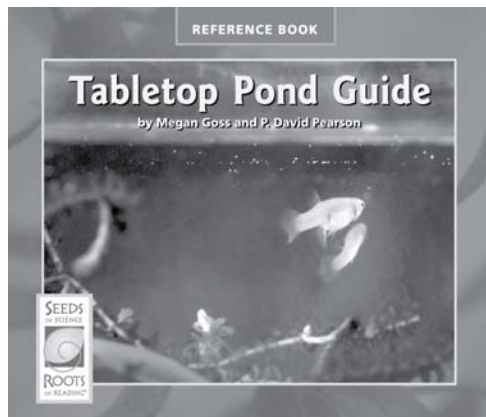


Gathering Information from Science Texts

with *Tabletop Pond Guide*
from *Seeds of Science/Roots of Reading*[®]



Introduction

This strategy guide introduces an approach for teaching students to gather information from texts. Gathering information is an important reading-to-learn strategy that can be used when reading content-rich texts. This strategy is particularly important in science, as scientists often read to find out about a specific topic or to answer a question. This guide includes an introductory section about gathering information, an overview of how to teach this strategy with many science texts, and a plan for teaching students to gather information from the *Seeds of Science/Roots of Reading*[®] book *Tabletop Pond Guide*.

Book Summary

Tabletop Pond Guide describes how to build a model pond for the purpose of closely observing the organisms in an ecosystem. A model pond is useful for studying the behaviors of and relationships among organisms. In addition to directions for building a model pond, the book contains descriptions of several common pond organisms. The organisms described are recommended for use in model ponds because of their prevalence worldwide and because they offer representative examples of the categories of organisms found in most ecosystems—producers, herbivores, carnivores, omnivores, and decomposers. The book also includes tips for maintaining a model pond.

About This Book

Reading Level

Guided Reading Level*: S

Key Vocabulary

behavior, environment, interact, organism, predator, prey

Text Features

bold print, bulleted lists, captions, diagrams, glossary, headings, illustrations, index, labels, photographs, subheadings, table of contents

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

Science Background

Scientists use models to help them understand things by making them simpler or easier to see. Model ponds are a convenient way to study aquatic organisms and the ways these organisms interact with one another. In nature, ponds are rich ecosystems that support many different types of organisms. However, pond ecosystems are also complicated, with many different organisms and environmental factors interacting in many ways. A model pond is much simpler to study. Some common organisms found in natural ponds include aquatic plants, invertebrates, and fish. *Elodea* is an aquatic plant that has a long stalk covered with leaves and is a food source for pond snails, tadpoles, and some fish. Pond snails are common pond organisms that spend much of their time underwater, coming to the surface to breathe. Blackworms look like thin, brown threads and live near the bottom of aquatic ecosystems where they eat tiny bits of dead plants and animals. Mosquitofish are aggressive predators, known to eat entire populations of mosquito larvae. While most people are familiar with adult dragonflies, dragonflies actually spend most of their lives as nymphs, living in the water. Dragonfly nymphs are fierce predators. These are just a few of the many different types of organisms that live in pond ecosystems in nature.

About Gathering Information from Science Texts

Scientists engage in firsthand investigation, and they also investigate through reading. When scientists study a specific topic, they often read with a question in mind and gather information to inform or make sense of firsthand investigation. Generally speaking, reading to gather information helps readers establish a purpose, choose a text that addresses that purpose, and navigate the text to find the most relevant information. Students who are guided to identify a question or narrow a topic can more effectively gather information; this focus can help their reading comprehension. Learning to gather information from science texts is an authentic skill that helps students read to learn, both in and out of school.

Teaching How to Gather Information from Science Texts

The following guidelines can be used to teach students how to gather information as they read science texts.

- Identify a general topic of interest for your class (e.g., space) and an appropriate science text to use when demonstrating how to gather information. If possible, select a reference book such as an encyclopedia or handbook, as these books contain a lot of information about a broad topic.
- Explain that science texts contain large amounts of information and are often not read from beginning to end. Instead, a reader identifies a narrow topic or specific question and reads to gather specific information.
- Introduce the format of the type of reference book you chose by identifying the text features it includes, such as the table of contents, headings and subheadings, the glossary, and the index. Note that these text features help the reader more easily locate sections of the text that are related to the topic or question posed.
- Discuss how gathering information from reference books is useful to scientists. For example, a scientist might gather information about the surface features of a planet before constructing a model of that planet. Guide students to understand that gathering information from text is a common practice for scientists.
- Demonstrate how to use the strategy with the chosen text. To begin, identify a question of interest. For example, if you are reading a book about space, think of a question, such as *How do scientists explore space?* Record your question on the board for reference.
- Introduce and model how to use text features to locate sections of the text that contain information related to your question. For instance, if you are using a book that has an index, show students how to identify key words related to the question (e.g., *space, explore, travel, astronaut*) and find the pages on which those words are found.
- Choose one portion of text to use as you demonstrate how to gather information that relates to your question. Read the passage or page aloud and talk through how the information helps answer the question you posed. Engage students in a discussion about what information answers the question.
- Establish a procedure for recording information gathered from text. You may wish to have students use the Gathering Information copymaster (included in this guide) to record the topic and question about which they are gathering information and to record notes about what they learned. Demonstrate how to record information in note form.
- Review the steps used to gather information. Invite students to generate a list of these steps. Record the list on chart paper for reference.
- Have students practice gathering information. Using another portion of the text you used to demonstrate the strategy, or using other texts, have each student think of a question and gather relevant information. Discuss how students found information in the text that was relevant to their questions.
- Continue providing opportunities for students to practice using this strategy. As students gain more experience, have them gather information from more than one source. Extend the strategy by having students write about or discuss the information they gathered.

