





The differences among living things arise from the ways in which cells are specialized to perform certain tasks and the ways in which cells associate with one another to form multicellular organisms.

7-4 The Diversity of Cellular Life Vinicellular Organisms

Unicellular Organisms

Unicellular organisms are made up of only one cell.

Unicellular organisms dominate life on Earth.



















Plants exchange carbon dioxide, oxygen, water vapor, and other gases through tiny openings called stomata on the undersides of leaves.

Highly specialized cells, known as guard cells, regulate this exchange.

















Tissues

Similar cells are grouped into units called tissues.

A **tissue** is a group of similar cells that perform a particular function.











Organ Systems

In most cases, an organ completes a series of specialized tasks.

A group of organs that work together to perform a specific function is called an **organ system**.

7-4 The Diversity of Cellular Life Levels of Organization







7-4 Section QUIZ

1Cell specialization is characteristic of

- a. bacteria.
- b. all unicellular organisms.
- c. yeasts.
- d. multicellular organisms.



- Which of the following cells is specialized for contraction?
 - a. muscle cell
 - b. red blood cell
 - c. pancreatic cell
 - d. nerve cell

7-4 Section QUIZ

The stomach is an example of a(an)

- a. tissue.
- b. organ.
- c. organ system.
- d. organism.

7-4 Section QUIZ

Which of the following shows the levels of organization in an organism from the simplest to the most complex?

- a. organ system, organ, cell, tissue
- b. tissue, cell, organ, organ system
- c. cell, tissue, organ, organ system
- d. cell, organ, tissue, organ system

7-4 Section QUIZ

5 Which of the following would probably contain the greatest variety of specialized cells?

- a. an organ system
- b. a tissue
- c. an organ
- d. a multicellular organism