

ADVISORY 1, UNITS 1-2, LESSON 2 CELLS AND BODY SYSTEMS

Summary

- In this lesson, students will read "Body Works" (pp. 18-23) to learn what organs are and how they team up to make your body work.

Science Background

The human body is an amazing machine. It is composed of tiny cells that work together to form tissues or organs. Groups of organs form systems. And those systems work together to make the body function.

Although the brain only takes up about two percent of the entire body, it is the most complex organ there is. The brain controls everything else. It collects information from senses, interprets each message, and sends instructions to other parts of the body. The brain is also what makes us human. It controls personality, memories, movement, and how we see the world.

The heart is the hardest-working organ in the body. Beating 100,000 times a day, it constantly pumps blood through the body's massive network of vessels. As the heart moves blood, it keeps the body supplied with fresh oxygen and nutrients. It also carries harmful waste away.

Lungs are another essential organ in the human body. When people inhale through their nose and mouth, air flows down the windpipe to the lungs. The lungs extract oxygen and pass it into the bloodstream, which carries it to all other parts of the body. As the body uses oxygen, it produces carbon dioxide as a byproduct. Blood takes carbon dioxide back to the lungs where it is eliminated from the body as people breathe out.

ENGAGE

Encourage students to flip through the article and turn and talk with a partner to discuss what they see. Invite students to ask questions or share what they already know about organs in the human body.

EXPLORE

Instruct students to examine the close-up images on pages 4-5 of their Readers. **Ask:** *What do these photos show?* (blood, skin cells, and tiny hairs inside the windpipe) Tell students to compare what they see here to the actual body parts. Brainstorm ideas about how the basic structure of each part helps it work in a unique way.

EXPLAIN

Remind students that the human body is made up of different parts, or organs. Each organ has a special job. **Ask:** *What is the special job of your brain?* (It collects information from your senses and sends messages to other parts of the body.) *How does information get to your brain?* (through nerves) Have students turn and talk as they review the articles to explore how other organs featured in the article work. Then challenge students to explain how the heart and lungs work together. (When you breathe in, oxygen goes to your lungs. Inside the lungs, oxygen goes from bronchioles to alveoli to your blood. The heart pumps blood—and oxygen—all through your body. The body uses the oxygen and makes carbon dioxide. The blood carries carbon dioxide back to the lungs where you breathe it out.)

ELABORATE

Invite students to learn more about the most complex organ in the human body as they watch the National Geographic video "Brain 101" (www.nationalgeographic.com/science/health-and-human-body/human-body/brain/).

EVALUATE

Have students complete the **Content Assessment** for this lesson. Encourage them to share and compare their results in small groups.

Name _____

Date _____

CONTENT ASSESSMENT: Cells and Body Systems, Lesson 2

Record information about these organs featured in the article.

	Heart	Lungs
Create a Diagram		
Explain How the Organ Works		
How does the brain work with the heart and lungs to make a body function?		