

## THE RAINBOW WEB BOOK AND CD-ROM

### Make the Computer Part of Your Science Unit

#### Whole-group Instruction

Read the book to the class and discuss the story. Then present a unit from the CD using a projector or Smartboard. For example, project the unit on spider anatomy and compare the spider in the story with a real spider. Which features are the same and which are different? Why might the illustrator make the spider look different?

#### Learning Center

- Students can use the CD-ROM in multiple ways to learn new information and reinforce a variety of skills. The Read to Me feature allows early readers to use the information.
  - 1) Choose a spider in the Spiders, Spiders lesson and write a brief description.
  - 2) Review spider anatomy in Spiders and Insects then use Activity S1 to label a diagram of a spider.
  - 3) Compare web-builders with hunting spiders in Spiders, Spiders then complete Activity S6, a Venn diagram.
  - 4) Learn about primary and secondary colors in the Colors lesson and practice mixing colors.
  - 5) Review the Colors in a Rainbow lesson. Complete Activity M8, Measuring a Rainbow, using crayons or yarn and answer the questions about comparative lengths.
  - 6) Compare kinds of webs in Spider Webs. Explore making web shapes using yarn or string. Introduce the concept of *spiral*.
- Let students simply explore the different lessons and games on the CD.

#### As a Library or Lab Resource

The book offers an imaginative introduction for younger students to a science unit on spiders and insects. Combine the book with other spider and insect books, both fiction and nonfiction.

The CD-ROM offers a resource for students from different grade levels. Students can use the CD individually or in groups. Introduce a topic in class then assign students a CD lesson to use in the computer lab or a specific topic to research. Use the Activity sheets as a follow-up in the classroom or as homework.

## Key Teaching Ideas for The Rainbow Web

### **SPIDERS**

1. A spider is not an insect; it is an arachnid.
2. Spiders get food in different ways.
  - a. Some spiders build webs.
  - b. Some spiders are hunters.
3. There are many different kinds of spiders.
4. Spiders spin silk for many reasons.
  - a. There are different kinds of spider webs.

### **COLORS**

1. Secondary colors are made by mixing primary colors.
2. A rainbow is the separation of white light into a spectrum of colors.

# THE RAINBOW WEB

## READING LESSON

at-a-glance

### Reading Objective 1

Students will differentiate between fact and fantasy in the story.

### Correlations

#### K Language Arts

3.1 Distinguish fantasy from realistic text

#### K life Science

2b. Students know stories sometimes give plants and animals attributes they do not really have.

### Materials

- The story
- CD lessons: Spiders and Insects; Spiders, Spiders; Spider Webs
- Activity R8 Real or Make-Believe

## INTRODUCTION

Ask students if they know what a fact is. Then ask them if they know what fantasy is. Discuss the difference between fact and fantasy. A fact is a statement that can be proven. Fantasy is something that is made up or imaginary; it is neither true nor real.

*The Rainbow Web* is a fantasy, but there are elements of fact included. Using the book, talk about the title and cover illustration. What do students think is the topic of the book? Do the cover or title give any clues as to whether this story might be fact or fantasy?

(If students are using the ebook version, you can use the title page for this discussion.)

## VOCABULARY

Review the following words before reading the story. Be sure to reinforce the meaning and discuss the context when the word appears in the story.

- invisible
- transparent
- dew
- admire
- crushed
- woven
- realized
- decided

## STORY

### Fact and Fantasy

Create a two-column class chart about spiders labeled Fact and Fantasy. Ask students what information they know about spiders from their own experiences and write this in the Fact column. (Not all information may prove to be factual.) As you read the story, point out and discuss information given about spiders. Discuss whether the information might be fact or fantasy. Students

Define *fact* and *fantasy* and the difference between the two.

Introduce new vocabulary.

Create this chart:

Fact	Fantasy

at-a-glance

Pause at each page break to discuss and ask questions.

