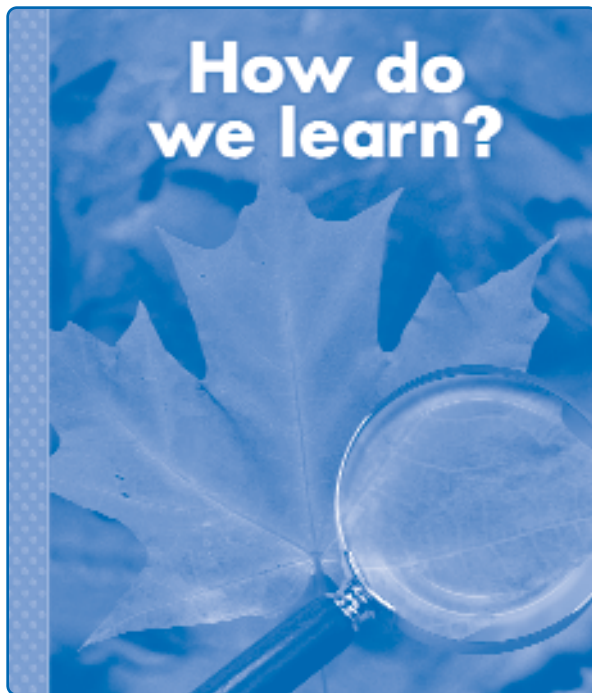


How do we learn?



Delta Science First Readers are nonfiction books that introduce basic science concepts and review key literacy skills and strategies. The ten titles in the program build a strong foundation for success in science and reading.

Be sure to preview the reader Overview Chart on page 4, the reader itself, and the teaching suggestions on the following pages. This information will help you determine how to plan your schedule for reader selections and activity sessions.

Reading for information is a key literacy skill. Use the following ideas as appropriate for your teaching style and the needs of your students. The After Reading section includes an assessment and writing links.

OVERVIEW

In the Delta Science First Reader *How do we learn?* students explore some of the many ways they can learn about the world around them. They are introduced to their five senses and learn about using tools. They discover how observing carefully, talking and listening, and reading and writing can help them gather and share information. The question-answer format of the book title and text reinforces inquiry science and supports the teaching of science process skills.

Students will

- ▶ identify the five senses
- ▶ explore methods of gathering information
- ▶ compare tools and their uses
- ▶ describe different ways of sharing information
- ▶ recognize parts of a book: title, front cover, and back cover
- ▶ discuss the function of a table of contents, headings, labels, and a glossary
- ▶ complete a concept web

READING IN THE CONTENT AREA SKILLS

- Read high-frequency words
- Recognize science words and their meanings
- Use phonics, context clues, and picture clues to decode words
- Compare and categorize objects
- Use background knowledge to support comprehension
- Make inferences from illustrations and photographs
- Use a graph and charts to draw conclusions
- Demonstrate critical thinking
- Summarize information

NONFICTION TEXT ELEMENTS

How do we learn? includes a title, a table of contents, headings, illustrations, photographs, boldfaced terms, labels, a graph, charts, and a glossary.

CONTENT VOCABULARY

The following terms are introduced in context and defined in the glossary: *compare, measure, observe, sort.*

Optional vocabulary: *learn, senses.*

BEFORE READING

Build Background

To access students' prior knowledge, ask, *Have you ever wondered about something or wanted to find out more about something? What have you wondered about?* Briefly discuss students' responses. Choose one topic and ask, *What are some ways that we could find out about this?*

As students respond, begin a class concept web by drawing a large question mark in a circle on the board or chart paper. Record their responses to the question "How do we

learn?" in circles connected with lines to the question mark. (read, ask questions, use our senses) Read aloud the words you have recorded and tell students, *These are all good ways to learn about something.* Encourage students to brainstorm other ways they learn about things.

Preview the Book

Ask students to look at the picture on the **front cover** of the book. Ask, *What do you see in this picture? When are leaves this color? Where do we find leaves? What is this round object with a handle? Have any of you used a tool like this before? What does a magnifier do?* Briefly discuss students' experiences.

Point to each word as you read aloud the title. Then have a volunteer come up and point to the question mark in the title. Explain that a question mark at the end of a sentence means that the sentence is asking something. Ask, *What is this sentence asking about?* (how we learn)

Flip through the book and briefly discuss a few of the **photographs**. To stimulate discussion, ask questions such as, *What are these children doing? How is this child learning about the flower? What do you think this child is learning about? What are these objects? Why do you think they are in a book about learning?*

Have students turn to the **table of contents** and read aloud the title and the word *Contents*. Explain that the table of contents is a list that tells what is written in the book. Ask, *What do you notice about this page?* Give students a few minutes to share their observations. Each line has been printed in a different color so they can easily be referred to and identified by both readers and nonreaders. Read aloud the first heading. Ask, *Where do you think you will find information about your senses in this book?* Point to the page numbers listed after each heading. Explain that each number tells the page on which students will find information about each heading. Then read the last two headings.

