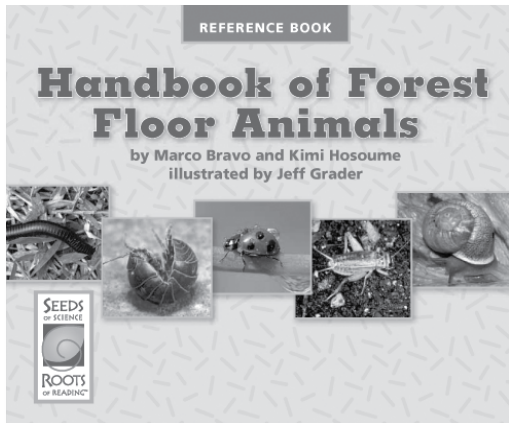


## Teaching Text Structure

with *Handbook of Forest Floor Animals*  
from *Seeds of Science/Roots of Reading*<sup>™</sup>



### Introduction

This strategy guide introduces an approach for teaching students how to identify a book's text structure. Text structure refers to how a text is organized; understanding this organization can support reading comprehension. Science texts are often organized around conventional structures such as cause–effect or compare–contrast. This guide includes an introductory section about the strategy of identifying a text's structure, a description of how to teach this strategy with many science texts, and a plan for teaching text structure with the *Seeds of Science/Roots of Reading*<sup>™</sup> book, *Handbook of Forest Floor Animals*.

### Book Summary

A handbook is a reference book with information organized in categories for easy access. A field guide is a specific type of handbook with illustrated descriptions of plants, animals, or even rocks and minerals that can be found in nature. *Handbook of Forest Floor Animals* is a reference book that describes, in the way a field guide might, some of the small organisms that live in, on, or near the forest floor. In *Handbook of Forest Floor Animals*, students learn about six types of organisms that live in or on soil: beetles, centipedes and millipedes, crickets, earthworms, pill bugs and sow bugs, and snails and slugs. For each type of organism, information is provided about body structures, behavior, habitat, and life cycle.

### Science Background

Some ecologists consider forests to be the world's most complex ecosystem, supporting more species than all other ecosystems combined. Forests are often viewed as having three layers: the canopy, the shrub layer, and the forest floor. Animal life is predominant on or just below the forest floor. With its layer of leaf litter, the forest floor holds in moisture, which—along with air and plant matter—provides an excellent place for the growth of bacteria and fungi. Bacteria, fungi, and other decomposers soften plant matter, decompose leaves and logs, and revitalize the soil. Earthworms are important forest floor decomposers. Earthworm burrows enhance water infiltration and soil aeration. Earthworms pass soil, organic matter, and soil microbes through their digestive systems as they move through the soil. Worms eat dead plant material, which is left on top of the soil, and redistribute the organic matter and plant nutrients throughout the soil. Other decomposers, such as beetles, sow bugs, pill bugs, millipedes, centipedes, slugs, and snails, are primary decomposers that eat large particles of plant residue. Some bury residue, bringing it in contact with other soil organisms that further decompose it. All these organisms function together to enrich the soil of the forest floor.

### About This Book

#### Reading Level

Guided Reading Level\*: O

#### Text Features

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

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

## About Text Structure

Text structure refers to the ways that authors organize information in text. For example, some texts are organized as a chronological sequence of events, while others compare two or more things. Teaching students to recognize the underlying structure of content-area texts can help students focus attention on key concepts and relationships, anticipate what's to come, and monitor their comprehension as they read.

Students can learn to identify a text's structure by paying attention to signal words. Signal words link ideas together, show relationships, and indicate transitions from one idea to the next. Each text structure is associated with different signal words (shown in the box on this page). Text structure can also be taught using graphic organizers, which visually represent the relationships among key ideas. Graphic organizers can be particularly helpful for English language learners and struggling readers who can use these visual tools to help understand and organize information.

