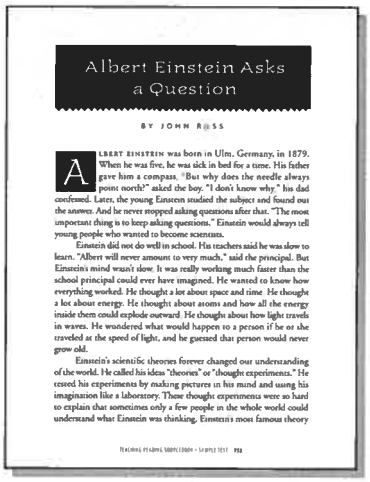
BY JOHN ROSS

ALBERT EINSTEIN was born in Ulm, Germany, in 1879. When he was five, he was sick in bed for a time. His father gave him a compass. "But why does the needle always point north?" asked the boy. "I don't know why," his dad confessed. Later, the young Einstein studied the subject and found out the answer. And he never stopped asking questions after that. "The most important thing is to keep asking questions," Einstein would always tell young people who wanted to become scientists.

Einstein did not do well in school. His teachers said he was slow to learn. "Albert will never amount to very much," said the principal. But Einstein's mind wasn't slow. It was really working much faster than the school principal could ever have imagined. He wanted to know how everything worked. He thought a lot about space and time. He thought a lot about energy. He thought about atoms and how all the energy inside them could explode outward. He thought about how light travels in waves. He wondered what would happen to a person if he or she traveled at the speed of light, and he guessed that person would never grow old.

Einstein's scientific theories forever changed our understanding of the world. He called his ideas "theories" or "thought experiments." He tested his experiments by making pictures in his mind and using his imagination like a laboratory. These thought experiments were so hard to explain that sometimes only a few people in the whole world could understand what Einstein was thinking. Einstein's most famous theory

Use interactive whiteboard technology to display the first page of "Albert Einstein Asks a Question." Read aloud the first paragraph. Then ask: *When Einstein was sick, what did his father give him?* (a compass) Ask: *How did you know the answer to this question?* (Possible response: *It was in what I read, or In the Text.*) Ask: *Why would you give a gift to someone who was sick?* (Possible response: *To make the person feel better.*) Ask: *How did you know the answer to this question?* (Possible response: *It came from my experience, or In My Head.*) Tell students that they have just uncovered the two main places to look for answers to questions: In the Text or In My Head.



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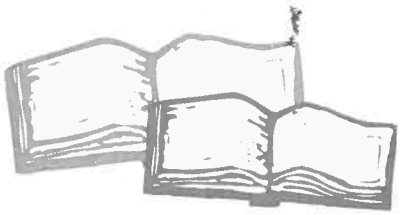


IN THE TEXT

- **Right There**
- **Think and Search**

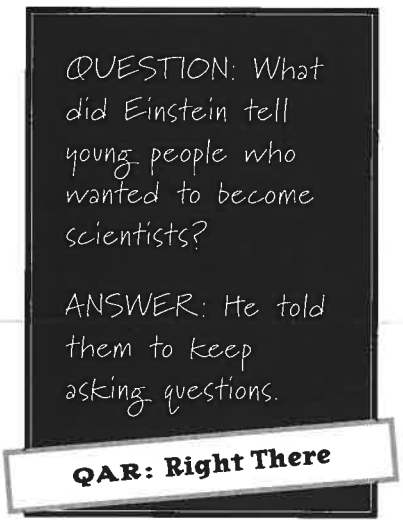
Teach/Model

When students have a clear picture of the differences between the two main QAR categories, In the Text and In My Head, present the subcategories. First introduce In the Text QARs: Right There and Think and Search. Then introduce In My Head QARs: On My Own and Author and Me.

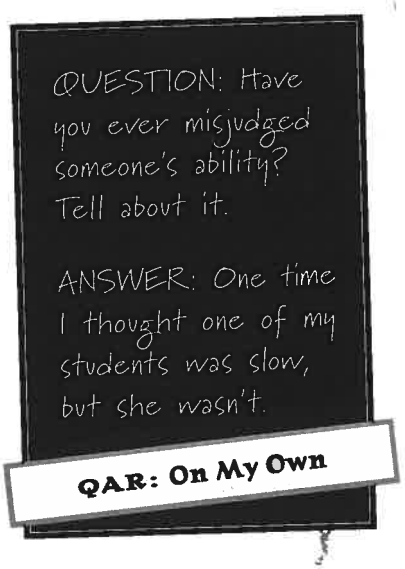
In the Text QARs

Continue displaying the first page of "Albert Einstein Asks a Question" and the Question-Answer Relationships (QAR) teaching chart. Uncover the left side of the teaching chart, revealing the two categories of In the Text QARs. Explain to students that there are two different types of In the Text QARs, Right There and Think and Search.

Read aloud the first two paragraphs of the sample text. Then print the following pair of questions on the board: *What did Einstein tell young people who wanted to become scientists? What topics did Albert like to think about?* Tell students that you are going to model how to use QAR to find the answers to these In the Text questions.

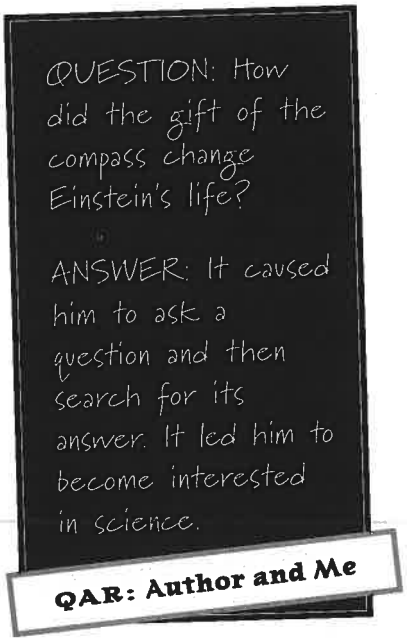


Ask the first question: *What did Einstein tell young people who wanted to become scientists?* Say: *The answer to this question is in the text. First, I'm going to look for words in the text that match the words in the question.* Circle the words *tell young people* and *scientists.* Say: *Now I'm going to scan the same sentence these words appear in to see if I can find the answer.* Circle the words *keep asking questions.* Say: *This is the answer to the question. Einstein told young people who wanted to be scientists to keep asking questions.* On the board, print the answer below the question. Say: *This is a Right There QAR. The words from the question and words that answer the question are right there, all in one sentence. The answer is easy to find.* Below the answer, print the QAR, Right There.

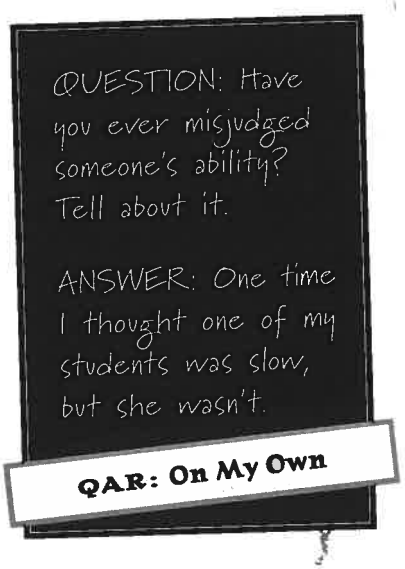


life? Tell students that you are going to model how to use QAR to find the answers to these two In My Head questions.

Ask the first question: *Have you ever misjudged someone's ability? Tell about it.* Say: *This is a question I can answer on my own without ever reading the text. The answer is found In My Head. It is completely based on what I remember from my own experience as a teacher. I remember one time I had a student who never seemed to be paying attention. Foolishly, I assumed she was slow. One day, I noticed that she was a talented artist. I had misjudged her.* On the board, print the answer below the question. Say: *So, I found the answer to this question in my head from my own experience, without needing any information from the text. I answered it on my own.* Below the answer, print the QAR, On My Own.



Ask the second question: *How did the gift of the compass change Einstein's life?* Say: *Well, I could answer the first question based entirely on my experience, but to answer this one I need to have read the text. First, I will look for words in the text that match the words in the question.* In the first paragraph, circle the word *compass.* Say: *Oh, right here it says that Einstein asked a question about the compass and then studied the subject and found out the answer. I remember that Einstein told young people who wanted to become scientists that they should keep asking questions. I know that looking for the answers to questions is part of the scientific method. So I'm going to combine what I already know about science with something the author says in the text to come up with the answer. I think the gift of the compass caused Einstein to ask a question and then search for its answer, which may have led him to become interested in science.* On the board, print the answer below the question. Say: *I couldn't have answered this question without reading the text, but, on the other hand, the author didn't provide all of the information I needed. My answer came from both the author and me.* Below the answer, print the QAR, Author and Me.



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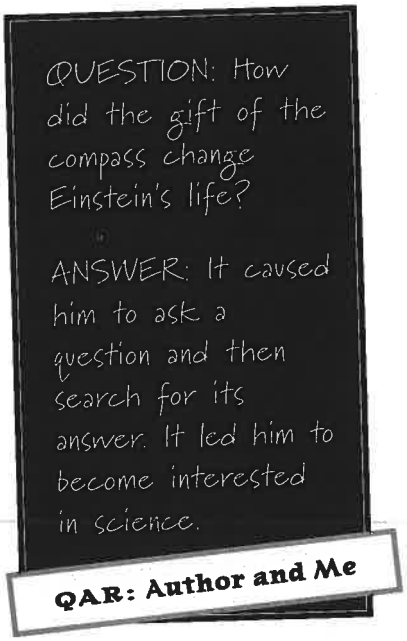

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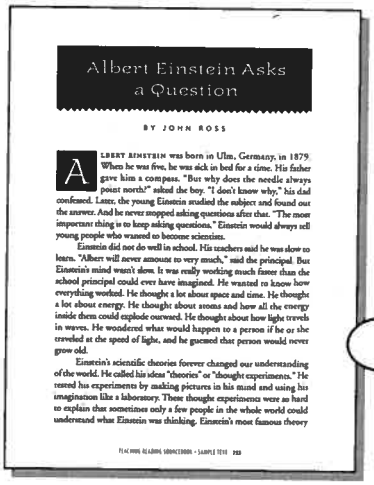

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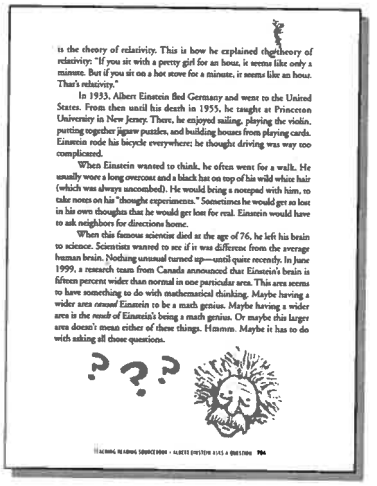


is the theory of relativity. This is how he explained the theory of relativity: "If you sit with a pretty girl for an hour, it seems like only a minute. But if you sit on a hot stove for a minute, it seems like an hour. That's relativity."

In 1933, Albert Einstein fled Germany and went to the United States. From then until his death in 1955, he taught at Princeton University in New Jersey. There, he enjoyed sailing, playing the violin, putting together jigsaw puzzles, and building houses from playing cards. Einstein rode his bicycle everywhere; he thought driving was way too complicated.

When Einstein wanted to think, he often went for a walk. He usually wore a long overcoat and a black hat on top of his wild white hair (which was always uncombed). He would bring a notepad with him, to take notes on his "thought experiments." Sometimes he would get so lost in his own thoughts that he would get lost for real. Einstein would have to ask neighbors for directions home.

When this famous scientist died at the age of 76, he left his brain to science. Scientists wanted to see if it was different from the average human brain. Nothing unusual turned up—until quite recently. In June 1999, a research team from Canada announced that Einstein's brain is fifteen percent wider than normal in one particular area. This area seems to have something to do with mathematical thinking. Maybe having a wider area *caused* Einstein to be a math genius. Maybe having a wider area is the *result* of Einstein's being a math genius. Or maybe this larger area doesn't mean either of these things. Hmmm. Maybe it has to do with asking all those questions.

Guided Practice

Print four questions, such as the ones shown on the following page, on the QAR Worksheet. Use interactive whiteboard technology to display the worksheet. Distribute copies of "Albert Einstein Asks a Question." Read aloud paragraphs 3 and 4 of the selection as students follow along.