- pp. 1-4
- pp. 5-18
- pp. 19-21
- pp. 22-27

CD-ROM Lessons:  
Spiders and Insects  
Spiders, Spiders  
Spider Webs

Use the CD lessons to confirm facts about spiders.

Students complete  
Activity R8  
Real or Make-Believe

may not be able to determine which information is factual. Note the questions that will require further research.

pp. 1–4 Does this spider look real? Why or why not?

Do spiders spin webs? Are webs usually invisible? Are webs made of silk?

What does the word *transparent* mean?

Do spiders imagine? Do spiders have dreams?

pp. 5–18 Do spiders drink berry juice? What do spiders eat?

Could a spider spin a colored web?

Do spiders admire their webs? What does *admire* mean? Could a spider feel proud?

pp. 19–21 Do spiders eat insects? Do spiders use their webs to catch insects?

pp. 22–27 Can spiders talk like people? Do spiders talk to one another?

After going through these questions, go back to the chart. In the story, what do you think was fantasy or make-believe? Did you learn any new facts that weren't listed on your chart? Put a question mark by items that you are not sure about. For instance, do spiders drink berry juice?

## RESEARCH ACTIVITIES

Use the lesson units on the CD-ROM to confirm whether information in the story is fact or fantasy. The class can research one item as a group, with the teacher presenting the CD with a projector. Students can research a specific question individually or in small groups. As students gather information, update the class chart. You can use additional books and the Internet.

### CD Lessons:

#### Spiders and Insects

Go to the lesson titled Spiders and Insects. Click on Eyes on the spider diagram. Do the eyes on the story spider in the story look like the eyes in the photo? (You can toggle back and forth between the lesson and the ebook of the story on the CD or use the book.) Compare other spider parts. Click on Jaws and Fangs. What does it tell you about what spiders eat?

#### Spiders, Spiders

Click on different kinds of spiders to find out what they eat. Look at spiders that are web-builders. Do any of them eat berries or plants? What do they eat?

#### Spider Webs

Look at the different webs in the lesson. Are any of them colored? Do any of them look like the web in the story? How do real spiders use their webs? Decide which information about webs in the story is fact and which is fantasy.

## FOLLOW-UP ACTIVITIES

Students can complete Activity R8. Have them go back to the story and write things that were real and things that were make-believe or fantasy. Younger students can draw pictures, such as berries on the make-believe side and bugs on the fact side to show what spiders do and don't eat.

## THE RAINBOW WEB CD-ROM SCIENCE LESSON

at-a-glance

### Science Objectives

Students will:

- identify the basic body parts of a spider and a fly
- identify similarities and differences in spider and insect anatomy
- identify features that are specific to spiders or flies

### Correlations

#### K Life Science

- 2a Students know how to observe and describe similarities and differences in the appearance and behavior of animals
- 2c Students know how to identify major structures of common animals

#### Grade One Life Science

- 2d Students know how to infer what animals eat from the shapes of their teeth

### Materials

- The story
- CD lesson: Spiders and Insects
- CD lesson: Spiders, Spiders

**SCIENCE TOPIC I:** A spider is not an insect.

### INTRODUCTION

Make a KWL class chart about spiders. Ask students what information they already know about spiders and write this in the Know column. Then ask students what they don't know about spiders or would like to learn and write this in the Want column.

### VOCABULARY

The following vocabulary words are used in the CD lesson text. You may want to introduce or review them first.

- fangs: needle-like teeth
- venom: poisonous fluid
- abdomen: rear part of spider or insect
- exoskeleton: a hard, shell-like covering
- jointed: having parts joined together
- compound eye: an eye made up of many tiny single lenses
- spinneret: individual nozzles on a spider's abdomen that squirt out silk
- proboscis: a long tube-like mouth found on some insects

Create this chart:

K	W	L

Introduce new vocabulary.

at-a-glance

Make a list labeled Spider and Fly.