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## Teaching Text Structure

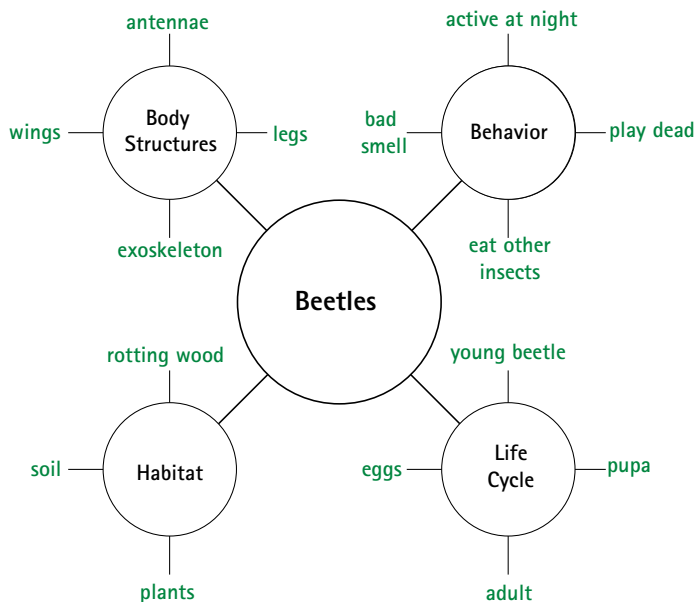
The following guidelines can be used to teach students about text structures that are common to content-area texts:

- Select an appropriate text. Note that some texts may utilize more than one text structure. When introducing text structure, select a text (or portion of a text) that has one easily identifiable text structure.
- Create a graphic organizer that represents the text's structure. Draw the blank graphic organizer on the board. You can also make individual copies for students if desired. (For graphic organizers that can be used to teach various text structures, see <http://www.seedsofscience.org/strategyguides.html>)
- Introduce text structure. Before reading the selected text, explain that texts are organized in different ways. The way that authors organize the text is called the text's structure. Knowing how a text is structured can help students understand what they are reading.

## Text Structure Signal Words

- **cause–effect:** therefore, as a result, leads to, so, because of, thus, in order to, if...then
  - **problem–solution:** fortunately, unfortunately, therefore, trouble, problem, issue, challenge, answer, solution, conclusion
  - **compare–contrast:** different from, the same as, similar to, as well as, but, compared to, in contrast, however, like, unlike, more, less
  - **time–order:** first, next, then, last, finally, meanwhile, following, before, after, on [date]
  - **description:** for example, for instance, in addition, also, too, some, most, all, other
  - **question–answer:** what, where, why, who, how, when, does
- 
- Introduce signal words. Explain that readers can tell how a text is organized by paying attention to signal words, which are words that show relationships among ideas. Preview the signal words that are found in the text. Model paying attention to these words by reading a portion of the text aloud and pointing out signal words that are used.
  - Read and practice using signal words. Have students finish reading the text and remind them to use signal words to help them pay attention to how the text is organized.
  - Introduce the graphic organizer. Explain that the graphic organizer is a way of showing how this text is structured. Make sure students understand which parts of the graphic organizer correspond to particular parts of the text.
  - Record information on the graphic organizer. Have students help you complete the graphic organizer on the board using ideas from the text. You can also have students complete their individual graphic organizers.
  - Review how focusing on text structure helps students understand what they read. Remind students to pay attention to text structure as they read other content-rich texts. Teach other specific text structures and associated signal words as needed.

## Description Text Structure Graphic Organizer



## Teaching Text Structure with *Handbook of Forest Floor Animals*

### Getting Ready

1. Make a copy of the Description Text Structure copymaster for each student.
2. Create a class chart. Draw a large version of the description text structure graphic organizer on the board or on a piece of chart paper using the model above. Fill in only the information in the circles, shown in black type; for your reference, suggested student responses are in green type. You will ask students to help you fill this in based on their reading.

### During Class

1. Tell students that *Handbook of Forest Floor Animals* is a reference book that provides information about some of the small organisms that live on the forest floor. Have students read the entry about beetles on pages 6–9, as well as a few other entries of their choice.
2. Explain that authors of science books organize information in ways that help readers understand what is important and to help them find information. These ways of organizing information are called text structures.
3. Explain that books often include certain words that help readers figure out how the text is

organized and what kind of structure is used. Reread the paragraph about the habitats of beetles on page 8. Point out that the words *some* and *other* indicate that this is a text that describes, or tells all about something.

4. Point to the graphic organizer you drew on the board or on chart paper before class. Explain that this is a way of showing how this text is organized. Point out the relationship between the graphic organizer and the text. Be sure students understand that the smaller circles on the graphic organizer match the subheadings in the text. These subheadings are the same in each section of the book, indicating that the same type of information is provided for each organism.
5. Ask students to reread the subsection on body structures of the beetle on pages 6–7 and think about what important information they would add to the graphic organizer for that section. Record students' suggestions around the circle marked "Body Structures," as shown in the model above.
6. Repeat Step #5 for the remaining subsections on "Behavior," "Habitat," and "Life Cycle."
7. Distribute a Description Text Structure student sheet to each student. Ask students to work in pairs to choose another organism from the book and record information on the graphic organizer. They should use the completed class chart as a model. You may wish to point out that the circles for each subtopic—"Body Structures," "Behavior," "Habitat," and "Life Cycle"—should be the same, but that the remainder of the information will be different.
8. Ask students to reflect on how thinking about text structure helped them to understand what they read and to organize information learned from reading.

