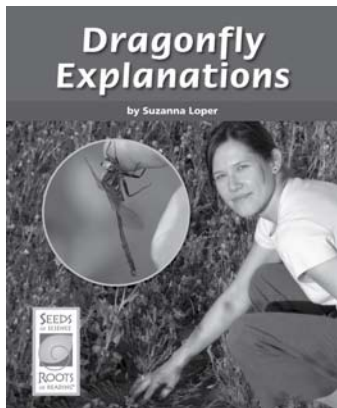


Using Roundtable Discussions

with *Dragonfly Explanations*
from *Seeds of Science/Roots of Reading*[®]



Introduction

This strategy guide introduces an approach for teaching students to discuss ideas using a Roundtable Discussion format. Roundtable Discussions are student-led, evidence-based conversations about challenging questions. This guide includes an introductory section about Roundtable Discussions, a description of how to conduct Roundtable Discussions in conjunction with many content-rich texts, and a plan for conducting a Roundtable Discussion with the *Seeds of Science/Roots of Reading*[®] book *Dragonfly Explanations*.

Book Summary

Dragonfly Explanations focuses on an ecologist named Lauren Pintor and presents her research on dragonflies in an interesting and accessible way. Readers learn that scientists do more than just answer questions about the world; an important part of science is making scientific explanations based on evidence. These explanations are a way of sharing ideas with other scientists, explaining why these ideas make sense, and showing how these ideas are supported by evidence. The book leads readers through Pintor's investigation about the behavior of the Hine's emerald dragonfly. Along the way, readers learn how her investigation led to a surprising explanation and how she changed her explanation based on new evidence.

About This Book

Reading Level

Guided Reading Level*: S

Key Vocabulary

claim, ecologist, evidence, explanation, hypothesis, investigate

Text Features

bold print, captions, diagrams, glossary, graphs, headings, illustrations, labels, photographs, table of contents

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

Science Background

Dragonflies

Dragonflies are insects that have been around for millions of years. There are thousands of different kinds of dragonflies living near freshwater all over the world. Dragonflies are important parts of many different ecosystems. Dragonflies hatch from eggs and then spend a few years as nymphs before metamorphosing into adults. Dragonfly nymphs are very different from the dragonflies we see flying through the air—dragonfly nymphs live underwater! Crayfish are predators of dragonfly nymphs. Because of this, scientists were very surprised when they discovered that a certain type of dragonfly nymph hides in crayfish burrows during the dry season.

Scientific Explanations

Scientists who study ecosystems are called ecologists. Ecologists, like all scientists, gather evidence that helps them answer their questions. Once scientists have gathered enough evidence about a question they're investigating, they are able to make explanations. A scientific explanation includes a *claim* that answers the investigation question, relevant *evidence* from the investigation, and *reasoning* that explains how the evidence supports the claim.

About Roundtable Discussions

Helping students develop facility with academic language is important to their success in school. In content areas such as science, it is particularly critical that students have opportunities to participate in discussions and practice using specialized language. A Roundtable Discussion is a format for student-led, small-group discussions about a topic. This format helps students practice using academic language to discuss key ideas in response to questions. A Roundtable Discussion is also a valuable way to teach students that scientists answer questions based on evidence and discuss ideas with others in the scientific community.

Using Roundtable Discussions

The following steps can be used to introduce students to the Roundtable Discussion routine using any content-rich book.

- Select a text that is related to your curriculum. Be sure that the text you select introduces a topic and provides many examples or evidence about this topic.
- Develop four questions that will prompt students' thinking about the topic in the text. You may wish to use the copymaster included in this guide to list the questions that students will discuss. The following are guidelines to use when writing questions:
 - a. The question should relate to important concepts in the text.
 - b. Students should be able to answer the question using evidence provided in the text.
 - c. The question should prompt students to think deeply about the content of the text.
- Make a class chart that lists the directions for a Roundtable Discussion. (See the box on this page.) On the board, write the four questions you developed.
- Introduce the text you selected and have students read the text.
- Tell students that they will work in groups of four to discuss what they have read. Explain that the discussion will focus on answering four questions using evidence from the text.
- Organize students into groups of four. Have groups count off, so each student is assigned

Roundtable Discussion Directions

1. The person who is the leader for question #1 reads the question aloud.
2. The leader asks the group for ideas.
3. Everyone else in the group shares ideas, and the leader takes notes as needed.
4. The leader makes sure that everyone contributes.
5. When everyone has shared ideas, rotate to the next leader and the next question.

a number from 1 to 4. Tell students that their numbers correspond to the number of one of the questions on the board. Each student will lead a discussion about their question.