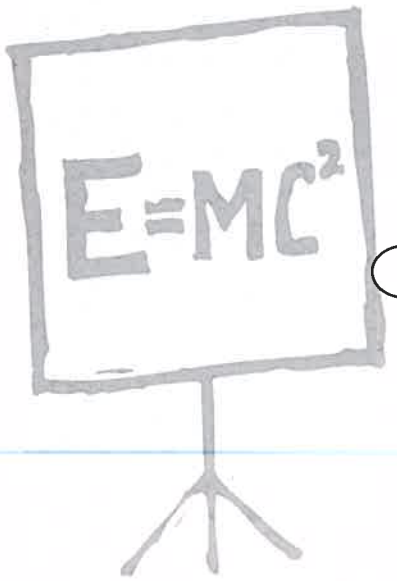
1 Read aloud the first question: *What is Einstein's most famous theory?* Ask: *Where do you think you will find the answer to this question, in the text or in your head?* (in the text) Say: *Yes, this sounds like information that will be in the text. Now you need to see if the answer is right there or if you will need to think and search.* Ask: *Are there any words in the text that match the words in the question?* (yes, *famous theory*) Have students circle the words on their copies of the selection. Ask: *Can you find the answer to the question in the same sentence?* (yes) Ask: *So, what category of QAR is this?* (Right There) On the worksheet, print the QAR in the corresponding space. Ask: *What is the answer?* (Einstein's most famous theory is the theory of relativity.) On the worksheet, print the answer in the corresponding space. Ask: *How do you know that it was his most famous theory?* (It says so in the text; the answer is right there in one sentence.) Say: *The answer to this question is right there. You found all the information you needed in one sentence.*

2 Read aloud the second question: *What types of experiments do scientists do?* Ask: *Where do you think you will find the answer to this question, in the text or in your head?* (in my head) Say: *Yes, it sounds like information you may already know.* Ask: *Will you also need information from the text, or can you answer the question on your own?* (on my own) Say: *Yes, this is a question you can answer on your own without ever reading the text.* Ask: *So, what category of QAR is this?* (On My Own) On the worksheet, print the QAR. Say: *Yes, the answer to this question is based entirely on your own background knowledge.* Ask: *Now that you know this is*

QAR (Question-Answer Relationships) Worksheet

Title: Albert Einstein Asks a Question Pages (Paragraphs): 3 and 4

	Question	Answer	QAR
1	What is Einstein's most famous theory?	His most famous theory is the theory of relativity.	Right There
2	What types of experiments do scientists do?	Scientists do experiments by mixing things in test tubes, then keeping track of what happens.	On My Own
3	Based on Einstein's simple description of relativity, can you provide a similar example of relativity in your life?	When I play a video game, an hour seems like a minute. But when I have to stay after school, a minute seems like an hour.	Author and Me
4	How did Einstein travel around Princeton, New Jersey?	Einstein rode around on his bike.	Think and Search



an On My Own QAR, what answer would you give for this question? (Possible response: *Scientists do experiments by mixing things in test tubes, then keeping track of what happens.*) On the worksheet, record the answer.

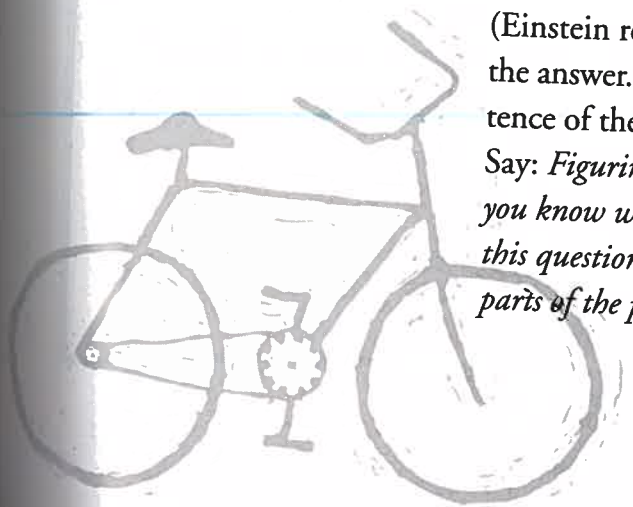
3 Read aloud the third question: *Based on Einstein's simple description of relativity, can you provide a similar example of relativity in your life?* Ask: *Where do you think you will find the answer to this question, in the text or in your head?* (Possible response: *Both. I need an example from my life—that's from me, but first I need to understand Einstein's description of relativity—that's from the author.*) Ask: *So, what category of QAR do you think this is?* (Author and Me) On the worksheet, print the QAR. Say: *Great, so you know that before you can connect your experiences you will need to find some information from the text.* Ask: *Are there any*

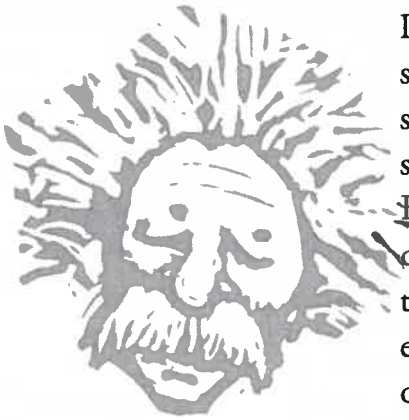
Guidelines for Effective Questioning

- **Use clear phrasing.**
- **Avoid multiple-part questions.**
- **Allow greater response time before you comment.**
- **Listen carefully to students' responses.**
- **Provide tactful modeling of correct grammar.**
- **Encourage students to elaborate.**
- **Create a supportive atmosphere.**

words in the text that match the words in the question? (relativity) Have students circle the word on their copies of the selection. Say: *So, now you can answer this question by seeing how the author explains Einstein's theory of relativity and then connecting it with your own experience.* Ask: *Who can answer this question?* (Possible response: *When I play a video game, an hour seems like a minute. But when I have to stay after school, a minute seems like an hour.*) On the worksheet, record the answer. Say: *Figuring out that this was an Author and Me QAR helped you know where to find the information you needed to answer the question—you needed some information from the text and some from your own experiences.*

4 Read aloud the fourth question: *How did Einstein travel around Princeton, New Jersey?* Ask: *Where do you think you will find the answer to this question, in the text or in your head?* (in the text) Say: *Now you need to see if the answer is right there or if you will need to think and search.* Ask: *Are there any words in the text that match the words in the question?* (Princeton, New Jersey) Have students circle the words. Ask: *Is the answer to the question in the same place?* (no) Say: *Right, to answer this question you have to look for information in different parts of the text, and then combine the information into one answer.* Ask: *So what category of QAR is this?* (Think and Search) On the worksheet, print the QAR. Say: *So now you know you will have to search across parts of the text to find the answer. When you think you've found the answer, circle the words.* Ask: *Who can answer this question?* (Einstein rode around on his bike.) On the worksheet, record the answer. Ask: *Where did you find the answer?* (In the last sentence of the same paragraph it says that Einstein rode his bike.) Say: *Figuring out that this was a Think and Search QAR helped you know where you needed to look to find the answer. To answer this question, you needed to combine information from different parts of the paragraph.*





Collaborative Practice

Print the questions shown below on a copy of the QAR Worksheet. Then make copies of the worksheet and give them to students. Have pairs of students read paragraphs 5 and 6 of the selection. Ask students to work together to fill in the worksheet. Have them identify the QARs and the answers. Support students as needed. If necessary, help them locate text information to support their answers or articulate information from their experiences. When the worksheets are completed, call on pairs of students to share and explain their QARs and answers.

QAR (Question-Answer Relationships) Worksheet

Q A R

Title: Albert Einstein Asks a Question Pages (Paragraphs): 5 and 6

Question	Answer	QAR
What does it mean to be a genius?	Being a genius means you are way smarter than most people. Being a genius means you know a lot about a specific area or topic.	On My Own
Why did Einstein carry a notepad when he went for a walk?	To take notes on his thought experiments.	Right There
What did scientists discover about the area of Einstein's brain that has to do with mathematical thinking?	The area of Einstein's brain that has to do with mathematical thinking is 15% wider than normal.	Think and Search
Which explanation about Einstein's brain makes the most sense to you, and why?	• I think the mathematical part of Einstein's brain became larger because he used it so much—like exercise for the brain. The text shows that he did a lot of thinking. • I think Einstein was a math genius because that part of his brain was already larger. The text shows he was already a scientific thinker at age five.	Author and Me

LESSON MODEL FOR

Summarizing

Benchmarks

- ability to identify the main idea of a paragraph
- ability to summarize a series of paragraphs

Strategy Grade Level

- Paragraph Shrinking Grades 2 and above
- Rule-Based Summary Strategy Grades 4 and above

Grouping

- whole class
- small group or pairs
- individual

Prerequisite

- knowing how to identify a topic sentence

Sample Text (Resources)

- "The Greenhouse Effect" Complexity Level: Grades 6–8

Materials

- copies of "The Greenhouse Effect"

Strategies for Summarizing

Summarizing involves sifting through information, identifying what is important, and then synthesizing and restating that information. Research emphasizes the importance of breaking down the process of summarizing into a structure that students can easily understand (Marzano et al. 2001). This sample lesson model demonstrates two approaches to summarizing: paragraph shrinking and rule based. Developed by Fuchs et al. (2007), paragraph shrinking is primarily a technique for generating a main-idea statement, or summary, of an individual paragraph. In the rule-based strategy developed by Brown, Campione, and Day (1981), students follow a set of rules or steps that produce a summary. In this lesson model, sample text is used to represent a passage at students' independent reading level. The same model can be adapted and used to enhance summarization instruction for literary or informational text in any commercial reading or content-area program—as long as the text is at the appropriate level.

PARAGRAPH SHRINKING

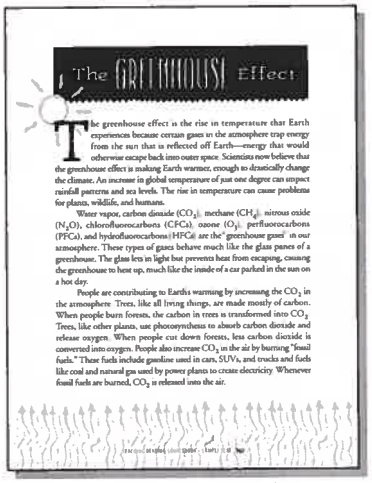
Direct Explanation

Explain to students that to make a summary, readers first identify what is important and then synthesize and restate that information in their own words. Tell them that today they will learn to shrink the information in a paragraph into a main-idea statement. Then they will learn how to synthesize the individual main-idea statements into a summary. Display the Steps of Paragraph Shrinking, such as the example shown on the following page. Explain to students that paragraph shrinking has three steps and then read them aloud. Point out that paragraph shrinking will help them to figure out the most important ideas in what they are reading.

STEPS OF PARAGRAPH SHRINKING

1. Identify **who or what** (person, animal, place, or thing) a paragraph is mostly about.
2. Identify the **most important information** about the who or what.
3. **Shrink** all the information into one **main-idea statement** of 10 words or less.

Based on Fuchs et al. 2007.



The GREENHOUSE Effect

The greenhouse effect is the rise in temperature that Earth experiences because certain gases in the atmosphere trap energy from the sun that is reflected off Earth—energy that would otherwise escape back into outer space. Scientists now believe that the greenhouse effect is making Earth warmer, enough to drastically change the climate. An increase in global temperature of just one degree can impact rainfall patterns and sea levels. The rise in temperature can cause problems for plants, wildlife, and humans.

Water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), ozone (O_3), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) are the "greenhouse gases" in our atmosphere. These types of gases behave much like the glass panes of a greenhouse. The glass lets in light but prevents heat from escaping, causing the greenhouse to heat up, much like the inside of a car parked in the sun on a hot day.

People are contributing to Earth's warming by increasing the CO_2 in the atmosphere. Trees, like all living things, are made mostly of carbon. When people burn forests, the carbon in trees is transformed into CO_2. Trees, like other plants, use photosynthesis to absorb carbon dioxide and release oxygen. When people cut down forests, less carbon dioxide is converted into oxygen. People also increase CO_2 in the air by burning "fossil fuels." These fuels include gasoline used in cars, SUVs, and trucks and fuels like coal and natural gas used by power plants to create electricity. Whenever fossil fuels are burned, CO_2 is released into the air.

Teach/Model

Distribute copies of "The Greenhouse Effect." Then read the first paragraph aloud as students follow along. Referring to the chart, tell students that you are going to model how to use the steps of paragraph shrinking.

Paragraph 1

The greenhouse effect is the rise in temperature that Earth experiences because certain gases in the atmosphere trap energy from the sun that is reflected off Earth—energy that would otherwise escape back into outer space. Scientists now believe that the greenhouse effect is making Earth warmer, enough to drastically change the climate. An increase in global temperature of just one degree can impact rainfall patterns and sea levels. The rise in temperature can cause problems for plants, wildlife, and humans.

Who or What

the greenhouse effect

Say: *First I'll identify who or what the paragraph is mostly about. The main, or most important, who or what is always a person, animal, place, or thing. There can be more than one who and what in a paragraph, but only one is the most important. The main who or what in this paragraph is* the greenhouse effect—*a thing.* Print the who or what on the board.

Most Important Information

It is making Earth warmer and changing the climate, which could cause problems for living things.