Where I will look for information to answer my question	Information I found that relates to my question
Elodea/Interactions pages 10–11	<ul style="list-style-type: none"> • herbivores eat it • adds oxygen to the water • some organisms hide in it
Pond Snails/Interactions page 14	<ul style="list-style-type: none"> • eat aquatic plants, such as Elodea • are food for predators

Gathering Information from *Tabletop Pond Guide*

Getting Ready

1. Make a copy of the Gathering Information copypmaster for each student.
2. Prepare a chart using the example above. Write in only the column headings. You will fill in the rest of the chart with students during class; sample student responses are in green.

During Class

1. Introduce *Tabletop Pond Guide* by telling students that it is a type of reference book that explains how to set up a model pond. Explain that a model pond is just a simpler version of a pond that can be found in nature. Tell students that they will read the book to gather information about pond ecosystems.
2. Explain that when reading to gather information, it is best to read with a question in mind. Have students read pages 4–7 and think about some questions they might be able to answer by reading. Building on students' ideas, model how to generate a focus question. For example, your question might be *How do different organisms interact in a pond ecosystem?*
3. Discuss why it would be important for someone building a model pond to know the answer to the focus question. [Knowing how organisms interact will result in a healthier model pond.]
4. Distribute the Gathering Information student sheets. Instruct students to record the topic and question in the spaces provided. [Pond ecosystems. How do different organisms interact in a pond ecosystem?]

5. Explain that when gathering information from a reference book, readers use multiple parts of the book. Point out that *Tabletop Pond Guide* is organized using headings and subheadings, which makes it easier to find information.
6. Ask students to turn to the section on *Elodea* on page 8 and skim pages 8–11 to identify the subsection that likely contains the most information related to the question. [Interactions.] Record the heading, subheading, and page number(s) on the class chart. [Elodea/ Interactions, pages 10–11.] Direct students to do the same on their student sheets.
7. Ask students to read the “Interactions” subsection for *Elodea* and share what information they gathered. Demonstrate how to summarize the information in note form, and record this on the chart.
8. Tell students that they will now read to gather information from other sections of *Tabletop Pond Guide*. Ask students to use the table of contents to locate a section that tells about another organism. [Pond Snails, page 12.] Remind students to use headings and subheadings to locate information that answers the question.
9. Give students time to read the next section of the text (Pond Snails/Interactions, page 14) and record notes. Then, have students share information they found. Record this on the class chart as well. Discuss how the information answers the question.
10. Invite students to gather information about additional organisms and record the information about each organism on their student sheets.
11. Lead a discussion in which students share what they learned and explain how locating information in multiple places in the text helped them better answer the question.

Independent Extension

Have students form groups of three or four and instruct each member of the group to choose an organism from *Tabletop Pond Guide* and read about it. Then, have students discuss with one another what they learned about each organism. Have groups focus on how the organisms interact with one another in a pond ecosystem.

Name _____ Date _____

Gathering Information

Title of book: _____

Topic: _____

Question: _____

Where I will look for information to answer my question	Information I found that relates to my question

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).

Student Books for Grades 4–5

Twenty-seven engaging student books are 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.

Aquatic Ecosystems	
Strategy	Student Book
Teaching Scientific Description Writing	<i>Visit to a Pond</i>
Gathering Information from Science Texts	<i>Tabletop Pond Guide</i>
Interpreting Visual Representations	<i>Investigating Crayfish</i>
Using Roundtable Discussions	<i>Dragonfly Explanations</i>
Making Sense of Data in Science Texts	<i>Eat and Be Eaten: How an Ecologist Uses Food Webs</i>
Teaching Concept Mapping	<i>What Makes Living Things Go?</i>
Teaching Scientific Comparison Writing	<i>Ecosystems Around the World</i>
Teaching Text Structure	<i>Ecosystem News</i>
Teaching Vocabulary with Science Texts	<i>Making a Difference</i>
Planets and Moons	
Strategy	Student Book
Connecting Science Words and Everyday Words	<i>Exploring Planets and Moons</i>
Using Science Text to Visualize	<i>Spinning Through Space</i>
Taking Notes Based on Observations	<i>Observing the Moon</i>
Using the Cognates Strategy	<i>How Big Is Big? How Far Is Far?</i>
Teaching Scientific Comparison Writing	<i>Handbook of Planets and Moons</i>
Using Discourse Circles	<i>What About Pluto?</i>
Teaching About How Scientists Use Models	<i>Planetary Scientist</i>
Using Anticipation Guides	<i>Tomato Landers</i>
Promoting Word Consciousness	<i>Technology for Exploration</i>
Chemical Changes	
Strategy	Student Book
Teaching Scientific Explanation Writing	<i>Chemical Reactions Everywhere</i>
Posing Investigation Questions	<i>Handbook of Chemical Investigations</i>
Teaching Text Structure	<i>What Happens to the Atoms?</i>
Teaching Procedural Writing	<i>Bursting Bubbles: The Story of an Improved Investigation</i>
Promoting Word Consciousness	<i>Communicating Chemistry</i>
Models of Matter	
Strategy	Student Book
Teaching Summary Writing	<i>Made of Matter</i>
Using Roundtable Discussions	<i>Break It Down: How Scientists Separate Mixtures</i>
Interpreting Visual Representations	<i>Phase Change at Extremes</i>
Teaching About How Scientists Make Inferences	<i>Science You Can't See</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



Aquatic Ecosystems 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.

© 2012 The Regents of the University of California
All rights reserved.

Published and Distributed by