Preview the Vocabulary

You may wish to preview some of the vocabulary words before reading rather than waiting to introduce them in the context of the book. Possibilities include creating a word wall, vocabulary cards, sentence strips, or a concept web.

For example, you may wish to play a variation of the game Charades to review verbs introduced in the book. On the board or chart paper, write three words from the book, for example, *compare*, *observe*, and *measure*. Read the words aloud. Tell students that you are going to act out one of the words and they are to try to guess which word it is. Repeat the game using different sets of words and allowing volunteers to choose one to act out.

Set a Purpose

Discuss with students what they might expect to find out from the book, based on their preview. Use their comments and questions to set an overall purpose for reading.

GUIDE THE READING

Preview the book yourself to determine the amount of guidance you will need to give for each section. Depending on your schedule and the needs of your class, you may wish to consider the following options:

- **Read Aloud** Read the book aloud with the whole class. Encourage students to ask questions and make comments. Pause as necessary to clarify and assess understanding.
- **Shared Reading** Pair readers with nonreaders and have them read the book together. Pause students at appropriate stopping points to clarify as needed and to discuss any questions that arise or have been answered.
- **Independent Reading** Some students may be ready to read independently. Instruct them to pause at designated stopping

points and have them rejoin the class for discussion. Check understanding by asking students to explain in their own words what they read.

Tips for Reading

- Begin each text section by reading aloud the heading. Discuss what students expect to learn, based on the heading. Briefly discuss the photos in the section, and identify any unfamiliar objects.
- Show students how to use picture clues to figure out the meanings of the words in boldface type. Tell students that these are important science words and that they should ask an adult or other student for help if they cannot figure out what the word means. As appropriate, demonstrate how to look up a word in the glossary.
- As appropriate, model reading strategies students may find helpful for nonfiction: making personal and text-to-world connections, asking questions, visualizing, making inferences, and self-correcting.

Pages 2–6 *We use our senses.*

- **Page 2** Point to each word as you read aloud the heading on page 2. Point to the word *senses* and read the word aloud. Ask, *Does anyone know what your senses are?* Confirm students' responses by telling them, *We use our senses to learn more about the world.* Tell students that they will learn more about their five senses as they read the next few pages.
- Read aloud the text on page 2 and have students look at the photograph. Ask, *What are these children looking at?* (a butterfly) *Look at this butterfly. What can you learn about this butterfly just by looking at it?* (It is yellow and black. It has wings. It can fly.)
- Ask, *What part of your body do you use when you look at or see something?*

(eyes) Have students point to their eyes. Tell students, *When you use your eyes to look at or see something, you are using your sense of sight.*

- **Page 3** Ask, *What is happening in this picture?* (A teacher is reading to her students.) *What are the children doing?* (looking at the book, listening to the teacher) Read aloud the text. Then ask, *What part of your body do you use when you listen to or hear something?* (your ears) Have students point to their ears. Tell them, *When you use your ears to listen to or hear something, you are using your sense of hearing.*
- **Page 4** Briefly discuss the photograph. Then ask, *What is the boy doing to learn about the starfish?* (Accept all reasonable answers.) Read aloud the text. Ask, *What part of his body is the boy using to touch the starfish?* (his hand, his fingers) Tell students that when they feel something, they are using their sense of *touch*. Ask, *What do you think the boy is learning about the starfish by touching it?* (Accept all reasonable answers.)
- **Page 5** Ask, *What is the girl doing in this picture?* (smelling a flower) Read the text, pausing to allow students to contribute the last word in the sentence. (*smell*) Ask, *What part of her body is she using to smell the flower?* (her nose) Have students point to their noses. *What is the girl learning by using her sense of smell?* (that the flower smells sweet)
- **Page 6** Ask, *What is this girl doing?* (eating a watermelon) Briefly discuss students' experiences with watermelon. Read aloud the text and ask, *What is she using to taste the watermelon?* Students will probably respond that the girl is using her mouth. Point out that the part of the mouth that tastes things is the *tongue*. Ask students to stick out their tongues. Ask, *How do you think the watermelon tastes?* (sweet, cold, watery) *What are some other things that taste sweet?* (Accept all reasonable responses.)

Safety Note: Tell students that even though the sense of taste helps them learn, they should never taste an object or put an object in their mouths in science class unless the teacher tells them to do so.