Say: *Now that I've identified* the greenhouse effect *as the most important who or what, I need to identify the most important information about it. I think the most important information about the greenhouse effect is that it's making Earth warmer and changing the climate, which could cause problems for living things.* Print the most important information about the who or what on the board.

Shrink

The greenhouse effect is making Earth warmer and changing the climate, ~~which could cause problems for living things.~~

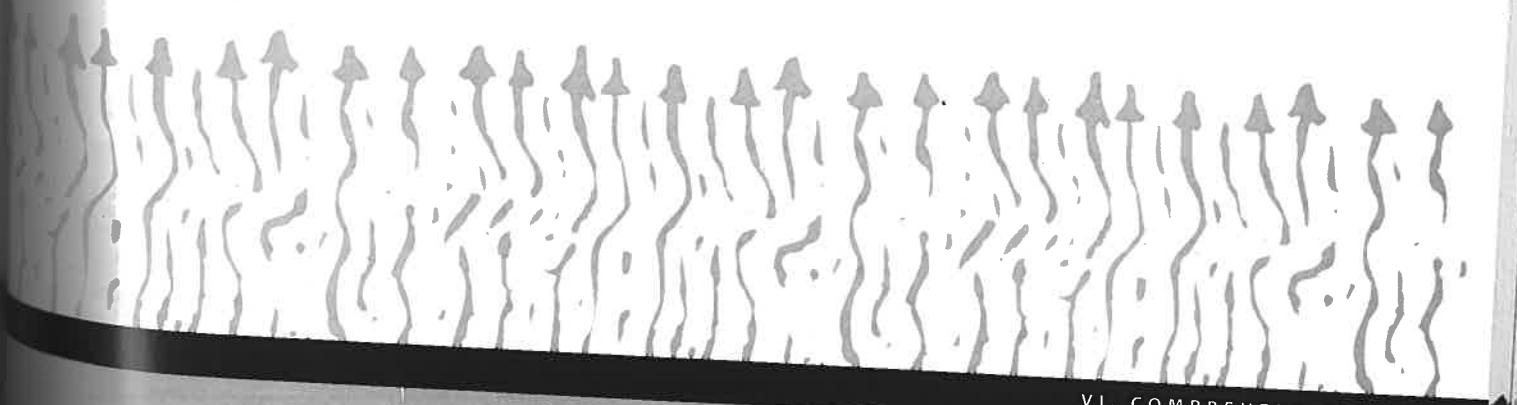
Ask: *What's the first step in paragraph shrinking?* (identifying who or what a paragraph is mostly about) Ask: *What's the second step in paragraph shrinking?* (identifying the most important information about the who or what) Say: *The next step is shrinking that information into a really good main-idea statement. When you make a main-idea statement, the fewer words, the better. Good main-idea statements have 10 words or less.*

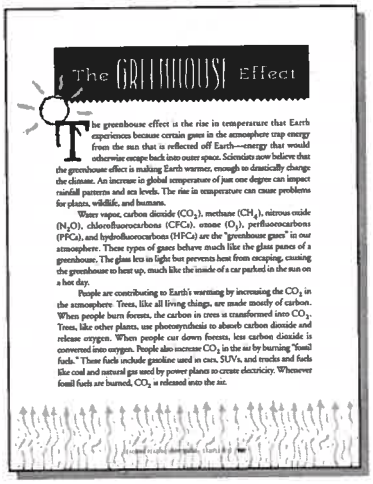
Say: *Here is my main-idea statement for this paragraph: The greenhouse effect is making Earth warmer and changing the climate, which could cause problems for living things.* Print the main-idea statement on the board.

Main-Idea Statement

The greenhouse effect is making Earth warmer and changing the climate.

Say: *Now I'll count the words in my statement to see if I have less than 10. The main who or what counts as only 1 word. That leaves 9 words to say the most important thing about the who or what. In this case, the main who or what is* the greenhouse effect. Count the words. Say: *Oh, I have 16 words in my statement. That's too many. I have to shrink it. I'll try deleting the last part of the sentence.* On the board, cross out the last part of the sentence. Then count the words again. Say: *Now I have 9 words. The greenhouse effect is making Earth warmer and changing the climate.*





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Water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), ozone (O_3), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) are the "greenhouse gases" in our atmosphere. These types of gases behave much like the glass panes of a greenhouse. The glass lets in light but prevents heat from escaping, causing the greenhouse to heat up, much like the inside of a car parked in the sun on a hot day.

People are contributing to Earth's warming by increasing the CO_2 in the atmosphere. Trees, like all living things, are made mostly of carbon. When people burn forests, the carbon in trees is transformed into CO_2. Trees, like other plants, use photosynthesis to absorb carbon dioxide and release oxygen. When people cut down forests, less carbon dioxide is converted into oxygen. People also increase CO_2 in the air by burning "fossil fuels." These fuels include gasoline used in cars, SUVs, and trucks and fuels like coal and natural gas used by power plants to create electricity. Whenever fossil fuels are burned, CO_2 is released into the air.

Follow the same procedure with the next two paragraphs, guiding students as they follow the steps of paragraph shrinking.

PARAGRAPH 2

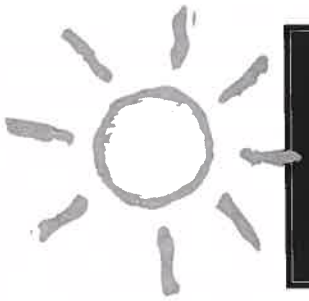
- **Who or what:** greenhouse gases
- **Most important information about the who or what:** They behave like the glass panes in a greenhouse and prevent heat from escaping Earth's atmosphere.
- **Main-idea statement:** Greenhouse gases prevent heat from escaping Earth's atmosphere.

PARAGRAPH 3

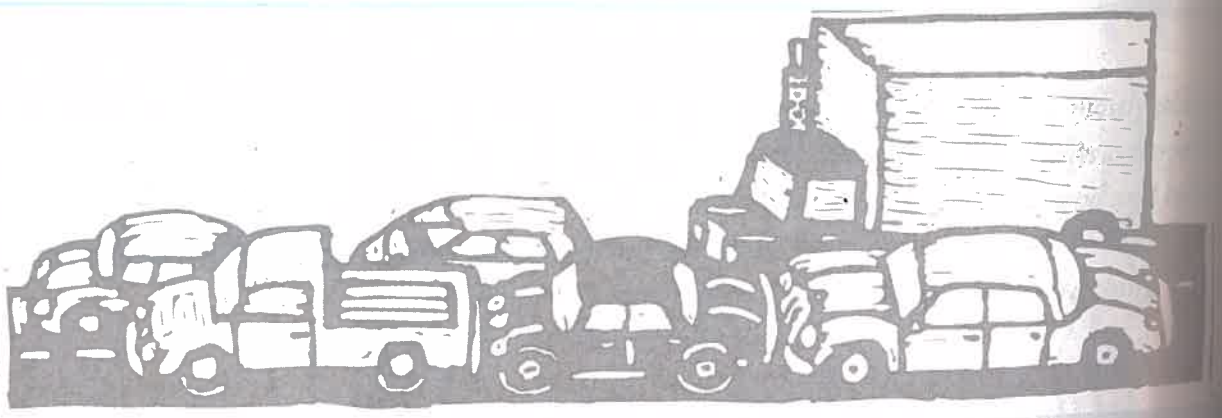
- **Who or what:** people
- **Most important information about the who or what:** They are contributing to the greenhouse effect by increasing the carbon dioxide in the atmosphere by destroying forests and burning fossil fuels.
- **Main-idea statement:** People are contributing to the greenhouse effect.

For more practice in paragraph shrinking, see CSR (Collaborative Strategic Reading), p. 720.

Then say: *To summarize the whole passage, let's combine our three main-idea statements.* Print the final summary on the board and ask a volunteer to read it aloud.



The greenhouse effect is making Earth warmer and changing the climate. Greenhouse gases prevent heat from escaping Earth's atmosphere. People are contributing to the greenhouse effect.



RULE-BASED SUMMARY STRATEGY

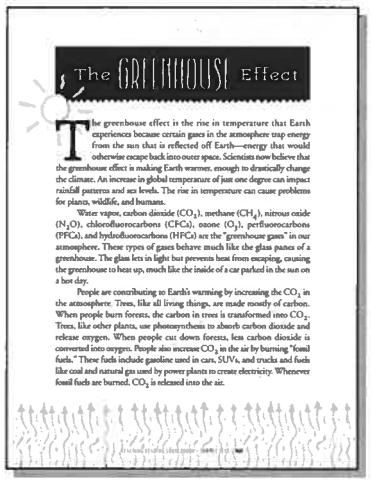
- Substitute a more general term for a list of specific terms.
- Delete redundant information.
- Delete information that is not absolutely necessary, or central, to overall meaning.
- Select or create a topic sentence.

Based on Brown and Day 1983.

RULE-BASED SUMMARY STRATEGY

Direct Explanation

Explain to students that to summarize effectively, readers have to delete, substitute, or rephrase information. Tell students that you are going to show them how to use the rule-based strategy for summarizing, a set of rules they can follow to produce a summary. Display a Rule-Based Summary Strategy teaching chart, such as the example shown above. Then read aloud and explain each rule. Say: *The first rule is to substitute a more general term for a list of specific terms. A general term is a term whose meaning encompasses the meaning of other more specific terms; for example,* tree *for* pine, oak, *and* maple. *The second rule is to delete redundant information. A redundant phrase or word has the same meaning as a phrase or word used elsewhere in the passage. The third rule is to delete information that is not absolutely necessary, or central, to overall meaning of the passage. For example, in a passage about airplane travel today, information about how people used to travel could be interesting but not necessary to overall meaning. The last rule is to select or create a topic sentence. A topic sentence should contain the main idea. Sometimes the main idea is explicitly stated, and other times it is not.*



The GREENHOUSE Effect

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Water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), ozone (O_3), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) are the "greenhouse gases" in our atmosphere. These types of gases behave much like the glass panes of a greenhouse. The glass lets in light but prevents heat from escaping, causing the greenhouse to heat up, much like the inside of a car parked in the sun on a hot day.

People are contributing to Earth's warming by increasing the CO_2 in the atmosphere. Trees, like all living things, are made mostly of carbon. When people burn forests, the carbon in trees is transformed into CO_2. Trees, like other plants, use photosynthesis to absorb carbon dioxide and release oxygen. When people cut down forests, less carbon dioxide is converted into oxygen. People also increase CO_2 in the air by burning "fossil fuels." These fuels include gasoline used in cars, SUVs, and trucks and fuels like coal and natural gas used by power plants to create electricity. Whenever fossil fuels are burned, CO_2 is released into the air.

Teach/Model

Referring to the Rule-Based Summary Strategy chart, tell students that you are going to model how to apply the rules. Explain that you will first create a summary of each paragraph in the passage and then construct a summary of the whole passage by combining the individual summaries. Distribute copies of "The Greenhouse Effect." Read the first paragraph aloud as students follow along.

Paragraph 1

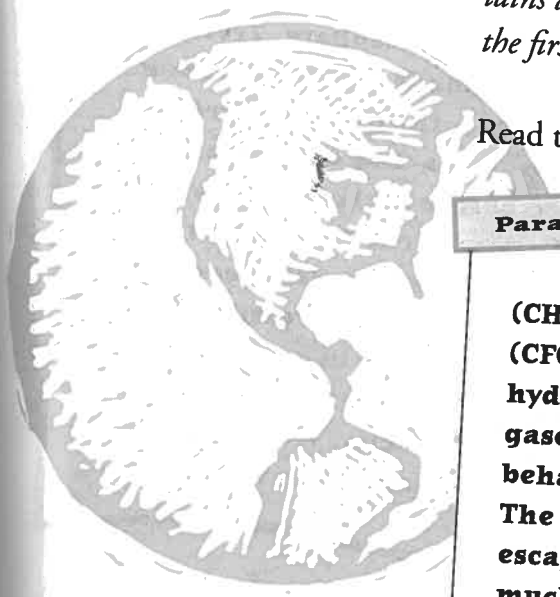
The greenhouse effect is the rise in temperature that Earth experiences because certain gases in the atmosphere trap energy from the sun that is reflected off Earth—energy that would otherwise escape back into outer space. Scientists now believe that the greenhouse effect is making Earth warmer, enough to drastically change the climate. An increase in global temperature of just one degree can impact rainfall patterns and sea levels. The rise in temperature can cause problems for plants, wildlife, and humans.

Paragraph 1 Summary

The greenhouse effect is the rise in temperature that Earth experiences because certain gases in the atmosphere trap energy from the sun that is reflected off Earth. Scientists believe the greenhouse effect is changing the climate, which can cause problems for all living things.

