

How to Read Science

Reading Skills



Compare and Contrast

Sometimes you need to **compare and contrast** information to understand what you **observe** or what you read. When you compare you say how things are alike. When you contrast you say how things are different.

Science Article

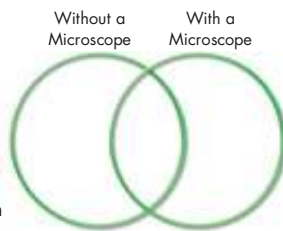
Onions and Their Cells

An onion has many different characteristics. An onion may be white, yellow, green, or red. Onions have layers. You can see thin lines going from the bottom to the top of the onion. Onions look very different when you observe them with a microscope. You see box-like structures called cells. They are usually the same color as the onion. You can see a dot in the center of each cell.



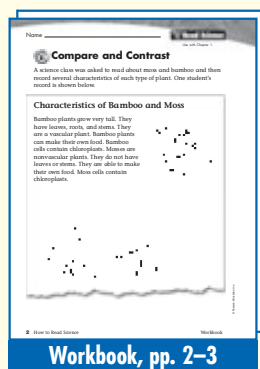
Apply It!

Make a graphic organizer like the one at the right to **compare and contrast** onion characteristics that you **observe**. Write the characteristics that you see without using a microscope in one circle, those you see using a microscope in the other circle, and characteristics that are the same in the center section.



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How to Read Science Resource



ELL Support

For more practice on **Compare and Contrast**, use Every Student Learns Teacher's Guide, p. 1.

How to Read Science



Compare and Contrast



Reading Objective

- The student understands a variety of textual organizations (for example, comparison and contrast, cause-and-effect, sequence of events).

About the Target Skill

The target skill for *Classifying Plants and Animals* is **Compare and Contrast**. Students are introduced to the skill as you guide them through this page.

1 Introduce

Tell students that understanding how to compare and contrast can help them see similarities and differences between ideas, objects, or actions. Say: **Suppose you are trying to decide which movie to see. What might you do?** Possible answer: I will think about factors such as the time each one is playing, where it is playing, what it is about, and so forth, and then see which one has the best combination of factors.

2 Model the Skill

Point out the science article in the middle of the page. Help students understand that noting how things are the same and how they are different can help them to better understand unfamiliar things.

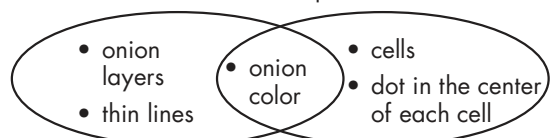
3 Strategy

Graphic Organizer

Look at the Graphic Organizer together. Work with students to complete the Graphic Organizer using the information from the science article.

Apply It!

Without ← Microscope → With



Chapter 1 Lesson 1

What are the building blocks of life?



Science Objectives

- The student knows that living things are composed of cells.
- The student knows that processes needed for life are carried out by the cells.

1 Introduce

Quick ACTIVITY

TRANSPARENCY 1

Work with students to make a list of objects in nature and what they are made of. Ask students to compare the object with its smaller components. Explain that each component has a particular role in the overall object.

Access Prior Knowledge

Ask students what snowballs are made of. Show photographs of magnified snowflakes. Remind students that without a magnifying tool, they would not be able to see individual snowflakes.

Set Purpose

Help students set a **purpose for reading**, such as to understand what all living things have in common.