### Independent Extension

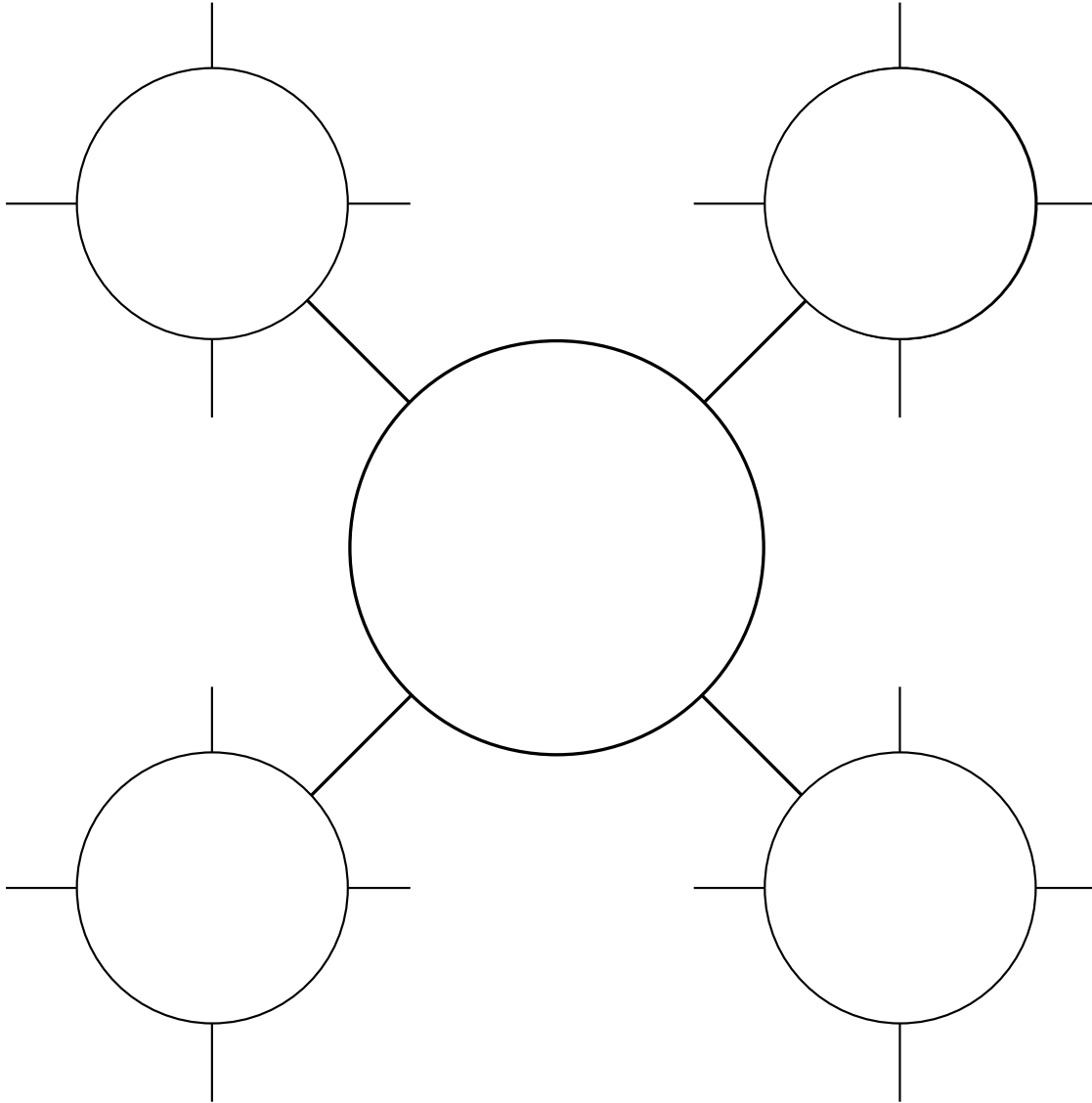
Have students write responses to the following questions:

- In each section, what subtopic do the authors talk about first? Second? Third? Fourth?
- Why do the authors put the subsections in the same order each time?

Name \_\_\_\_\_ Date \_\_\_\_\_

## Description Text Structure

Title of Book \_\_\_\_\_



## 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](http://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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