THINK ALOUD *First, I'll skim the paragraph for lists of specific terms. I see a list of terms in the last sentence:* plants, wildlife, and humans. *I think I can substitute a more general term for this list. How about the term* all living things*? Now I'll apply the second rule by looking for redundant, or repeated, information. I notice a few phrases that mean almost the same thing:* rise in temperature, making Earth warmer, increase in global temperature. *The phrases all describe the greenhouse effect, so I'll use that term. To apply the third rule, I'll look to see if I can delete any information not central to overall meaning. I think I can take out the second*

part of the first sentence: energy that would otherwise escape back into outer space. *Also, although the third sentence provides some interesting specific details about the greenhouse effect's impact on the climate, the information is not absolutely necessary for overall meaning. I'll keep the word* climate *and combine it with the information in the last sentence. Now that I've applied the first three rules, I need to make sure there is a topic sentence that contains an explicitly stated main idea. Well, I think what is left of the first sentence makes a good topic sentence.*



Read the second paragraph aloud as students follow along.

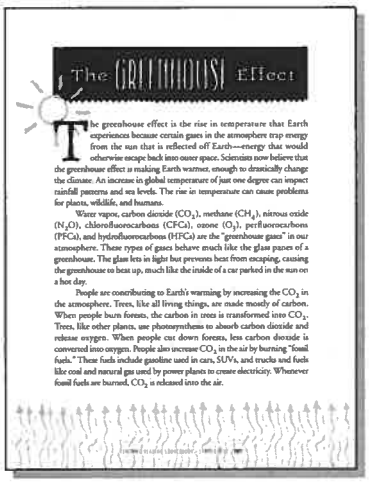
Paragraph 2

Water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), ozone (O_3), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) are the "greenhouse gases" in our atmosphere. These types of gases behave much like the glass panes of a greenhouse. The glass lets in light but prevents heat from escaping, causing the greenhouse to heat up, much like the inside of a car parked in the sun on a hot day.

Paragraph 2 Summary

Greenhouse gases prevent heat from escaping, like the glass panes in a greenhouse.

THINK ALOUD *First I'll skim the paragraph for lists of specific terms. Right away, I see a long list of the names of individual greenhouse gases. I'm going to substitute the general term* greenhouse gases *for the list. I see that* types of gases *and* greenhouse gases *mean the same thing. The information is redundant. I'm going to keep the term* greenhouse gases. *Now, the two analogies about the glass panes in a greenhouse and the parked car are helpful but not necessary to overall meaning. I need only know that greenhouse gases prevent heat from escaping. Now that I've applied the first three rules, I'll select a topic sentence containing the main idea. In the second sentence, if I replace* these types of gases *with* greenhouse gases, *it'll be a good topic sentence.*



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Guided Practice

Ask a volunteer to name the rules of summarizing. Then explain to students that they should keep the rules in mind as you guide them in summarizing the last paragraph. Then read the third paragraph aloud as students follow along.

Paragraph 3

People are contributing to Earth's warming by increasing the CO_2 in the atmosphere. Trees, like all living things, are made mostly of carbon. When people burn forests, the carbon in trees is transformed into CO_2. Trees, like other plants, use photosynthesis to absorb carbon dioxide and release oxygen. When people cut down forests, less carbon dioxide is converted into oxygen. People also increase CO_2 in the air by burning "fossil fuels." These fuels include gasoline used in cars, SUVs, and trucks and fuels like coal and natural gas used by power plants to create electricity. Whenever fossil fuels are burned, CO_2 is released into the air.

Paragraph 3 Summary

People are contributing to the greenhouse effect. They are increasing the CO_2 in the atmosphere by burning forests, cutting down trees, and burning fossil fuels.

Ask: *Is there a list of specific terms that we can replace with one more general term?* (yes, cars, SUVs, and trucks in the seventh sentence) Ask: *What general term can we replace it with?* (motor vehicles) Ask: *Is there any redundant, or repeated, information in the first sentence?* (The phrase *Earth's warming* means almost the same thing as *greenhouse effect.* We can use *greenhouse effect.*) Ask: *Any more repeated or redundant information?* (Possible responses: *The word* people *is repeated three more times.* Trees *and* all living things, trees *and* other plants, *and* forest *and* trees *mean almost the same thing.*) Ask: *From what remains, can we delete any information not necessary, or central, to overall meaning?* (Possible responses: *The second and fourth sentences give some interesting specific details about trees, but the details are not absolutely necessary for overall meaning. The same is true for the phrase* and therefore more stays in the air *in the fifth sentence and the phrase* used

by power plants to create electricity *in the seventh sentence.*) Say: *Now that we've applied the first three rules, let's select a topic sentence.* Ask: *What is the topic sentence?* (The first sentence is the topic sentence.)

Say: *Now let's put the summaries of paragraphs 1, 2, and 3 together. Let's combine the individual paragraph summaries to make a summary of the whole passage.* Ask: *Can we apply any of the rules to the passage summary?* (Possible response: *Delete the third sentence. In the first sentence, replace* certain *with* greenhouse.)

Passage Summary

The greenhouse effect is the rise in temperature that Earth experiences because greenhouse ~~certain~~ gases in the atmosphere trap the energy from the sun that is reflected off Earth. Scientists believe the greenhouse effect is changing the climate, which can cause problems for all living things. ~~Greenhouse gases prevent heat from escaping, like the glass panes in a greenhouse.~~ People are contributing to the greenhouse effect. They are increasing the CO_2 in the atmosphere by burning forests, cutting down trees, and burning fossil fuels.

LESSON MODEL FOR

Multiple-Strategy Instruction

Benchmark

- ability to coordinate a repertoire of strategies to guide comprehension

Strategy Grade Level

- Grade 3 and above

Prerequisites

- Introducing The Vocabulary Strategy, p. 555
- Practicing The Vocabulary Strategy, p. 562
- QAR, p. 702
- Strategies for Summarizing, p. 711

Grouping

- whole class
- small group or pairs

Sample Text (Resources)

- "Pioneers on the Oregon Trail" Complexity Level: Grades 4–5

Materials

- copies of "Pioneers on the Oregon Trail"

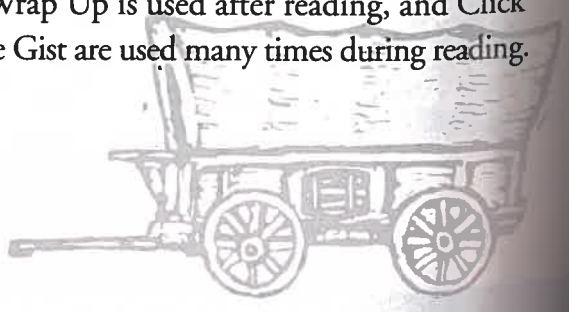
CSR (Collaborative Strategic Reading)

Collaborative Strategic Reading (CSR) combines two instructional approaches: comprehension strategies instruction and cooperative learning (Klingner and Vaughn 1999; Klingner et al. 2001). Originally developed for upper-elementary students, CSR is also effective for middle-school students (Brown 2002). In CSR, instruction is scaffolded. Initially, the teacher models each of the strategies for the whole class. Eventually, students collaboratively implement the strategies in heterogeneous groups in which each student performs a defined role.

This sample lesson model, based on CSR, focuses on introducing and practicing strategies. In this lesson model, sample text is used to represent a selection at students' independent reading level. The same model can be adapted and used to enhance comprehension instruction for informational text in any commercial reading or content-area program—as long as the text is at the appropriate level.

Direct Explanation

Display a copy of the CSR Strategies teaching chart, such as the example shown below. Tell students that you will be teaching them Collaborative Strategic Reading, or CSR. Explain the term by telling students that *collaborative* means "working together" and that *strategic reading* is a "plan or strategy for understanding and remembering what they read." Review the chart with students. Explain that CSR has four main strategies to help them understand what they read: Preview, Click and Clunk, Get the Gist, and Wrap Up. Point out that Preview is used before reading, Wrap Up is used after reading, and Click and Clunk and Get the Gist are used many times during reading.



CSR STRATEGIES

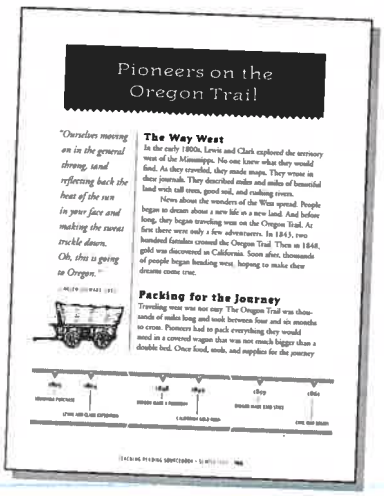
BEFORE READING: PREVIEW
Scan • Brainstorm What You Know • Predict What You Will Learn

DURING READING: CLICK AND CLUNK • GET THE GIST

AFTER READING: WRAP UP
Ask and Answer Questions • Review What You Learned

Based on Klingner et al. 2001.

READ
"The Way West"
"Packing for the Journey"


Pioneers on the Oregon Trail

"Ourselves moving on in the general throng, and reflecting back the heat of the sun in your face and making the sweat trickle down. Oh, this is going to Oregon."

The Way West

In the early 1800s, Lewis and Clark explored the territory west of the Mississippi. No one knew what they would find. As they traveled, they made maps. They wrote in their journals. They described miles and miles of beautiful land with tall trees, good soil, and rushing rivers.

News about the wonders of the West spread. People began to dream about a new life on a new land. And before long, they began traveling west on the Oregon Trail. At first there were only a few adventurers. In 1843, two hundred families crossed the Oregon Trail. Then in 1848, gold was discovered in California. Soon after, thousands of people began heading west, hoping to make their dreams come true.

Packing for the Journey

Traveling west was not easy. The Oregon Trail was thousands of miles long and took between four and six months to cross. Pioneers had to pack everything they would need in a covered wagon that was not much bigger than a double bed. Once food, tools, and supplies for the journey

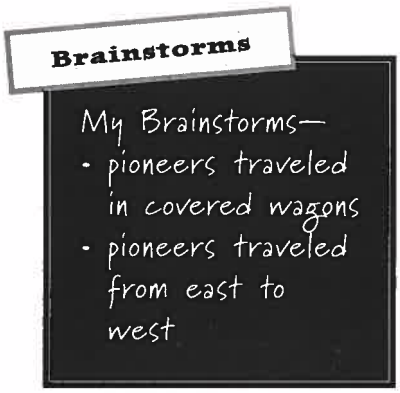
Teach/Model

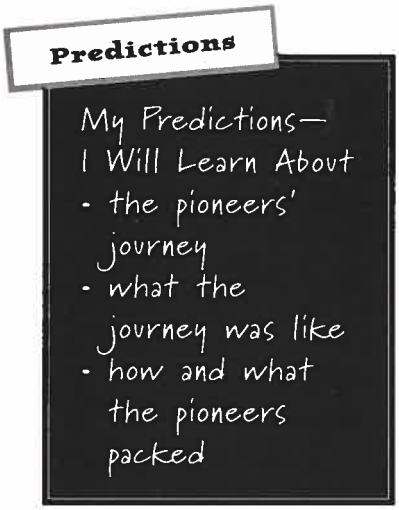
Continue displaying the CSR Strategies teaching chart. Give students copies of "Pioneers on the Oregon Trail." Tell them that you will use the first two sections of the selection to model how to use CSR strategies.

BEFORE READING: Preview

Pointing to this heading on the CSR Strategies teaching chart, explain to students that good readers preview a selection before reading it. Tell them that previewing has three steps: scanning the text, brainstorming what you already know about the topic, and predicting what you will learn.

SCAN Point to this heading on the teaching chart. Explain to students that "Pioneers on the Oregon Trail" is informational text and that informational texts often have graphic features such as titles, headings, maps, illustrations, captions, boldface text, italic text, and sidebars. Explain that to preview a selection, you first scan the text for these features. Say: *I'll begin my preview by scanning the first page. I see the title "Pioneers on the Oregon Trail" at the top of the page. This is the topic of the selection. Then I see two boldface headings, "The Way West" and "Packing for the Journey." I see a sidebar with italicized text in it. The text is a quote. Below the quote, I see a picture of a covered wagon. At the bottom of the page, I see a time line of historical events.*





BRAINSTORM WHAT YOU KNOW Pointing to this heading on the teaching chart, say: *Using what you saw during my scan of the text, you then brainstorm what you already know about the topic. From cowboy movies, I know that pioneers traveled in covered wagons. I also know that the pioneers traveled from east to west.* As you brainstorm, record your ideas on the board.

PREDICT WHAT YOU WILL LEARN Pointing to this heading on the teaching chart, say: *After you think about what you already know about the topic, you then predict what you will learn from what you are reading. Predictions are based on clues in the text and what you already know about the topic. When you make a prediction, you then tell what makes you think so. Based on the title, headings, and picture of the covered wagon, I predict I will learn about the pioneers' journey west to Oregon in covered wagons. Based on the quote, I predict I will learn what the journey was like for the pioneers. Based on the second heading, I predict that one of the things I will learn is how and what the pioneers packed for the journey.* As you generate the predictions, record them on the board. Keep them displayed for later reference in Wrap Up.

