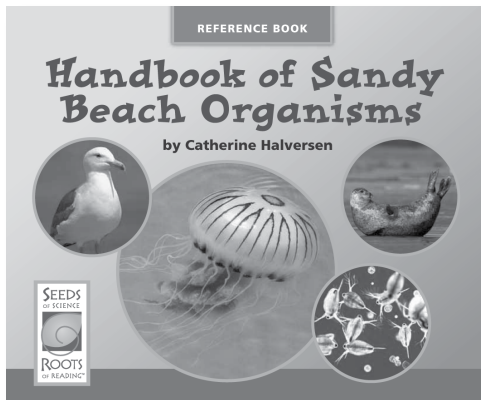


Searching for Information in Science Texts

with *Handbook of Sandy Beach Organisms*
from *Seeds of Science/Roots of Reading*[™]



Introduction

This strategy guide introduces an approach for teaching students how to search for information in texts. 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 Sandy Beach Organisms*.

Book Summary

A handbook is a small reference book with contents organized into categories so readers can access information efficiently. *Handbook of Sandy Beach Organisms* is a reference book that introduces readers to the fascinating adaptations of various organisms that live on sandy beaches. The book is organized into sections about different types of organisms, such as birds, fish, insects, sea turtles, seals, marine worms, and other categories. Each section begins with a page describing the group of organisms, followed by detailed information about each of several organisms in that group. Readers learn how various shoreline organisms survive in their habitats, get the food they need, and protect themselves.

About This Book

Reading Level

Guided Reading Level*: P

Text Features

book description, table of contents, index, glossary, headings, about the author, bold print, illustrations

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

Science Background

A surprising number of organisms—clams, snails, crabs, beach hoppers, and worms—include the shoreline as part of their habitats. Other organisms are found in, or flying over, the nearshore water. A variety of shorebirds feed on organisms living just under the sand, while plankton, sand dollars, sea stars, and fish can be found in the nearshore water. Although seals and sea turtles spend a lot of time in the open ocean, the beach is also an important part of their habitats. Seals come to the beach to get warm, avoid predators, or give birth to their young. Sea turtles come to the beach to lay their eggs. One of the most difficult obstacles that sandy beach organisms face is the lack of stable ground. Burrowing beneath the sand protects animals from waves, from being preyed on, from drying out, and from extreme temperatures. The sandy beach habitat provides little shelter for organisms that live in the sand to avoid predators. However, all the organisms living on or near sandy beaches have adaptations that help them survive in that habitat. An adaptation is any genetically determined characteristic—a structure or behavior—that helps a species survive. Organisms have adaptations that help them get food, protect themselves, and reproduce.

About Searching for Information in Science Texts

Searching for information refers to a strategy readers use to locate specific information within a text, using text features—for example, the table of contents, headings, or the index—and skimming sections of the text. This strategy is particularly useful with reference books. Readers of reference books often need to locate specific information about particular topics and do not usually read these types of books from cover to cover. As students use the strategy of searching for information, they gain practice in setting a purpose for their reading as well as learning 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.

- Introduce the strategy of searching for information in texts. Point out that there are times when readers do not read books from beginning to end (e.g., when gathering information for a report, when reading to find an answer to a specific question). Explain that readers need to learn various strategies to help them find information in a book quickly. You might present a range of different reading situations (e.g., reading a book about dogs to find out which breeds are the largest, reading about Jupiter in a book about planets). Ask students to identify situations in which knowing how to search for specific information would be important (e.g., researching dog breeds before adopting a pet).
- Model how to use text features to find information quickly. Teach students to use text features by modeling how to use the table of contents, headings, bold print, illustrations, and/or the index to find parts of a text that relate to a topic of interest. After you model how to use a certain text feature, have students practice using it. You can introduce how to use several text features with one text, or you can introduce a single text feature as it appears in various texts you read over a period of time.

Steps for Searching for Information

1. Identify key words that relate to your topic.
2. Use text features to help you find key words.
3. Skim (read quickly) to see if the information in that part of the text is useful. If it is, 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.

- Introduce and model skimming for information. Explain that skimming is moving your eyes quickly over the text, looking for key words and phrases, 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 these skills by thinking aloud as you locate information in a text. Give students opportunities to practice.
- Review the steps for searching for specific information in texts. You can use the Searching for Information copymaster included with this guide to review the steps. On their student sheets, students can also list the information they are searching for, the page number(s) on which that information is located, and notes about the topic. Or, you can make a class poster listing the steps for searching for information. (See the box above.) Students can use these steps as they practice searching for information in content-rich texts used throughout the curriculum.