Pages 7–13 *We find out.*

- **Page 7** Read aloud the heading on page 7. Ask, *How do you find out about things?* (Accept all reasonable answers.) Briefly discuss the photograph and ask, *What do you think the boy and the firefighter are talking about?* Read the text at the bottom of the page. Point out that we ask questions to find out more about the world around us. Ask, *What questions do you think the boy might be asking? How might he find out the answers to his questions?* Students will probably answer that the firefighter will tell the boy the answers. Ask, *What are some other ways the boy could find out the answers to his questions?* (Answers may include reading or experimenting.)
- **Page 8** Briefly discuss the photograph on page 8 and read the text. Ask, *Have you ever found something out by reading?* Give students a chance to share their experiences. Remind students that they are reading right now. Ask, *What have you found out so far by reading this book?* (Accept all reasonable answers.)
- **Page 9** Discuss the photograph by asking questions such as, *Is it day or night in this picture? How do you know? What are the people doing?* (looking at the sky) *What do you think they see?* (moon, stars) Read aloud the text.
- Point to the word *observe* and ask students what they notice about the word. (It is in dark print.) Tell students that words printed in dark print are listed in the back of the book. Write the word *observe* on the board. Then have students turn to the glossary on the inside back cover of the book and point to *observe*. Read aloud the word and the definition. Tell students, *This list of words is called*

a glossary. A glossary gives the meanings of some important words in the book. If you see a word in dark print, you can find out what the word means by looking in the glossary.

- Ask students how they think the words *observe* and *look* are alike. (People use their eyes to observe and to look at things.) The words *look* and *observe* (as well as *see* and *watch*) are synonyms—they have similar meanings. In science, the word *observe* has a special meaning. Observing involves using all the senses, not just the eyes, to find out information. For example, meteorologists observe the weather. When scientists observe, they use all their senses and they often use measuring tools that extend their senses in order to gather as much information as possible.
- Point out to students that when we observe something, we often watch it over a period of time. Ask, *What might the people in the picture observe over a period of time?* (Accept all reasonable answers. Students may suggest that the light might change, clouds might come and cover the moon, the stars might change position in the sky, or the moon might change shape.)
- **Page 10** Have students look at the chart on page 10. Ask, *What do you think we will find out by looking at this chart?* (Accept all reasonable predictions.) Help students identify the objects in the chart. Then read aloud the text at the bottom of the page. Ask, *What does it mean when we compare two things?* If necessary, turn to the glossary and read the meaning of the word aloud.
- Point to the word *alike* in the top row of the chart and read it aloud. Ask, *How are these objects alike?* (They are both balls. They are both round. They are the same size.)
- Point to the word in the middle row and ask, *What do you think this word says?*

If necessary, have students compare the word to the one in the top row. Ask, *How are these two objects alike?* (They are both blue. They are both made of glass.)

- Point to the word *different* in the bottom row and ask, *Is this the same word as the ones in the first two rows? How do you know?* Read the word aloud. Ask, *How are these two objects different?* (Accept all reasonable answers.)
- **Page 11** Help students identify the objects in the chart on page 11. Then read aloud the text at the bottom of the page. Ask, *Have you ever helped your mom or dad sort the laundry or groceries or your toys? What did you do?* Tell students that they can sort objects into groups by thinking about how they are alike.
- Point to the left side of the top row. Ask, *How are these objects alike?* (They are both round.) Do the same for the objects on the right side of the top row. Point to the word *shape* and read it aloud. Tell students, *These objects have been sorted into groups that have the same shape.* Follow the same procedure for the objects in the two remaining rows.
- **Page 12** Help students identify the objects on page 12. Then read the text aloud. Point out that tools help people do work. Tools can help people fix things, make things, move things, and build things. Point to the pencil, the hammer, the paper clip, and the scissors. Ask about each item, *What might this tool help you make?*
- Next, point to the magnifier. Ask, *What does this tool help you do?* (see small things by making them appear larger) Explain that tools such as magnifiers help people learn more about the world by using their senses in more powerful ways. Ask students where they have seen another magnifier. (on the front cover of the book) Explain that scientists use magnifiers and many other types of tools in their work. For example, scientists use

microscopes to study tiny objects. They use telescopes, such as the one shown on page 9, to look at faraway objects. They use thermometers to find out how hot or cold something is.

- **Page 13** Have students look at page 13 as you read aloud the text. Ask, *Have you ever measured something or watched someone measure something? What are some tools that people use for measuring?* (Students may suggest measuring cups for cooking or scales for weighing.) Explain that the picture shows some different things people might use for measuring. Help students identify the objects being used to measure between the green (start) and red (stop) lines.
- Show students how to use each measuring tool shown on the page to measure between the green and red lines, and ask them to give the measure in footprints (more than 1), crayons (about 3), paper clips (about 5), centimeters (about 27), and inches (between 10 and 11). Ask, *What other ways might we measure between the lines?* If necessary, suggest several alternatives, such as handprints, connecting blocks, or string.