DURING READING: Click and Clunk • Get the Gist

CLICK AND CLUNK Remind students that when they are reading they should actively monitor their comprehension by noticing what they do understand, noticing what they do not understand, and then using appropriate fix-up strategies to resolve problems or confusion. Tell them that in CSR this process is called Click and Clunk. Pointing to the heading on the teaching chart, say: *Words or concepts whose meanings we understand "click," like a train rolling down the track. Words or concepts whose meanings we don't understand "clunk," like hitting an obstacle. When you hit a word-meaning clunk, you can use a fix-up strategy, such as The Vocabulary Strategy, to help you figure it out. Remember, The Vocabulary Strategy is a strategy for figuring out the meaning of an unfamiliar word by using context and word-part*

The Vocabulary Strategy

1. **Look for Context Clues**
2. **Look for Word-Part Clues**
3. **Guess the Word's Meaning**
4. **Try Out Your Meaning in the Original Sentence**

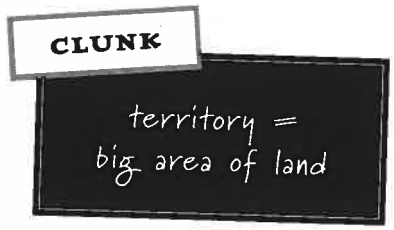
SEE ALSO . . .

LESSON MODELS

Introducing The Vocabulary Strategy, p. 555

Practicing The Vocabulary Strategy, p. 562

clues in combination. Explain to students that you are going to show them how to use the first four steps of The Vocabulary Strategy to figure out a word-meaning clunk.



Read aloud the first paragraph of "The Way West." Say: *I'm not sure what the word* territory *means; the word is unfamiliar to me. That's a clunk.* Print the word *territory* on the board. Say: *Step 1 of The Vocabulary Strategy says to look for context clues. I'm going to read the words, phrases, and sentences surrounding* territory *to see if I can find any context clues. In the fifth sentence, I think I may have found a synonym clue for* territory, *the phrase "miles and miles of beautiful land."* Territory *might have something to do with land. Step 2A says to try to break the word into parts. I don't see a meaningful prefix or suffix. So I'll skip to Step 3. Step 3 says to use the context clues I found in Step 1 to guess the meaning of the word. Because of the phrase "miles and miles," I think a territory might be a big area of land. Step 4 says to try out my meaning in the original sentence, to see whether or not it makes sense in context. I'm going to substitute* big area of land *for* territory. *"Lewis and Clark explored the big area of land west of the Mississippi." That makes sense.* Print the meaning on the board.

Paragraph Shrinking

1. **Identify who or what.**
2. **Identify the most important information about the who or what.**
3. **Shrink all the information into one main-idea statement of 10 words or less.**

Fuchs et al. 2007.

SEE ALSO . . .

LESSON MODEL: Strategies for Summarizing, p. 711

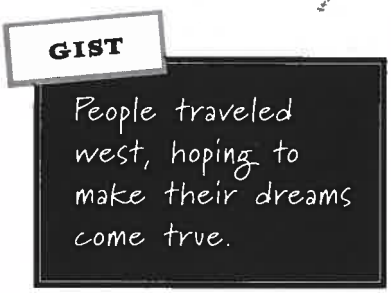
GET THE GIST Remind students that good readers can identify the most important ideas in what they are reading. They can shrink the information in a paragraph into a main-idea statement that tells the most important idea. Pointing to the heading on the teaching chart, say: *In CSR this paragraph-shrinking process is called Get the Gist.* Remind students that they have already learned about paragraph shrinking. Explain to them that you are going to use the Steps of Paragraph Shrinking to get the gist of the first paragraph.

Reread the first paragraph of "The Way West." Say: *First I'll identify who or what the paragraph is mostly about. The main who or what in this paragraph is* Lewis and Clark. *Now I'll identify the most important information about the who or what. I think the most important information about Lewis and Clark is that*

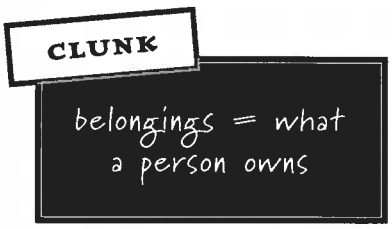
they explored the territory west of the Mississippi, describing it in maps and journals. Finally, I'll shrink the information into a really good main-idea statement of 10 words or less. Here is my main-idea statement, or gist: Lewis and Clark were first to explore the territory west of the Mississippi. Print the gist, or main-idea statement, on the board.

CLICK AND CLUNK Read aloud the second paragraph of "The Way West." Say: *In this paragraph everything is clicking for me. I don't have any clunks.*

GET THE GIST Reread the second paragraph of "The Way West." Say: *Now I'm going to get the gist of this paragraph. The main who or what in this paragraph is* people. *I think the most important information about people is that they traveled west on the Oregon Trail, hoping to make their dreams come true. Here is my main-idea statement: People traveled west on the Oregon Trail, hoping to make their dreams come true. Oh, I have 14 words and I'm allowed to have only 10. I have to shrink it. People traveled west, hoping to make their dreams come true. That's 10.* Print the gist, or main-idea statement, on the board.



CLICK AND CLUNK Read aloud "Packing for the Journey." Say: *I have a clunk. I'm not sure what the word* belongings *means. Print the word* belongings *on the board.* Say: *Step 1 of The Vocabulary Strategy says to look for context clues. The word* personal *in the same sentence might be a context clue. In the sixth sentence,* special treasures *might be a context clue. Belongings could be special personal things. Step 2 says to look for word-part clues. I see two word parts: root word* belong *and suffix* –ings. *The root word of* belongings *is* belong. *If something belongs to you, you own it. Step 3 says to guess the meaning of the word. I think belongings might be what a person owns. Step 4 says to try out my meaning in the original sentence, to see whether or not it makes sense. I'm going to substitute* what each person owned *for* personal belongings. *"As a result, there was no room left for what each person owned." That makes sense.* Print the meaning on the board.



GIST

The pioneers could fit only necessary things in the covered wagons.

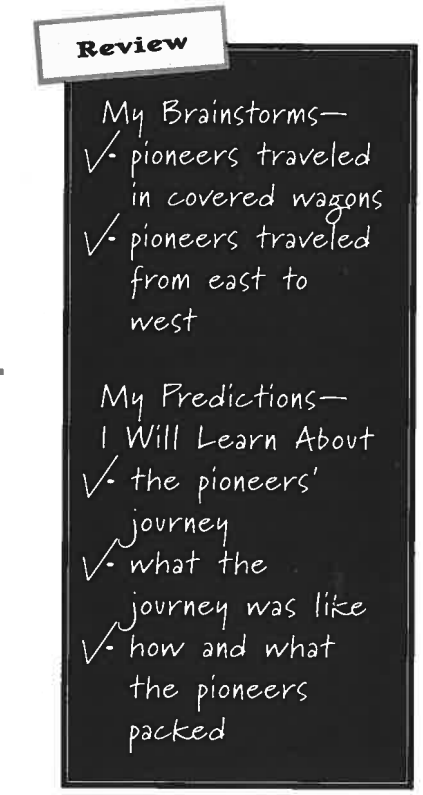
GET THE GIST Reread "Packing for the Journey." Say: *Now for the gist. The main who or what in this paragraph is* what the pioneers could take. *I think the most important information is they could take only food, tools, and supplies because the covered wagons were very small. Here is my main-idea statement: The pioneers could fit only necessary things in the covered wagons.* Print the gist, or main-idea statement, on the board.

AFTER READING: Wrap Up

Pointing to this heading on the CSR Strategies teaching chart, explain to students that after reading they will wrap up. Tell them that Wrap Up has two parts: asking and answering questions and reviewing what they have learned.

ASK AND ANSWER QUESTIONS Pointing to this heading on the teaching chart, say: *When you ask and answer questions, you think about the kinds of questions a teacher might ask on a test. I'm going to model by generating questions about what we just read. Focusing on the ideas in my main-idea statements, or gists, I'll begin each question with* who, what, when, where, why, *or* how. *I'll make sure that the answers to my questions reflect three different types of QAR: Right There, Think and Search, and Author and Me. Here are my questions.* Print the questions shown below on the board. Then read aloud each question and provide the answer. Ask students to identify the type of QAR.

Question	Answer	QAR
Who explored the territory west of the Mississippi in the early 1800s?	Lewis and Clark	Right There
What did the pioneers leave behind?	They left behind personal belongings, comforts of home, special treasures, and family and friends.	Think and Search
Why do you think people were willing to pack up and head west?	They thought they would get rich.	Author and Me

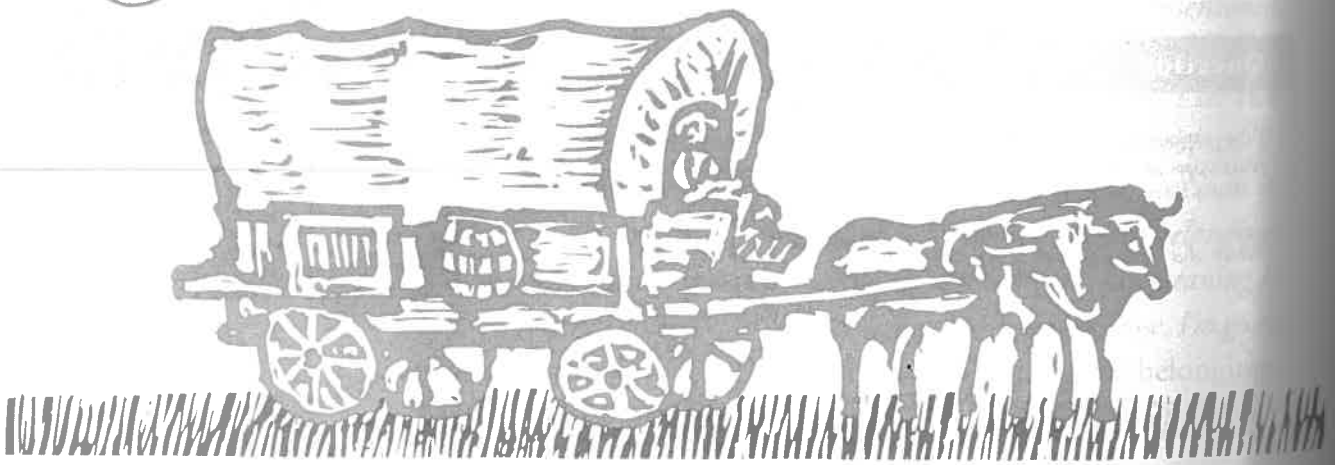


REVIEW WHAT YOU LEARNED Pointing to this heading on the teaching chart, say: *In the second part of Wrap Up, you review by noting the important information that you learned. To review, it helps to first go back to the lists of brainstorms and predictions you made in Preview and confirm or revise them.* Pointing to these lists on the board, say: *Both of my brainstorms and both of my predictions were confirmed in the text. I predicted that I would learn what the journey was like for the pioneers, specifically about how and what they packed. From the text, I learned that it was a long journey and that the pioneers could pack only the essentials that would fit in the wagon.*

Say: *I also learned other information, so now I'm going to jot down my review. I learned that people knew about the West from Lewis and Clark. After gold was discovered in California in 1848, thousands of pioneers crossed the Oregon Trail in covered wagons in search of a new life. The Oregon Trail was thousands of miles long and took several months to cross. The pioneers could bring with them only what was necessary to survive.*

Guided Practice

Continue displaying the CSR Strategies teaching chart. Tell students that you are going to guide them in applying CSR strategies as they read the next two sections of the selection.



Wagons Ho!

Pioneers gathered at starting points between Independence, Missouri, and Council Bluffs, Iowa, to join up with wagon trains heading west. It was safest to travel with ten to fifteen wagons in a group. Wagon trains did not set out until there was enough grass growing on the prairie to feed the animals along the way. At the same time, they could not wait too long. The wagons had to get over the mountains before it started to snow.

A wagon train on the move could be one mile long and one mile wide. Bumping along inside a cramped wagon was a hard and uncomfortable way to travel. Pioneers often trudged beside the wagons instead. Consequently, most people walked slowly all the way to Oregon—nearly two thousand miles.

As the pioneers headed west, they watched for famous landmarks along the way. Some of the landmarks showed how far the pioneers had traveled. Others were especially steep mountain passes or dangerous rivers that had to be crossed. Others were forts where the pioneers could get news and supplies.