- Explain the discussion procedure using the Roundtable Discussion Directions chart. Say that after reading the first question to his group, the discussion leader will invite other group members to share ideas and supporting evidence. As other students in the group share, the leader should listen to everyone's ideas and encourage participation. Leaders can take notes on the discussion if they wish; these notes will help the leader report to the class after the group discussions. You may wish to use the Roundtable Discussion copymaster, included in this guide, for students to take notes.
- Explain that after question #1 has been discussed, group members will rotate to the next question and the next leader so that everyone has a chance to lead a discussion.
- Before students begin discussing, you may wish to model facilitation skills, such as listening respectfully to the person who is speaking, making sure everyone has the chance to share, and using evidence to support ideas.
- Allow time for students to conduct their Roundtable Discussions. You may need to prompt students to rotate to the next question and next discussion leader.
- After groups discuss each question, have each discussion leader tell the class what her group said in response to each question. You may wish to record ideas on the board as students share.
- Debrief the Roundtable Discussions. Emphasize how students used evidence from the text to support their ideas.

Using a Roundtable Discussion with *Dragonfly Explanations*

Dragonfly Explanations uses a real-life example of a scientist's investigation to prompt students to think about the steps of a scientific investigation and how evidence can lead to surprising explanations.

Getting Ready

1. Write the four questions below on the Roundtable Discussion copymaster and make a copy for each student.
 - What were the dangers to Hine's emerald dragonfly nymphs? (page 11)
 - What observations of dragonfly nymphs surprised ecologists? (pages 13, 18, 19, and 20)
 - How did Pintor investigate her question? (pages 16–20)
 - Are crayfish helpful or harmful to dragonfly nymphs? (page 21)
2. Make a Roundtable Discussion Directions class chart and post it in a visible place. (See the box on the previous page.)

During Class

1. Tell students that when scientists have a question, they search for evidence to help them answer it. Introduce *Dragonfly Explanations* and explain that it is a book about a scientist who studies dragonflies in order to find out what helps them survive. The scientist's investigation leads her to a surprising explanation.
2. Read the book in a way that is consistent with your classroom routines, giving students as much independence as possible.
3. Tell students that they will be working in groups of four to discuss what they have read. Explain that each person in the group will take a turn leading part of the discussion. The discussion will focus on answering four questions using evidence from the book.
4. Organize students into groups of four and distribute the Roundtable Discussion student sheets. Have groups count off so each student is assigned a number from 1 to 4. Tell

students to circle the number of the question on their student sheets that corresponds to their assigned number. They will be the discussion leader for the question they circled.

5. Share the Roundtable Discussion Directions chart and explain how the discussions will work. First, explain that for each question, the student assigned that number will lead the discussion for that question.
6. Tell students that the first discussion leader will read her question aloud to her group. The leader should then invite the other members of the group to share ideas and support their ideas with evidence. As students in the group share ideas, the leader should write down a few notes on her student sheet. The notes will help her report to the class after the group discussions.
7. Model discussion facilitation skills, such as listening respectfully to the person who is speaking, making sure everyone has the chance to share their thinking, and using evidence to support ideas. Point out the questions at the bottom of the student sheets. Encourage leaders to use these questions to help others participate and elaborate on ideas.
8. Allow time for groups to conduct their Roundtable Discussions. You may need to prompt students to rotate to the next question and next discussion leader.
9. After groups discuss each question, regain the attention of the class. Choose a discussion leader for each question to share the evidence his group discussed. You may wish to record students' ideas on the board as they share.
10. Debrief the Roundtable Discussions with the class, emphasizing how students used evidence from the text to support their ideas.

Independent Extension

Have students write a summary of the ideas presented in the Roundtable Discussions. They can use their notes for this purpose. Have students write a paragraph explaining the answer to their assigned question, using evidence that others shared from *Dragonfly Explanations* to support their responses.

Name _____ Date _____

Roundtable Discussion

Title of book: _____

Circle the number of the question you were assigned. You will be the discussion leader for the question you circled.

1. _____

2. _____

3. _____

4. _____

As your group discusses your question, write your notes below.

Questions to Ask Your Group

- What do you think?
- Why do you think that?
- What is your evidence?
- What does the evidence tell us?

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.deltaeducation.com



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**.

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