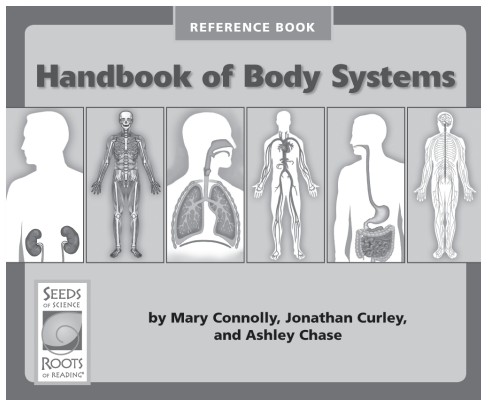


Searching for Information in Science Texts

with *Handbook of Body Systems*
from *Seeds of Science/Roots of Reading*[®]



Introduction

This strategy guide introduces an approach for teaching students how to search for information in text. The ability to search for information is particularly important in science, where students are often asked to locate specific information about particular topics. This guide includes an introductory section about the strategy of searching for information, a description of how to teach this strategy with many science texts, and a plan for teaching students how to search for information in science texts with the *Seeds of Science/Roots of Reading*[®] book *Handbook of Body Systems*.

Book Summary

A handbook is a reference book with contents organized into categories so readers can access information efficiently. *Handbook of Body Systems* contains a wealth of information about six important systems in the human body—the circulatory, digestive, musculo-skeletal, nervous, renal, and respiratory systems. In the book, each system has its own section with useful descriptions, tables, diagrams, and photographs. Readers can learn about the function and main parts of each system, how each system works, and common problems that can occur within or between each system's organs.

About This Book

Reading Level

Guided Reading Level*: Q

Key Vocabulary

function, interact, organ, structure, system

Text Features

bold print, captions, diagrams, glossary, headings/subheadings, illustrations, index, labels, photographs, table of contents, tables

*Guided Reading Levels based on the text characteristics from Fountas and Pinnell, *Matching Books to Readers*.

Science Background

A system can be defined as a group of parts that work together. The human body is one big system made of many smaller systems, including the circulatory, digestive, musculo-skeletal, nervous, renal, and respiratory systems. Each system performs a function that contributes to the needs of the whole organism. For example, the primary function of the digestive system is to absorb necessary nutrients and water from food. Each body system is made up of parts (organs) that work together, and each organ performs a vital bodily function. For example, the brain is the major organ in the nervous system, and it controls the flow of information throughout the body. Each body system needs all its organs to function properly. All body systems also interact with one another. Vessels of the circulatory system are connected to the small intestine of the digestive system and help move nutrients around the body. The heart pumps blood to the lungs, where the blood absorbs oxygen. The blood is then transported to other tissues of the body. Thinking of the human body as a system with interacting subsystems helps us to better understand how the entire human organism functions.

About Searching for Information in Science Texts

Searching for information is a useful reading-to-learn strategy. The strategy involves using text features to locate specific information in a text. Readers often use this strategy when they are researching or learning about a particular topic. Although this strategy can be used with any content-rich text, it is particularly useful when reading reference books. Readers do not usually read reference books from start to finish; instead, they skim appropriate sections of the text to find information related to a certain topic. As students use the strategy of searching for information, they gain practice in setting a purpose for reading and they also learn skills that are helpful when researching a topic for writing.

Teaching How to Search for Information in Science Texts

The following guidelines can be used to teach students how to search for specific information in any content-rich text.

- Identify a general topic of interest to your class (e.g., animals) and an appropriate text with which to demonstrate the use of the searching-for-information strategy.
- Point out that there are times when readers do not read books from beginning to end. Instead, readers strategically search for information. For example, when reading to answer a question or to gather information for a report, readers look for information that is most relevant to their topic.
- Brainstorm a few instances in which this strategy might be used. For example, a person might read about dog breeds before adopting a pet, or they might read about Jupiter before writing a school report. Guide students to understand that the strategies readers use are connected to their purpose for reading.
- Demonstrate the use of the strategy with the chosen text. For example, when reading a book about animals, choose a specific animal to research, such as birds. Think aloud about key words related to this animal (e.g., *wings* or *pelicans*) to use when searching for information about birds.

Steps for Searching for Information

1. Identify key words that relate to your topic.
 2. Use text features to find sections about your topic.
 3. Skim (read quickly) to look for key words related to your topic. If the information is useful, go on to Step #4. If it is not, try Step #2 again with another part of the text.
 4. Read the text carefully and make notes about what you want to remember.
- Model how to use text features to find specific information in the text. You could demonstrate how to use the table of contents to locate different sections of a book that might provide information about your topic. Or you could demonstrate how to use the index to look for an exact word or phrase. Depending on your students' familiarity with text features, you might choose to introduce and practice one or two text features at a time. Additional text features useful for this purpose include headings, bold print, and illustrations.
 - Introduce and model how to skim for information. Explain that skimming is moving your eyes quickly over the text without reading every word. Tell students that once they find a section of text that contains the information they want, they should slow down and read carefully. Model this by thinking aloud as you locate information about your topic in a text. Provide opportunities for students to practice skimming.
 - Review the strategy of searching for information in texts by creating a class chart that lists the steps. (See the box at the top of this page.) Students can also use the Searching for Information copymaster included with this guide to list the information for which they are searching, the page number(s) on which that information is located, and any notes about the topic that will help them remember the information.
 - Periodically revisit the strategy of searching for information in text. Students will become more efficient at finding information if they have ample opportunity to practice using this strategy with many content-rich texts.

Teaching How to Search for Information in Science Texts with *Handbook of Body Systems*

Getting Ready

Make a copy of the Searching for Information copymaster for each student.

