

## TEACHING NOTES

**Book title:** Managing Water

**Series:** Why Science Matters

*How much fresh water is there on Earth? What is a LifeStraw? Can science help us use water more efficiently? In Managing Water, we find out about the most vital resource on Earth and how it shapes our landscape. We learn about the importance of water as a solvent, how the power of flowing water can be harnessed to provide us with energy, how drinking water is cleaned, and how sewage is treated. We also investigate the new technologies to combat water shortages around the world.*



### **Text Structure:** Compare and Contrast

Call students' attention to page 14. Clarify that the two paragraphs on page 14 discuss the different states of water. Explain that a compare-and-contrast text structure is used here. With this text structure, the author shows how the three states of water are alike and different. Model how to identify similarities and differences by example.

**Think Aloud:**

“All three states of water contain the exact same molecules. This is a similarity between all three states. When water is ice and liquid water, the molecules are close together. When water is in water vapor form, the molecules are far apart.”

Ask students to use their knowledge about compare and contrast text structures to find more sections like it in the book.



### **Text Feature:** Charts

Have students read page 18. Explain that charts give readers a visual understanding of the content on the page or provide extra information that may not be in the text. Then ask them to study the three different bar charts. Explain that this type of chart is called a bar chart because of what it contains—it is a chart with different sized bars to measure and compare various data. These bar charts also contain a line to indicate temperature. This page includes a text box that points to the bar charts. Ask students to interpret the charts by answering these questions:

What information do the charts give? (*the amount of rainfall in the tropical, polar, and temperate climates*)

Which region has the most amount of rainfall? (*Tropical*)

Which region has the most dynamic amount of rainfall? (*Tropical*)

Then discuss which information was new to students and which information confirmed their previous ideas about rainfall.



### **Comprehension Strategy:** Using Background Knowledge



Explain that using background knowledge means connecting to personal experience from life and from past learning in order to fully understand a text. Using background knowledge will enable students to become more engaged in reading and processing a new text. Before reading the section starting on page 36 called *Water Pollution*, have students use the reproducible graphic organizer to record what they already know about water pollution in the first column, titled “What I Know.” Then, to give their reading a purpose, have students generate questions about what they would like to learn about water pollution and possible solutions. Have students record these questions in the middle column, titled “What I Want to Know.” During or after reading, have students fill in the last column, “What I Learned.” For questions that the text did not answer, you might direct students to consult the resources listed on p. 52 under *Further Reading*.



### **Word Study:** Antonyms

Explain to students that *antonyms* are words that are opposites. Ask students to turn to page 13, and read aloud the introductory paragraph. Write the word *hard water* on the board. Have students state the meaning. Then, ask students to identify a word in the text that is the opposite of *hard water*, and state its meaning. (*soft water*) Explain that it is useful to understand this pair of opposites when learning about water and the minerals it might contain. After reading, have students locate other antonyms in the text, such as *erosion* (p. 28) and *deposition* (p. 28).



### **Writing and Responding:** Photo Caption

Have students draw a picture of the hydrological cycle and write a caption about their illustration. The caption should contain facts from the book about the water cycle, such as evaporation, melting, ground water, and rain. Display the captioned illustrations on a classroom bulletin board.

 Indicates a graphic organizer is linked to this activity.

NAME



**What I Know**

**What I Want to Know**

**What I Learned**