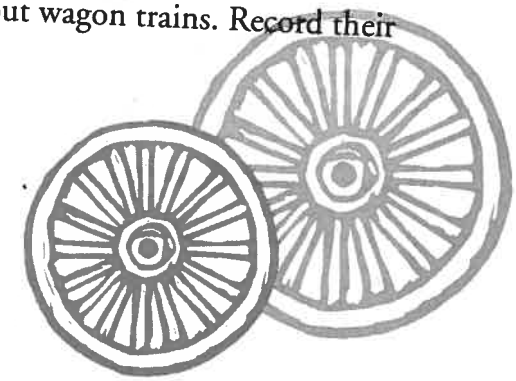
BEFORE READING: Preview

Remind students that good readers preview a selection before reading it. Ask: *What are the parts of the Preview strategy?* (scanning the text, brainstorming what you already know about the topic, and predicting what you will learn)

SCAN Remind students that the topic of the selection is pioneers on the Oregon Trail. Then ask them to scan the next two sections of the selection. Ask: *What graphic features do you see on the next two pages?* (sidebar list of supplies, boldface subtitle "Wagons Ho!," a map showing the landmarks on the Oregon trail, numbered callouts explaining the landmarks on the map, pictures of a covered wagon pulled by oxen and wagon wheels)

BRAINSTORM WHAT YOU KNOW Ask: *What do you do during brainstorming?* (You think of what you already know about the topic.) Have students use what they saw while scanning the text to brainstorm what they already know about the topic; for example, they might be familiar with one of the landmarks on the Oregon Trail. Record their ideas on the board.

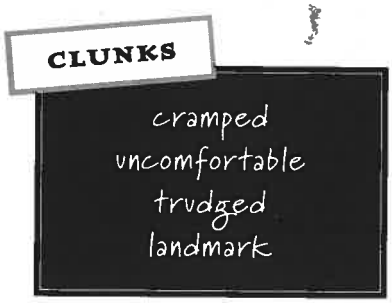
PREDICT WHAT YOU WILL LEARN Ask: *What is a prediction?* (It is an educated guess based on clues in the text and what you already know about the topic.) Have students use what they saw while scanning the text and what they already know about the topic to make a prediction about what they might learn by reading the section; for example, they might predict that they will learn all about wagon trains. Record their predictions on the board.



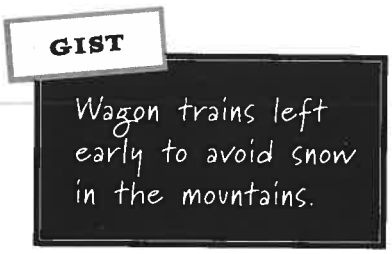
DURING READING: Click and Clunk • Get the Gist

Pointing to the CSR Strategies teaching chart, ask: *What CSR strategies do you use during reading?* (Click and Clunk and Get the Gist)

CLICK AND CLUNK Ask: *What does it mean when reading clicks?* (You understand everything.) Ask: *What does it mean when reading clunks?* (You do not understand the meaning of something.) Say: *I'm going to read aloud the first paragraph of "Wagons Ho!" Write down any clunks on a piece of paper, and we will talk about them after I finish reading.* Read the paragraph aloud. Then ask: *Are there any clunks about what I just read?* (no) *Is everything clicking?* (yes) Now read aloud the next two paragraphs. Then ask: *Do you have any clunks about what I just read?* (Possible responses: *I don't know the meaning of* cramped, uncomfortable, *and* trudged. *I'm not sure what a* landmark *is.*) Ask: *What can we do to figure out a clunk?* (Use a fix-up strategy, such as The Vocabulary Strategy.) Have students apply the steps of The Vocabulary Strategy.



GET THE GIST Say: *In CSR, you get the gist after reading each paragraph or section of text.* Ask: *What do you do to get the gist?* (shrink a paragraph into a gist, or main-idea statement, of 10 words or less) Say: *Let's follow the steps of paragraph shrinking to get the gist of the first paragraph of "Wagons Ho!"* Ask: *Who or what is the paragraph mostly about?* (Possible response: *wagon trains*) *Print* wagon trains *on the board.* Ask: *What is the most important information about the wagon trains?* (Possible response: *They had to set out early enough so they could get over the mountains before it started to snow.*) Print the information on the board. Ask: *Who can shrink this information into a gist of 10 words or less?* (Possible response: *Wagon trains had to set out early enough so they could get over the mountains before it started to snow.*) Print the gist on the board. Ask: *How many words in this gist?* (19 words) Say: *That's too many words. Shrink it.* (Possible response: *Wagon trains left early to avoid snow in the mountains.*)



Follow the same procedure for the next two paragraphs. Possible gists, or main-idea statements, include the following:

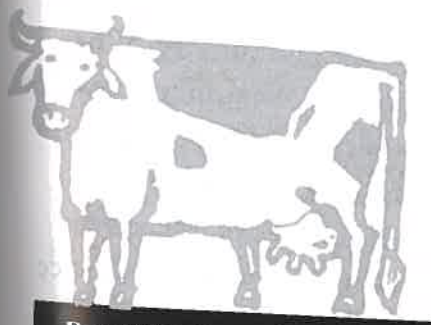
"Wagons Ho!"

- Paragraph 1: Pioneers often walked the trail to avoid the uncomfortable ride.
- Paragraph 2: Famous landmarks on the trail helped the pioneers during their journey.

AFTER READING: Wrap Up

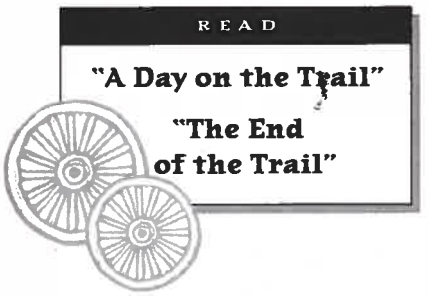
Remind students that after reading a whole selection or section of text, they will wrap up. Ask: *What are the two parts of the Wrap Up strategy?* (asking and answering questions, reviewing what you've learned)

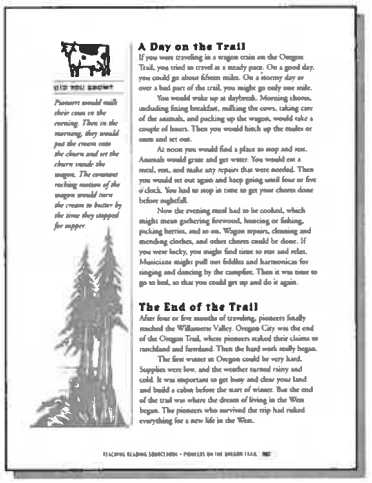
ASK AND ANSWER QUESTIONS Remind students that the first thing they should do when they wrap up is to think of questions a teacher might ask on a test. Then have them develop questions about the section of text. To guide students, ask: *What words should your questions begin with?* (who, what, when, where, why, or how) *What types of QAR?* (Right There, Think and Search, and Author and Me) After each question is generated, print it on the board. Then call on a student to answer it, label the question type, and explain the reason for the label.



Possible Question	Answer	QAR
How big was a wagon train?	A wagon train could be one mile long and one mile wide.	Right There
What was important about the timing of the trip?	They couldn't leave until there was enough grass growing to feed the animals. They had to get there before it started to snow.	Think and Search
What do you think would be the most challenging landmark on the Trail? Why?	Laurel Hill, because their covered wagons could be destroyed and they were almost at the end.	Author and Me

REVIEW WHAT YOU LEARNED Remind students that when they review, they jot down the important information that they learned. Then lead students in writing a list of important information they learned by reading this section of text. (Possible responses: *For safety, wagons traveled in big groups, called trains. Timing of the trip was very important because the animals needed to graze. The trip was long and uncomfortable, and many people walked. Landmarks were important in guiding and supporting the journey.*)




A Day on the Trail

If you were traveling in a wagon train on the Oregon Trail, you tried to travel at a steady pace. On a good day, you could go about fifteen miles. On a stormy day or over a bad part of the trail, you might go only one mile.

You would wake up at daybreak. Morning chores, including fixing breakfast, milking the cows, taking care of the animals, and packing up the wagon, would take a couple of hours. Then you would hitch up the mules or oxen and set out.

At noon you would find a place to stop and rest. Animals would graze and get water. You would eat a meal, rest, and make any repairs that were needed. Then you would set out again and keep going until four or five o'clock. You had to stop in time to get your chores done before nightfall.

Now the evening meal had to be cooked, which might mean gathering firewood, hunting or fishing, picking berries, and so on. Wagon repairs, cleaning and mending clothes, and other chores could be done. If you were lucky, you might find time to rest and relax. Musicians might pull out fiddles and harmonicas for singing and dancing by the campfire. Then it was time to go to bed, so that you could get up and do it again.

The End of the Trail

After four or five months of traveling, pioneers finally reached the Willamette Valley. Oregon City was the end of the Oregon Trail, where pioneers staked their claims to ranchland and farmland. Then the hard work really began.

The first winter in Oregon could be very hard. Supplies were low, and the weather turned rainy and cold. It was important to get busy and clear your land and build a cabin before the start of winter. But the end of the trail was where the dream of living in the West began. The pioneers who survived the trip had risked everything for a new life in the West.

Partner Practice

BEFORE READING: Preview

Have pairs of students construct a preview of the last page of the selection, "A Day on the Trail" and "The End of the Trail." Remind them to first scan the text, then brainstorm and write down what they know about the topic, and finally write down their predictions about what they might learn. For example, after scanning the text, students might notice the headings, sidebar text, and the pictures of the cow and the tree. When brainstorming, students might connect to what they know about camping in the wilderness. Students might predict that they will learn about the daily routines of the pioneers and about what it was like for the pioneers once they reached the end of the trail. Circulate among students, providing assistance as needed.

DURING READING: Click and Clunk • Get the Gist

CLICK AND CLUNK Have pairs of students read the last page of the selection aloud, a paragraph at a time. After reading a paragraph, have them identify any clunks and then use fix-up strategies, such as The Vocabulary Strategy, to figure out what the clunks mean. Possible clunks include the words *pace* (the speed at which something moves or happens), *daybreak* (the time when light first appears in the sky at the beginning

of the day, dawn), and *nightfall* (the time when it becomes dark and night begins, dusk), and the idiom *staked their claims* (to announce that something belongs to you, or literally to mark with posts a piece of land belonging to the government that you claim for yourself).

GET THE GIST After figuring out the clunks for a paragraph, have students follow the Paragraph Shrinking Steps to get the gist, or develop a main-idea statement, about the same paragraph. Possible gists, or main-idea statements, include the following:

"A Day on the Trail"

- Paragraph 1: A wagon train tried to travel at a steady pace.
- Paragraph 2: In the morning, pioneers got ready to set out.
- Paragraph 3: At noon, pioneers ate, rested, fed animals, and made repairs.
- Paragraph 4: In the evening, pioneers gathered food, did chores, and relaxed.

"The End of the Trail"

- Paragraph 1: Pioneers staked their claim at the end of the trail in Oregon City.
- Paragraph 2: Surviving the first winter in Oregon required hard work.

AFTER READING: Wrap Up

Have students work in pairs to wrap up the section. Give them some time to generate teacher-like questions. When they are finished, call on different students to ask their questions and call on other students to answer them. Student responses should include answering the question, labeling the question type, and explaining why the label is appropriate. Questions might include: What kinds of things did the pioneers do on a typical day on the trail? How many miles could the pioneers travel in a single day? Why was it important to get chores done before nightfall? How long did it take the pioneers to reach the

end of the trail? Why did hard work begin at the end of the trail? To review, have pairs of students confirm or adapt their list of brainstorms and predictions and jot down the most important ideas they learned from reading. Call on students to share what they learned. Circulate among students, providing assistance as needed.

Cooperative Practice: Read a New Selection

Once students are proficient in using CSR with the support of the teacher, they implement the strategies while working in heterogeneous cooperative learning groups. In these groups, students assist one another in the comprehension of the text (Klinger et al. 2007). Different student roles include (Klingner et al. 2001):

Leader
Clunk Expert
Gist Expert
Announcer
Encourager

- Leader: Guides the group by saying what to read next and what strategy to apply next.
- Clunk Expert: Reminds the group of the steps to follow when trying to figure out a clunk.
- Gist Expert: Guides the group in developing a gist, or main-idea statement.
- Announcer: Asks different group members to read or share an idea. Makes sure that all members of the group participate.
- Encourager: Watches the group and gives positive feedback. Evaluates how well the group works together.

LESSON MODEL FOR

Directed Discussion

Benchmarks

- ability to focus on text content through teacher-directed discussions
- ability to engage in discussions to grapple with text meaning
- ability to recognize the intentions, biases, and fallibility of authors
- ability to recognize that poor comprehension may be due to poorly written text

Strategy Grade Level

- Grade 3 and above

Grouping

- whole class
- small group

Sample Text (Resources)

- "The Greenhouse Effect" Complexity Level: Grades 6–8

Materials

- copies of "The Greenhouse Effect"

Source

- *Improving Comprehension with Questioning the Author* (2006) by Isabel L. Beck and Margaret G. McKeown. New York: Scholastic.

