



The Different Jobs of Cells

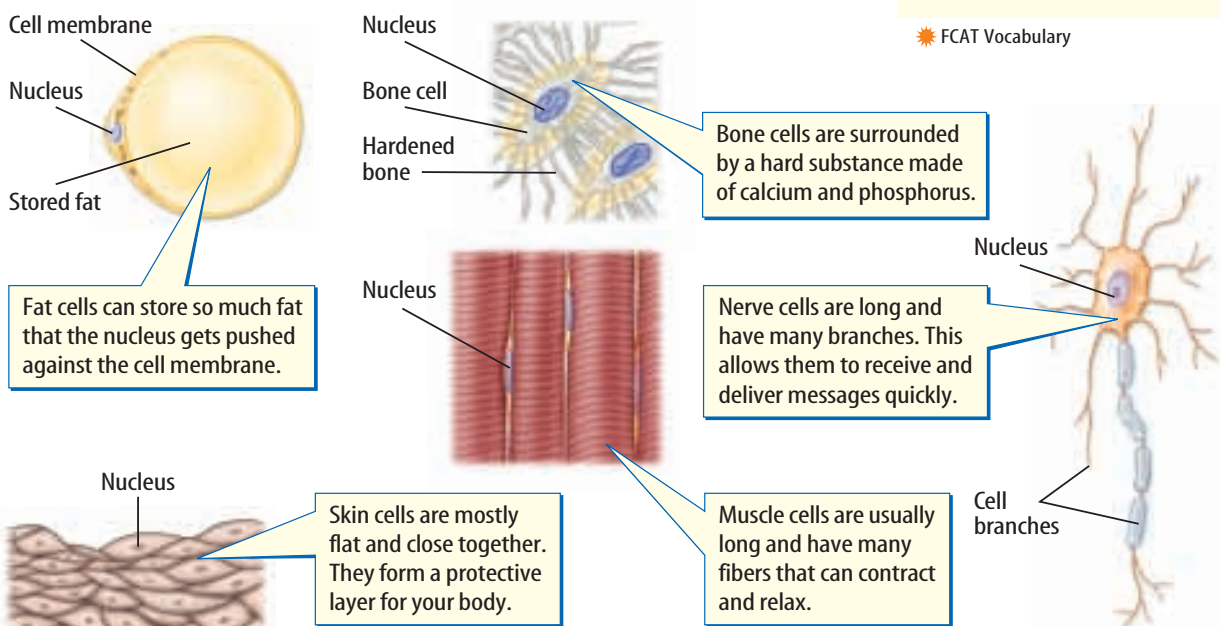
Special Cells for Special Jobs

Choose the right tool for the right job. You might have heard this common expression. The best tool for a job is one that has been designed for that job. For example, you wouldn't use a hammer to saw a board in half, and you wouldn't use a saw to pound in a nail. You can think of your body's cells in a similar way.

Cells that make up many-celled organisms, like you, are specialized. Different kinds of specialized cells work as a team to perform the life activities of a many-celled organism.

Types of Human Cells Your body is made up of many types of specialized cells. The same is true for other animals. **Figure 7** shows some human cell types. Notice the variety of sizes and shapes. A cell's shape and size can be related to its function.

Figure 7 Human cells come in different shapes and sizes.



as you read

What You'll Learn

- **Discuss** how different cells have different jobs.
- **Explain** the differences among tissues, organs, and organ systems.

Why It's Important

You will understand how different types of cells work together to keep you healthy.

Review Vocabulary

✦ **organism:** anything that possesses all the characteristics of life

New Vocabulary

- ✦ **tissue**
- ✦ **organ**
- organ system

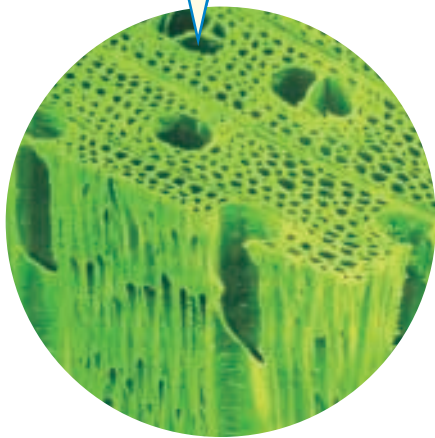
✦ FCAT Vocabulary



Figure 8 Plants, like animals, have specialized cells.

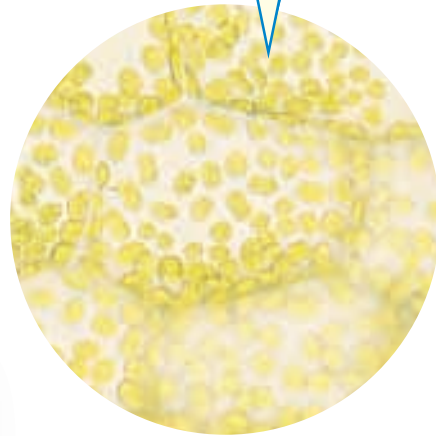
Infer *what process can occur in leaf cells but not in root cells.*

Many of the cells in stems are long and tube-shaped. They move water and other materials through the plant.



SEM Magnification: 1500×

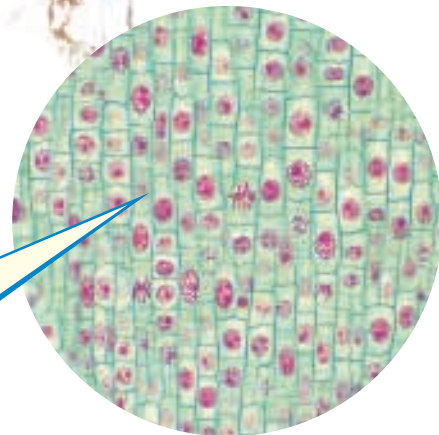
Some leaf cells are brick shaped and contain many chloroplasts.



LM, Magnification: 900×



Most root cells are block shaped and do not contain chloroplasts.



Magnification: 450×

Mini LAB

SC.F.1.3.6

Analyzing Cells

Procedure

1. Complete a safety worksheet.
2. Examine prepared slides of human cells.
3. Draw each type of cell that you observe in your **Science Journal**. Label cell parts that you can see.

Analysis

1. In what ways were the cells that you observed similar? How were they different?
2. Hypothesize how the cells' shapes relate to their jobs.

Types of Plant Cells Like animals, plants also are made of several different cell types, as shown in **Figure 8**. For instance, plants have different types of cells in their leaves, roots, and stems. Each type of cell has a specific job. Some cells in plant stems are long and tubelike. Together they form a system through which water, food, and other materials move in the plant. Other cells, like those that cover the outside of the stem, are smaller or thicker. They provide strength to the stem.

Reading Check

What do long, tubelike cells do in plants?