

Goal • Use this summary to review the concepts in Unit 4—Cells, Tissues, Organs, and Systems.

Chapter 10 The cell is the basic unit of life.

- All living things have characteristics that demonstrate that they are alive. These include the ability to grow, to move, to reproduce, and to respond to stimuli. (10.1)
- Some living things are very small and can be observed only with a microscope. (10.1)
- A compound light microscope is an important tool in the study of cells and microscopic living things. (10.1)
- All cells have similar structures and organelles. Each structure and organelle carries out a specific task to help support the life functions of a cell. (10.2)
- Cellular respiration is the process that produces energy for the cell. (10.2)
- Cell theory states that the cell is the basic unit of life; all living things are composed of one or more cells; all cells come from other living cells. (10.2)

Chapter 11 Human body cells are organized as tissues, organs, and systems.

- A system is made up of parts that work together as a whole. (11.1)
- Each system of the human body consists of organs that are made up of different kinds of tissue. (11.1)
- Tissues are made up of many similar cells working together to carry out a specific function. (11.1)
- The human body is made up of 11 systems that, working independently and together, support and maintain the function of the whole body. (11.2)

Chapter 12 The health of the human body depends on the health of its interdependent systems.

- All the cells of the body have the same basic need for energy, nutrients, and oxygen to carry out their functions. All cells also have the same basic needs for removing wastes. (12.1)
- Body systems work together to provide cells with what they need. Thus, they support themselves, one another, and the whole human body. (12.1)
- All body systems work together with other body systems. (12.2)
- If one system does not function properly, the whole network of systems is disrupted, and the whole body is affected. In the same way, maintaining the health of each body system keeps the network of systems, and the whole body, healthy. (12.2)
- Factors such as diet, exercise, and stress affect the health of the body systems. (12.2)