Project the CD-ROM Spiders and Insects lesson. Students identify and compare spider and fly anatomy.

Follow-up Activities:  
S1 Naming Spider Parts  
S2 Naming Insect Parts  
M5 Counting Parts

## PART ONE: BASIC ANATOMY

### Objectives:

1. Students will identify the basic body parts of a spider and a fly.
2. Students will identify similarities and differences in spider and fly anatomy.

Make a list with two columns: Spider and Fly. Write the body parts for each animal on the list as you go through the CD lesson.

Open the CD unit on Spiders and Insects. (You can review one animal at a time or toggle back and forth between the two diagrams.) Click on the spider diagram. What basic body parts does a spider have? List student responses on the chart. Add any terms not given by students:

cephalothorax, abdomen, eyes, mouth, legs, fangs, jaws, spinnerets

Click on the fly diagram. What body parts does a fly have? List student responses on the chart and add any of the following not given by students.

head, thorax, abdomen, legs, eyes, mouth, wings, antennae

Compare the lists. How are a spider's body and a fly's body similar?

Both have a body that is divided into parts, a mouth, eyes, jointed legs

How does spider's body differ from a fly's body?

the main body is divided into more parts

a spider's mouth has fangs and jaws; a fly's mouth has a proboscis

a spider has eight legs; a fly has six legs

a fly has wings and antennae

a spider has spinnerets

## FOLLOW-UP ACTIVITIES

Go back to the KWL chart. Ask students what they have learned about spiders so far and write the new information on the chart in the Learn column. Have they answered any of their questions from the Want column? Has this new information changed some of the information in the Know column?

Students can complete one or more of the following activities as a group or independently. These activities can also be used for assessment.

**M5 Counting Parts:** Students count the number of each body part that a fly or a spider has and record them on a chart.

**S1 Naming Spider Parts:** Students cut and paste the names of body parts on a spider diagram. (Students can also write names.)

**S2 Naming Insect Parts:** Students cut and paste the names of body parts on a fly diagram. (Students can also write names.)

## PART TWO: SPECIAL FEATURES

### Objective:

1. Students will identify features that are specific to a spider or a fly.

### SPIDER ADAPTATIONS

You can present this activity as a group activity first and then have students work independently on the second part. Start with the spider diagram and have students answer the following questions:

- What features are unique to a spider?
- How is a spider adapted for catching its food?
- How does a spider move?
- How do you think a spider protects itself?

### INSECT ADAPTATIONS

Have students use the fly diagram to answer the following questions.

- What features are unique to a fly?
- How is the fly adapted for catching food? How does this differ from a spider?
- How does a fly move?
- How do you think a fly protects itself?

### FOLLOW-UP ACTIVITIES

Use the following activity page as a follow-up to this lesson: S5 Comparing Spiders and Flies. As an option, have students write the words rather than cutting and pasting them.

#### Writing

Write a compare and contrast paragraph about spiders and flies. For instance, you can compare how they eat. What can a spider do with its jaws that a fly can't do? What can a fly do with its proboscis that a spider can't do? Do the type of mouths they have affect the kind of food they can eat?

#### Art

Students can create a spider with Activity S7 Build a Spider. Students can make a simple spider model using egg cartons and pipe cleaners. Be sure students count the correct number of body parts and legs.

### ASSESSMENT

Any of the activity pages in this lesson can also be used for assessment. Younger students can use Activity R4 and circle the insects on the page.

Sample Assessment Questions:

- List three differences between a fly and a spider.
- Name one feature that only a spider has and one feature that only a fly has.
- Name one feature that both spiders and flies have.
- Which of these features is unique to a spider? jointed legs, fangs, spinneret

at-a-glance

Use the spider and fly diagrams on the CD to identify features that are unique to each animal.

Students complete a Venn diagram:  
S5 Comparing Spiders and Insects

Follow-up Activity:  
S7 Build a Spider