QtA (Questioning the Author)

Developed by Isabel Beck and Margaret McKeown (Beck et al. 1997; Beck and McKeown 2006), QtA is a directed-discussion approach designed to build students' understanding of text ideas. Discussion is at the heart of QtA. In QtA, teacher-posed questions, or Queries, are the main instructional tool for discussion, supported by Discussion Moves that help orchestrate student participation and development of ideas.

This sample lesson model provides an overview of and sample script for the QtA approach. In this lesson model, sample text is used to represent a selection at students' independent reading level. The same model can be adapted and used to enhance comprehension instruction for literary or informational text in any commercial reading or content-area program—as long as the text is at the appropriate level.

Planning

QtA lesson planning has three goals: (1) to identify the major understandings and potential obstacles in the text, (2) to segment the text, or determine where to stop reading and initiate discussion, and (3) to develop Initiating Queries and potential Follow-Up Queries (Beck and McKeown 2006).

QtA Queries

QtA Queries are teacher questions designed to assist students in dealing with, and grasping, text ideas as students encounter them. They are intended to support students in building an understanding of major text ideas, and to help them discover the difference between knowing what an author says and inferring what an author means. There are two types of Queries: Initiating Queries and Follow-Up Queries. An Initiating Query is an open-ended question designed to start a discussion about

a segment of text. A Follow-Up Query is a more detailed question developed during the lesson, in response to the discussion as it unfolds. Incorporating students' responses or specific terms from the text, Follow-Up Queries are designed to help focus the content and direction of a discussion. Such queries assist students in integrating and connecting ideas to build meaning.

QtA Queries

Type	Purposes	Examples
INITIATING QUERIES open a discussion or set it in motion.	• To make public the messages or ideas presented by an author • To draw attention to important text ideas • To remind students that important text ideas are written by an author	• What is the author trying to say here? • What do you think the author wants us to know? • What is the author talking about? • What is the important message in this section? • What big idea do you think the author is trying to tell us about? • With all that, what do you think the author wanted us to know? • What has the author just told us?
FOLLOW-UP QUERIES move a discussion along and guide students along productive lines of thought.	• To encourage students to consider the ideas behind an author's words	• So what does the author mean? • That's what the author said, but what does the author mean? • Does the author explain this clearly?
	• To guide students to relate information from different parts of a text • To connect to ideas that have been learned or read previously • To see that a connection or linking piece of information may be missing from the text	• Does that make sense with what the author told us before? • How does that fit with what the author told us before? • How does this connect to what the author told us here?
	• To help students figure out an author's possible reasons for including certain information	• Does the author tell us why? • Why do you think the author tells us that now?

Based on Beck and McKeown 2006.

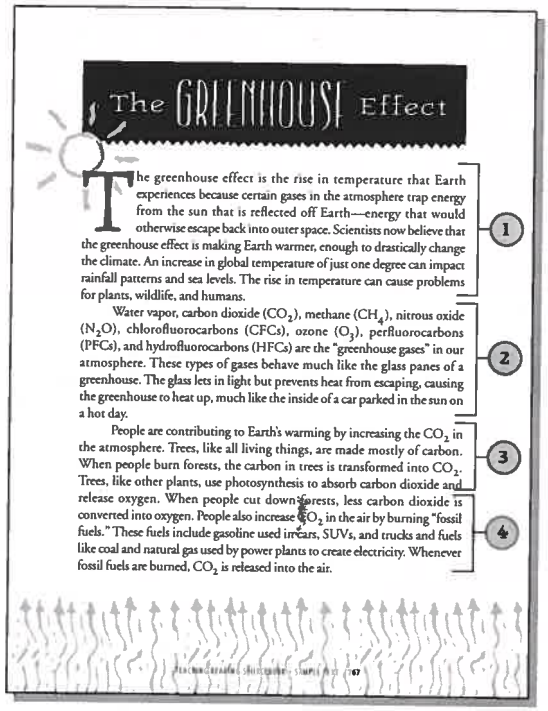
QtA Discussion Moves

There are six basic types of QtA Discussion Moves, or tools a teacher can use to manage discussion. Marking, Turning-Back, and Revoicing are moves that productively use what students offer during a discussion. Recapping, Modeling, and Annotating are moves that involve the teacher stepping into the discussion in a more direct way (Beck et al. 1997).

QtA Discussion Moves

Move	Description	Example from Sample Script
MARKING	Drawing attention to an idea to emphasize its importance and to use it as a basis for further discussion	Oh, I think I get it now. Amira thinks the gases are thick, and Sophie says the gases trap the heat.
TURNING-BACK ...to Students	Turning responsibility back to students for thinking through and figuring out ideas	And what do the gases do? Can anyone say more about that?
...to Text	Turning students' attention back to the text as a source for clarifying thinking and keeping discussion on track	It seems that specific effects aren't the author's focus here. Let's read further to see what direction the author will take.
REVOICING	Interpreting what students are struggling to express so their ideas can become part of the discussion	So, Noah is suggesting that the author is trying to persuade people to stop destroying forests.
RECAPPING	Reviewing or highlighting major ideas and understandings developed so far	So destroying forests and burning fossil fuels are two ways people add to the amount of carbon dioxide in the atmosphere.
MODELING	"Making public" the processes in which readers engage in the course of reading	As a reader, I can visualize that—I'm picturing a big thick cloud of gases around Earth.
ANNOTATING	Providing information to fill in gaps or point out sources of confusion in a text	I know that fossil fuels are formed from the remains, or fossils, of plants and animals.

Based on Beck and McKeown 2006.



The Greenhouse Effect

The greenhouse effect is the rise in temperature that Earth experiences because certain gases in the atmosphere trap energy from the sun that is reflected off Earth—energy that would otherwise escape back into outer space. Scientists now believe that the greenhouse effect is making Earth warmer, enough to drastically change the climate. An increase in global temperature of just one degree can impact rainfall patterns and sea levels. The rise in temperature can cause problems for plants, wildlife, and humans. 1

Water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), ozone (O_3), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) are the "greenhouse gases" in our atmosphere. These types of gases behave much like the glass panes of a greenhouse. The glass lets in light but prevents heat from escaping, causing the greenhouse to heat up, much like the inside of a car parked in the sun on a hot day. 2

People are contributing to Earth's warming by increasing the CO_2 in the atmosphere. Trees, like all living things, are made mostly of carbon. When people burn forests, the carbon in trees is transformed into CO_2. Trees, like other plants, use photosynthesis to absorb carbon dioxide and release oxygen. When people cut down forests, less carbon dioxide is converted into oxygen. People also increase CO_2 in the air by burning "fossil fuels." These fuels include gasoline used in cars, SUVs, and trucks and fuels like coal and natural gas used by power plants to create electricity. Whenever fossil fuels are burned, CO_2 is released into the air. 3 4

QtA in Action: A Sample Script

This sample script illustrates what a QtA lesson might actually look like in action. In the sample, the teacher reads aloud "The Greenhouse Effect" as students follow along on copies of the passage.

1 *Teacher reads aloud the first segment of text.*

MRS. E.: What big idea do you think the author is trying to tell us about? (Initiating Query)

AARON: The greenhouse effect.

MRS. E.: So, this paragraph describes the greenhouse effect. (Marking) Does the author explain it clearly? (Follow-Up Query)

AMIRA: I had trouble understanding the first sentence.

MRS. E.: Yes, the author's first sentence is pretty long, which makes it confusing. (Annotating) It helped me to break the sentence into parts and look at each idea. (Modeling) Why don't we try that? What are all the ideas the author presents in this one sentence? (Turning-Back to Students)

SOPHIE: The greenhouse effect is the rise in temperature that Earth experiences.

MIA: The greenhouse effect happens because certain gases in the atmosphere trap energy from the sun.

MRS. E.: So, to make the connection that the trapped energy is creating the rise in temperature, I had to know that heat is a form of energy. (Annotating) What else is the author telling us in that sentence? (Follow-Up Query)

NOAH: The energy from the sun is reflected off Earth.

MRS. E.: And what does the author say about why the energy isn't escaping back to outer space? (Follow-Up Query)

AARON: Because it's being trapped.

MRS. E.: How? (Follow-Up Query)

MIA: By the gases.

MRS. E.: So the author tells us that the greenhouse effect is making Earth warmer. (Recapping) What does the author tell us about the impact of this? (Follow-Up Query)

AMIRA: It's changing the climate.

SOPHIE: It's bad for plants, wildlife, and humans.

MRS. E.: The author says, "The rise in temperature can cause problems for plants, wildlife, and humans," but what does the author mean? (Follow-Up Query)

NOAH: A warmer temperature could affect the health of living things.

MRS. E.: Does the author tell us how? (Turning-Back to Text)

NOAH: Not really. The author only says that it causes problems.

MRS. E.: So the author doesn't give us specific information about the problems. (Annotating) I can use what I know about how heat affects living things. I know that my plants wilt when it gets too hot. (Modeling)

AMIRA: I get really lazy when it's too hot.

MRS. E.: The text tells us that the greenhouse effect might cause problems for living things but doesn't go into specifics. It seems that specific effects aren't the author's focus here. Let's read further to see what direction the author will take. (Turning-Back to Text)

2 *Teacher reads aloud the next segment of text.*

MRS. E.: What has the author just told us? (Initiating Query)

MIA: What the greenhouse gases are.

SOPHIE: And what they do.

MRS. E.: And what do the gases do? Can anyone say more about that? (Turning-Back to Students)

AMIRA: They make the greenhouse effect.

MRS. E.: Does the author explain how the greenhouse effect got its name? (Follow-Up Query)

MIA: Because it works like a greenhouse.

MRS. E.: And what does the text say about how a greenhouse works? (Turning-Back to Text)

AARON: The glass traps the heat.

MRS. E.: So in a greenhouse, the glass traps the heat. (Marking) But I'm still confused about what that has to do with this list of gases. Sophie, what do you think? (Turning-Back to Students)

SOPHIE: The gases trap the heat.

MRS. E.: How do you think the gases do that? (Turning-Back to Students)

AMIRA: The gases must be thick, like a wall.

MRS. E.: Oh, I think I get it now. Amira thinks the gases are thick, and Sophie says the gases trap the heat. (Marking) As a reader, I can visualize that—I'm picturing a thick cloud of gases around Earth. (Modeling) The cloud of gases is so thick that it can trap heat, like when all the windows of a car are closed on a hot day. (Recapping)

AARON: Hey, we always put a sunshield over the windshield of our car to keep it cool inside. The shield reflects the heat from the sun. Why can't we put a sunshield around Earth to keep it from getting too hot?

NOAH: But how would you keep Earth from getting too cold?

MRS. E.: Aaron got us thinking of potential solutions for the greenhouse effect. I think there's a career in that somewhere, Aaron. (Revoicing) Maybe reading the rest of the passage will help us to brainstorm more ideas for reducing the greenhouse effect. (Turning-Back to Text)

3 *Teacher reads aloud the next segment of text.*

MRS. E.: With all that, what do you think the author wants us to know? (Initiating Query)

AMIRA: People are making the situation worse.

MRS. E.: Wow! So, before, Aaron had an idea about how people could reduce the greenhouse effect, and now Amira says the author is telling us what people are doing that could *increase* the greenhouse effect. (Revoicing, Recapping) What, specifically, does the author say people are doing? (Turning-Back to Text)

MIA: Cutting down forests.

SOPHIE: And burning them.

MRS. E.: What does the author say happens when people burn trees? (Follow-Up Query)

AARON: The carbon in the trees is turned into carbon dioxide.

MRS. E.: And then what happens to that carbon dioxide? (Follow-Up Query)

NOAH: It goes into the atmosphere.

MRS. E.: Okay, so I get that burning trees produces carbon dioxide, which goes into the atmosphere. But then in the next sentence, the author says that trees *absorb* carbon dioxide. Does the author explain this clearly? (Follow-Up Query) How can trees do both things—produce and absorb?

MIA: Well, the author says that during photosynthesis trees absorb carbon dioxide and release oxygen.

AMIRA: But burning trees produce carbon dioxide.

MRS. E.: So, what happens when trees are cut down for logs? (Follow-Up Query)

MIA: There's fewer of them to absorb carbon dioxide.

SOPHIE: So the carbon dioxide goes into the atmosphere.

MRS. E.: And then what? (Follow-Up Query)

AARON: It adds to the amount of greenhouse gases.

MRS. E.: So let's make sure we got this straight. The author is trying to say that if we cut trees down, they can't absorb carbon dioxide from the atmosphere. And when we burn trees, the fire creates even more carbon dioxide. (Recapping) Why do you think the author is telling us this? (Follow-Up Query)

NOAH: So we will stop cutting and burning trees.