Teaching How to Search for Information in Science Texts with *Handbook of Sandy Beach Organisms*

Getting Ready

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

During Class

1. Introduce *Handbook of Sandy Beach Organisms*. Give students a few minutes to look through the book. Then, as a class, read the introduction on pages 4–6. Focus on page 6, which explains how the book is organized.
2. Explain that sometimes readers want to read a book from beginning to end, but other times readers want to find specific information in a book. When readers are searching for information, they only focus on the parts that contain the information they need.
3. Have students turn to the table of contents on page 3. Point out how this page can help students locate information in the book. Ask students what page they would turn to if they wanted to find information about seals. [Page 35.]
4. Have students turn to the index on pages 43–44. Ask students to notice how it is ordered. [Alphabetically.] Point out that it has more entries than the table of contents. Ask students what pages they would turn to in order to find information about organisms that have spines. [Pages 29, 33, 34.]
5. Hold up a copy of the book, opened to pages 20–21, and ask students what they think the pages will be about. [Fish.] Ask students how they know this. [From the headings and the illustrations.] Tell students that headings and illustrations can also help them find pages that may contain the information they are looking for.
6. Explain that skimming is reading quickly to locate information, without reading every word. Tell students that once they find a section that contains the information they want, they should slow down and read carefully. Have students turn to page 36. Tell them you would like to know what harbor seals eat. Ask them to look for a heading about what the seals eat. [How do they get the food they need?] Have students skim the section following that heading to learn what the seals eat. As a class, read the appropriate sentence aloud: “Harbor seals eat fish and squid.”
7. Distribute a copy of the Searching for Information student sheet to each student and point out that the steps outlined on the student sheet remind them of the procedure they have just learned.
8. Write the following question on the board: “What do armored sea stars eat?” Have students record this question in the column labeled “Information I Am Searching For.”
9. Remind students to use the steps listed on their student sheets in order to find the answer. Give students 5 or 10 minutes to find the answer and record the appropriate page number(s) and some notes on their student sheets. [Olive snails, sand dollars, dead fish, page 34.]
10. Have students practice searching for information using the questions listed below.
 - How do striped mullets protect themselves from their predators? [Swim fast, jump out of the water, swim in large groups called schools, have shiny bodies that are hard to see, page 21.]
 - Where do kelp flies live? [Beach wrack, page 24.]
 - What birds live at the shoreline? [Sanderlings, herring gulls, peregrine falcons, page 7.]
 - Where do sea turtles lay their eggs? [On the beach, pages 38–40.]
11. Ask students to look for additional information about a shoreline organism of their choice.
12. When students have found the answers, discuss which steps they took to find each answer. Emphasize any text features that helped students find the answers.

Independent Extension

Have each student write down three new questions about an organism from *Handbook of Sandy Beach Organisms*. 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 help you find key words.
3. Skim (read quickly) to see if the information in that part of the text is useful. If it is, 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* website (<http://www.seedsofscience.org/strategyguides.html>).

Available Student Books for Grades 2–3

Twenty-three engaging student books are now available, each with a corresponding strategy guide. The books are part of the *Seeds of Science / Roots of Reading*™ curriculum program described on page 6. Four *Gravity and Magnetism* student books and strategy guides will be available in 2009.

Soil Habitats	
Strategy	Student Book
Using Discourse Routines with Science Texts	<i>Into the Soil</i>
Using the Cognates Strategy	<i>Walk in the Woods</i>
Connecting Science Words and Everyday Words	<i>What Are Roots?</i>
Teaching About the Nature of Science	<i>Talking with a Habitat Scientist</i>
Teaching Text Structure	<i>Handbook of Forest Floor Animals</i>
Using Text Features	<i>Earthworms Underground</i>
Taking Notes Based on Observations	<i>My Nature Notebook</i>
Making Sense of Data in Science Texts	<i>Snail Investigations</i>
Using Discourse Circles	<i>Without Soil</i>
Shoreline Science	
Strategy	Student Book
Teaching Vocabulary with Science Texts	<i>Beach Postcards</i>
Teaching Concept Mapping	<i>What Belongs on a Beach?</i>
Teaching Scientific Explanations	<i>Gary's Sand Journal</i>
Interpreting Visual Representations	<i>What's Stronger? The Forces That Cause Erosion</i>
Using Text Features	<i>What Lives on a Sandy Beach?</i>
Teaching About Multiple Meaning Words	<i>My Sea Otter Report</i>
Searching for Information in Science Texts	<i>Handbook of Sandy Beach Organisms</i>
Teaching Text Structure	<i>The Black Tide</i>
Teaching About the Nature of Science	<i>Shoreline Scientist</i>
Designing Mixtures	
Strategy	Student Book
Using Discourse Circles	<i>What If Rain Boots Were Made of Paper?</i>
Using Anticipation Guides	<i>Solving Dissolving</i>
Teaching Scientific Explanations	<i>Handbook of Interesting Ingredients</i>
Teaching Text Structure	<i>Jelly Bean Scientist</i>
Teaching About the Nature of Science	<i>Jess Makes Hair Gel</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



Soil Habitats 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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Published and Distributed by