Pages 14–16 *We share.*

- **Page 14** Have students turn to page 14 and read the heading aloud. Ask, *What are some ways you can share what you learn?* (Accept all reasonable responses.) Tell students that they will find out about different ways to share information on the next few pages.
- Briefly discuss the photograph on page 14 and read aloud the text at the bottom of the page. Ask, *What do you think these children are talking about? Have you ever shared something you learned by talking about it?* Give students the opportunity to share their experiences. Elicit that a computer is a tool we can use to get information and learn. We can also use a computer to share information.

- **Page 15** Ask students what they see on page 15. If necessary, tell students that the drawing on page 15 is a chart. Help students identify the balance and explain that a balance helps us compare the weights of different objects.

- Read aloud the text at the bottom of the page. Tell students that the chart is how one student used drawing and writing to share what he or she learned from using the balance. Read aloud the labels *light* and *heavy* and discuss with students the information shown in the chart.

- **Page 16** Have students turn to page 16, and read aloud the text at the bottom of the page. Explain that the picture shows a graph. Read aloud the title and labels on the graph. Ask questions about the information shown in the graph—for example, *Do more people have cats or dogs? How many people have fish?* Point out that a graph is a good way to show information we gather. Discuss any other graphs you might have done previously in your class.

Back Cover

- Direct students' attention to the back cover and read the text. Ask questions to help spark discussion about the photograph. For example, ask, *What is the boy looking at? Where do you think the boy is? What questions do you think the boy has about the dinosaur? How might the boy learn more about the dinosaur? What could you do to learn more about dinosaurs?*

Comparing Covers

- Have students look again at the front cover of the book. Invite a volunteer to summarize what the photograph shows. (a leaf viewed through a magnifier) Have students open their books flat so they can see both front and back covers at the same time. Ask questions to lead students to discover similarities and differences between the information that is shown.

- Remind students of the title of the book. Ask, *What do the pictures on the covers show about how we learn?* (The front cover shows how we learn about a leaf and the back cover shows how we learn about a dinosaur.) Point out that this is one way the pictures are alike. They both show ways to learn about something. Then ask, *How are the pictures different? What differences do you see in the information shown in the two pictures?* (Possible answers: On the front cover, a tool is being used. On the back cover, the boy is using only his eyes. On the front cover, someone is looking at something small and on the back cover someone is looking at something very big. The leaf on the front cover is something we can see every day in our yards. The dinosaur on the back cover is found only in a museum. We can touch the leaf but we should not touch the dinosaur.)
- Elicit that science learning is all around us. We can learn about science by using our senses and finding out about everyday objects. (This is called “backyard science.”) We also can learn about science by going to special places that have unusual objects and helpful tools, such as museums, planetariums, aquariums, zoos, parks, weather bureaus, and other local resources. (This is called “community science.”)

AFTER READING

Summarize

Flip through the book one more time. Use the headings, photographs, and boldfaced terms to help students summarize the information in each section.

Review the concept web you began on the board before reading *How do we learn?* Ask students what new ideas and words they would like to add to the web about how we learn. Review the web together as a way to summarize what students have learned.

Review/Assess

Use the questions that follow as the basis for a discussion of the book or for an oral assessment.

1. *We have five senses. What are the five things we can do with our senses?* (look, listen, touch, smell, and taste) *What do our senses help us do?* (Our senses help us find out about the world around us.)
2. *What are some other ways we can find out about the world around us?* (ask questions, read, observe, compare, sort, use tools, measure)
3. *Suppose you were walking along the beach and you found a strange object. What are some ways you could learn about the object?* (use your senses, ask questions, look it up in a book, measure it, and so on)
4. *What are two different ways you can share what you learn?* (talk about it, write or draw about it)

Writing Links/Critical Thinking

Present the following as drawing or writing assignments. Provide help as needed.

1. On chart paper, begin a collaborative story titled “How We Learn.” Have students dictate words to complete the sentence pattern telling how they learn about the world around them. For example,

How We Learn

_____ learns about _____ by _____.

Ms. Lopez learns about our goldfish by observing them.

Kelsie learns about soccer by listening to her coach.

Sam learns about earthquakes by reading about them.

When everyone has had a chance to contribute to the story, have each student

copy and illustrate the sentence he or she contributed. Bind the illustrations together to make a class book.

2. Pretend you are an astronaut who has landed on a planet where no one has ever been before. Draw a picture and write words telling how you would learn and gather information about the planet you discovered.

Science Journals: You may wish to have students keep the writing and drawing activities related to the Delta Science First Reader in their science journals.

References and Resources

For trade book suggestions, see the References and Resources section of this teacher's guide.