During Class

1. Introduce *Handbook of Body Systems*. Explain that sometimes readers want to read a book from beginning to end, and other times they read certain sections to learn about a specific topic. When readers are searching for information, they focus only on the parts that contain the information they need.
2. Read the introduction on page 4 with the class. Explain that the introduction prepares the reader by telling what the book is about. Ask students to identify some of the information about different body systems they expect to find in this book. [The different functions, the parts in the system, the problems that can occur, page 4.]
3. Have students turn to the table of contents on page 3. Point out how this page can help students locate information. Ask students to locate the page number that begins the section about the digestive system. [Page 10.]
4. Have students turn to the index on page 32. Point out that the index has more entries than the table of contents because it tells where to find more specific information. For example, it tells on which page we would learn about *one part* of the digestive system. Ask students on which pages they would find information about the stomach. [Pages 10–12, 15, 31.]
5. Ask students to turn to pages 10–11. Point out that headings and illustrations are additional text features that can help readers find pages or sections of a text that describe a certain topic.
6. Explain that skimming is reading quickly, without reading every word, to locate information. Remind students that they used text features to find the section about the digestive system. Ask them if they can skim the section to find out what the stomach does. Demonstrate how to skim for this information

by locating the key word *stomach* on page 11. Note that the word *stomach* was easy to find because it is in bold print. Point out that bold print is another useful text feature.

7. Tell students that after they find a section that contains the information they want, they should slow down and read carefully. Explain that taking notes about the information they find is a way to remember what they read.
8. Distribute a Searching for Information student sheet to each student. Point out that the steps outlined at the top of the student sheet remind them of the procedure they have just learned.
9. Write the following question on the board: “What are the parts of the respiratory system?” Have students record this question in the “Information I am searching for” column.
10. Remind students to use the steps to search for information about the question you wrote on the board. Give them a few minutes to find the information and record the parts and appropriate page numbers. [Nose, mouth, trachea, diaphragm, lungs, pages 26–29.]
11. Have students practice searching for more information using the following questions: “What function does the heart perform?” [Pumps blood, page 6.] “What kind of tiny living things live in the digestive system?” [Bacteria, page 13.] “What system are bones a part of?” [Musculo-skeletal, page 14.]
12. Ask students to look for additional information about organs or body systems of their choice. When students have found and recorded their answers, discuss which steps they took to find each answer. Emphasize any text features that helped them find the information they were looking for.

Independent Extension

Have each student write down three new questions about a body part or system from *Handbook of Body Systems*. Have students exchange questions with a partner and then search for the answers. Ask students to verify their answers with their partners and explain how they were able to find the information using text features and skimming.

Name _____ Date _____

Searching for Information

Title of book: _____

1. Identify key words that relate to your topic.
2. Use text features to find sections about your topic.
3. Skim (read quickly) to look for key words related to your topic. If the information is useful, go on to Step #4. If it is not, try Step #2 again with another part of the text.
4. Read the text carefully and make notes about what you want to remember.

Information I am searching for	Page numbers	Notes

About Strategy Guides

A six-page strategy guide is available for each *Seeds of Science/Roots of Reading*® student book. These strategies support students in becoming better readers and writers. They help students read science texts with greater understanding, learn and use new vocabulary, and discuss important ideas about the natural world and the nature of science. Many of these strategies can be used with multiple titles in the *Seeds/Roots* series. For more information, as well as for additional instructional resources, visit the *Seeds/Roots* Web site (www.seedsofscience.org/strategyguides.html).

Available Student Books for Grades 3–4

Nine engaging student books are now available from *Digestion and Body Systems* and *Variation and Adaptation*, each with a corresponding strategy guide. The books are part of the *Seeds of Science/Roots of Reading*® curriculum program described on page 6. Eighteen student books from the remaining grade 3–4 units (*Weather and Water* and *Light Energy*) are currently in development and will be available in late 2009.

<i>Digestion and Body Systems</i>	
Strategy	Student Book
Analyzing Part-to-Whole Relationships	<i>Systems</i>
Teaching About the Nature and Practices of Science	<i>Secrets of the Stomach</i>
Teaching Process Description Writing	<i>Voyage of a Cracker</i>
Searching for Information in Science Texts	<i>Handbook of Body Systems</i>
Making Sense of Data in Science Texts	<i>What's the Diagnosis?</i>
<i>Variation and Adaptation</i>	
Strategy	Student Book
Teaching Scientific Comparison Writing	<i>Blue Whales and Buttercups</i>
Using Discourse Circles	<i>The Code</i>
Using Visual Evidence to Make Inferences	<i>Mystery Mouths</i>
Teaching About the Nature and Practices of Science	<i>Evidence from the Past</i>

Extend Learning with *Seeds of Science/Roots of Reading*®

The strategy featured in this guide is drawn from the *Seeds of Science/Roots of Reading*® curriculum program. *Seeds/Roots* is an innovative, fully integrated science and literacy program.

The program employs a multimodal instructional model called “Do-it, Talk-it, Read-it, Write-it.” This approach provides rich and varied opportunities for students to learn science as they *investigate* through firsthand inquiry, *talk* with others about their investigations, *read* content-rich books, and *write* to record and reflect on their learning.

Take advantage of the natural synergies between science and literacy instruction.

- Improve students’ abilities to read and write in the context of science.
- Excite students with active hands-on investigation.
- Optimize instructional time by addressing goals in two subject areas at the same time.

To learn more about *Seeds of Science/Roots of Reading*® products, pricing, and purchasing information, visit www.seedsofscience.org



Variation and Adaptation Science and Literacy Kit



Developed at Lawrence Hall of Science and the Graduate School of Education at the University of California at Berkeley.

Seeds of Science/Roots of Reading® is a collaboration of a science team led by Jacqueline Barber and a literacy team led by P. David Pearson and Gina Cervetti.

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