MRS. E.: So, Noah is suggesting that the author is trying to persuade people to stop destroying forests. (Revoicing) Let's see what the author tells us in the rest of this paragraph. (Turning-Back to Text)

4 *Teacher reads aloud the last segment of text.*

MRS. E.: What is the important message in this section? (Initiating Query)

SOPHIE: Don't drive cars.

MRS. E.: So, Sophie thinks the author is trying to persuade people to reduce their driving. (Revoicing) Why would that be important, Mia? (Turning-Back to Students)

MIA: Because cars use gas.

MRS. E.: What does the author tell us about gas and coal? (Follow-Up Query)

AARON: They are fossil fuels.

MRS. E.: Fossil fuels. I know that fossil fuels are formed from the remains, or fossils, of plants and animals. (Annotating) How does the author's information about fossil fuels connect to what we read about the trees? (Follow-Up Query)

AMIRA: When people burn fossil fuels, carbon dioxide is released, just like when they burn trees.

MRS. E.: So destroying forests and burning fossil fuels are two ways people add to the amount of carbon dioxide in the atmosphere. (Recapping) And what does all of this have to do with the greenhouse effect, again? (Turning-Back to Text)

SOPHIE: Carbon dioxide is one of the greenhouse gases.

AARON: That's what's causing global warming.

MRS. E.: So, the author describes ways people are increasing the greenhouse effect, which Aaron points out is also referred to as global warming. (Marking) What do you think the author wants us to take away from all of this? (Follow-Up Query)

NOAH: As I said before, stop cutting down trees.

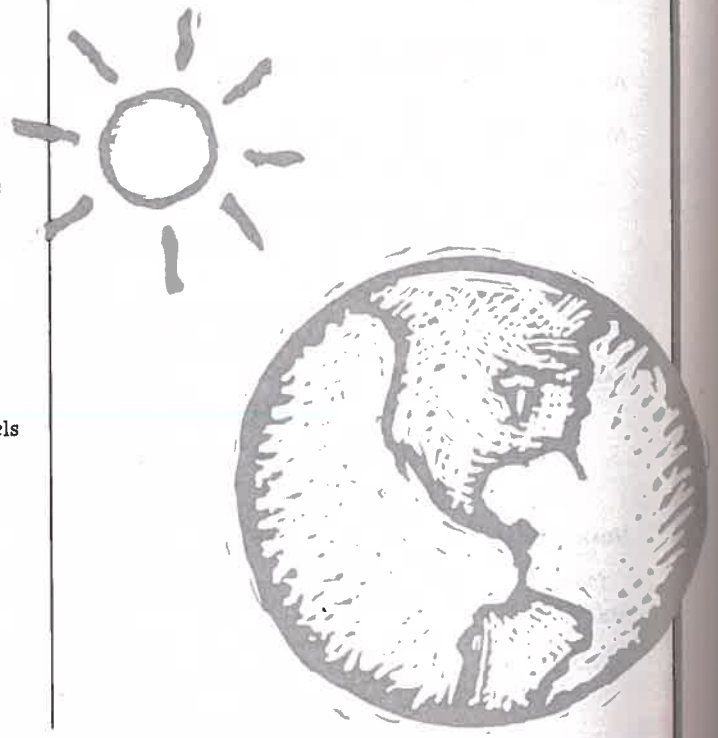
MRS. E.: So, Noah thinks one purpose might be to persuade or call people to action. (Marking) What do the rest of you think?

AMIRA: I think the author hints at that but doesn't give any real suggestions.

MRS. E.: So, Amira suggests that persuasion might be the author's secondary purpose. What do you think the author's primary purpose is? Mia? (Turning-Back to Students)

MIA: Well, mostly, the author explains the greenhouse effect.

MRS. E.: Right, the text's primary purpose is to inform us about the greenhouse effect. But the author also shows a bit of bias on the topic—there's some persuading going on here, too. (Recapping) I think the author would approve if we spent the last few minutes brainstorming more ideas for reducing the greenhouse effect, like Aaron's idea about the giant sunshield.



LESSON MODEL FOR

Integrated Content-Area Reading

Benchmarks

- ability to apply multiple comprehension strategies
- ability to gain conceptual understanding from content-area texts
- motivation to read independently and engagement with text

Strategy Grade Level

- Grade 3 and above

Grouping

- whole class
- small group or pairs
- individual

Materials

- none

Source

- www.corilearning.com

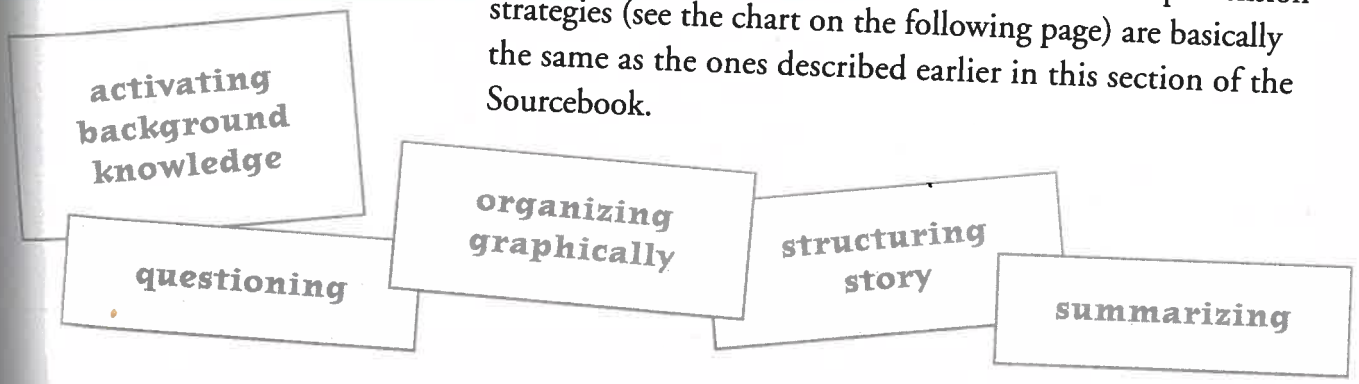
CORI (Concept-Oriented Reading Instruction)

Concept-Oriented Reading Instruction (CORI) is a program designed by John Guthrie and Allan Wigfield to incorporate reading strategy instruction with inquiry science—a theme-based integrated approach in which motivational practices provide the framework (Guthrie 2005–6). In CORI, science instruction is paired with the strategic reading of informational and literary texts, supported through student writing. The objectives of CORI are to increase students' reading comprehension, science knowledge, and motivation to read independently (McPeake and Guthrie 2007; Guthrie 2005–6).

This sample lesson model gives an overview of the CORI framework. The same approach can be adapted and used to enhance comprehension instruction tied to content-area reading, especially science. More detailed information is available on the CORI website.

Comprehension Strategy Instruction

In CORI, explicit comprehension strategy instruction is embedded in science content. CORI comprehension strategies include activating background knowledge, questioning, organizing graphically, structuring story, and summarizing. CORI also includes an inquiry strategy used for seeking and finding specific information in both print and electronic texts. Although they may be called by different names, CORI comprehension strategies (see the chart on the following page) are basically the same as the ones described earlier in this section of the Sourcebook.



CORI: Comprehension Strategies	
CORI Strategy Name	**Sourcebook Cross-References**
Activating Background Knowledge	Connecting to World Knowledge, pp. 618, 689 Predicting, pp. 619, 689
Questioning	Asking Questions/Elaborative Interrogation, pp. 620, 690 Answering Questions/QAR, pp. 620, 691 Lesson Model: QAR (Question-Answer Relationships), p. 702
Organizing Graphically	Graphic Organizers, p. 684 Lesson Model: Semantic Map, p. 470 Lesson Model: Semantic Feature Analysis, p. 474 Lesson Model: Concept of Definition Map, p. 516
Structuring Story	Story Structure, p. 634 Recognizing Story Structure, p. 636 Lesson Model: Story Structure, p. 651
Summarizing	Summarizing, pp. 622, 693 Lesson Model: Strategies for Summarizing, p. 711

Science Learning Goals

In CORI, science learning is achieved through the integration of the reading and science curricula. The goals for science learning fall into two categories: process goals and content goals.

CORI: Science Goals		
Goal	**Purpose**	**Examples**
SCIENCE PROCESS	To develop skills needed to effectively observe scientific phenomena, ask relevant and informed questions, gather and compare appropriate information, and formulate an informed assessment of scientific concepts	Observe, analyze, synthesize, and compare and contrast scientific observations
SCIENCE CONTENT	To develop deep knowledge of science content	Survival of birds Hidden worlds of the woodland

Based on McPeake and Guthrie 2007.

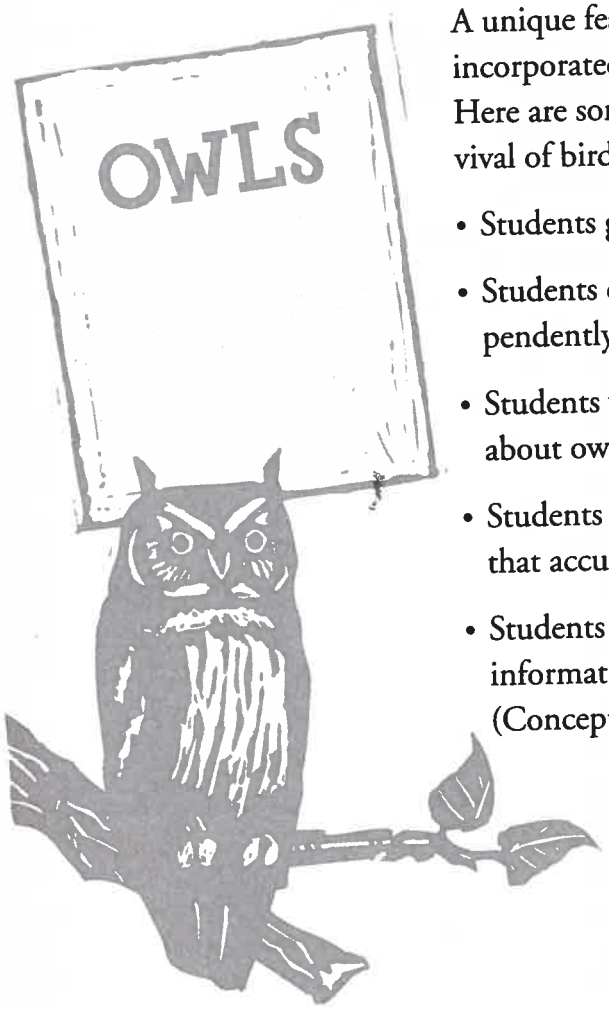
Support for Motivation

A fundamental goal of CORI is to increase students' reading engagement and motivation to read. This is achieved through teaching practices that emphasize interest, ownership, social interaction, confidence, and content mastery. Motivational practices provide the framework for daily instruction.

CORI: Motivational Practices

Practice	Purpose	Examples
RELEVANCE Providing real-world purposes for reading by connecting to students' direct or recalled experience and background knowledge	To increase students' intrinsic motivation to read through interest-building activities	• Observational instruction • Hands-on instruction
CHOICE Providing an autonomy-supportive environment in which control of instruction and learning is shared between teacher and students	To afford students opportunities to take ownership over their reading and to pursue their own interests	• Students selecting high-interest texts • Students giving input on topics of study • Students selecting partners or groups • Students determining options for expressing or demonstrating learning
COLLABORATION Providing opportunities for social interaction during instruction	To generate enthusiasm for the text and its content	• Having students work in pairs or small groups • Encouraging students to exchange ideas with peers • Encouraging students to share what they are learning
SUCCESS Assuring proficient performance of instructional tasks	To build students' confidence in their capacity to comprehend content-area text	• Setting realistic instructional goals • Matching texts to students' independent reading level • Providing a wide variety of theme-based texts • Making students aware of their content knowledge expertise • Making students aware of their strategy use • Sharing students' successes and achievements • Providing positive feedback and encouragement
CONCEPTUAL THEME Providing integrated, theme-based instruction	To offer an instructional context in which students are reading for deep understanding of content	• Directly stating content theme • Relating concepts to each other • Connecting reading to concepts • Creating graphic organizers about concepts • Providing both literary and informational texts related to the theme

Based on McPeake and Guthrie 2007.



Motivational Practices in Action

A unique feature of CORI is that motivational practices are incorporated into and drive each phase of daily instruction. Here are some examples from a theme-based unit on the survival of birds (McPeake and Guthrie 2007).

- Students go on a habitat walk to observe birds. (Relevance)
- Students chose a theme-related narrative book to read independently, such as *White Bird* (Bulla 1990). (Choice)
- Students work in pairs to generate and answer questions about owls. (Collaboration)
- Students praise each other for successfully creating a poster that accurately shows how birds live. (Success)
- Students make a graphic organizer about owls, based on information they read in a chapter of a book about owls. (Conceptual Theme)