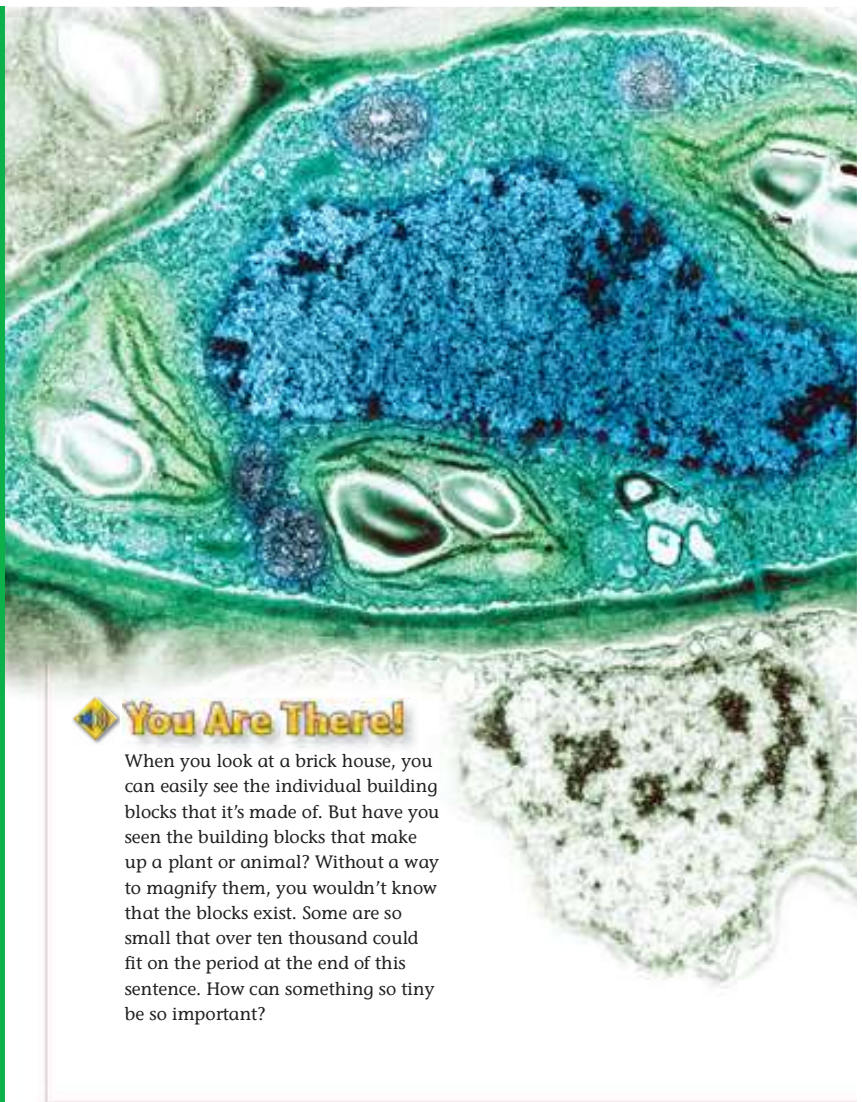
2 Teach

Quick SUMMARY

- All living things are made of cells.
- A cell is the smallest unit of a living thing that can carry out life processes.
- Cells are usually too small to be seen without a microscope.

Have students read pages 6–7 and make a list of things that cells do.

Assign Quick Study pp. 2–3 to students who need help with lesson content.



You Are There!

When you look at a brick house, you can easily see the individual building blocks that it's made of. But have you seen the building blocks that make up a plant or animal? Without a way to magnify them, you wouldn't know that the blocks exist. Some are so small that over ten thousand could fit on the period at the end of this sentence. How can something so tiny be so important?

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Lesson 1 Resources

Workbook

Lesson 1: What are the building blocks of life?

Before You Read Lesson 1

Read each statement below. Place a check mark in the circle to indicate whether you agree or disagree with the statement.

	Agree	Disagree
1. All living things are made of millions of cells.	☐	☐
2. The heart is a muscle.	☐	☐
3. A virus is a cell that makes its own food.	☐	☐
4. Plant cells and animal cells are both made up of the same parts.	☐	☐

After You Read Lesson 1

Read each statement below. If the lesson supports your choice, place a check mark in the **Correct** circle. Then explain how the text supports your choice. If the lesson does not support your choice, place a check mark in the **Incorrect** circle. Then explain why your choice is wrong.

	Correct	Incorrect
1. _____	☐	☐
2. _____	☐	☐
3. _____	☐	☐
4. _____	☐	☐

Workbook

Workbooks

Check, Read, Learn

Workbook, p. 4



Use the audio version of the Student Edition to support emerging readers, auditory learners, and students with limited English proficiency.