

SECTION

MULTICELLULAR ORGANISMS MEET THEIR NEEDS IN DIFFERENT WAYS.

2.1 Reinforcing Key Concepts

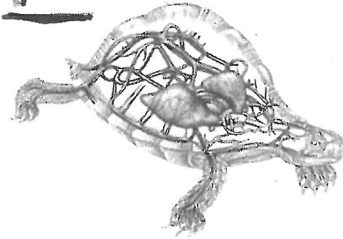
BIG IDEA Multicellular organisms live in and get energy from a variety of environments.

KEY CONCEPT Multicellular organisms meet their needs in different ways.

1. Multicellular organisms have cells that are specialized.

In multicellular organisms, different jobs are done by different cells. Cells of the same type are organized into tissues. A structure that is made up of different tissues is an organ. Different organs that work together are called an organ system. Look at the diagram at right. Then answer the questions that follow.

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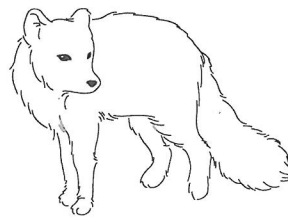
- a. What two organ systems are shown in the diagram? Name one organ from each system.

- b. What is the function that is shared by the organ systems shown in the diagram?

2. Multicellular organisms are adapted to live in different environments. An adaptation is any characteristic that increases the chance of an organism surviving long enough to reproduce. Look at the drawings of the Arctic fox and the fennec. Name one adaptation and its function for each animal that the other does not have.

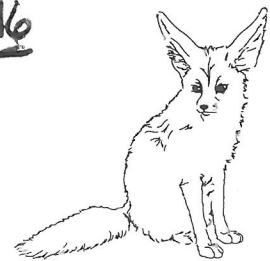
- a. Arctic fox

- b. Fennec



a.

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b.

3. Sexual reproduction leads to diversity. Most reproduction that occurs in multicellular organisms is sexual reproduction. However, some multicellular organisms can reproduce by asexual reproduction. What is one disadvantage of asexual reproduction?

SECTION | PLANTS ARE PRODUCERS.

2.2 Reinforcing Key Concepts

BIG IDEA Multicellular organisms live in and get energy from a variety of environments.

KEY CONCEPT Plants are producers.

1. **Plants capture energy from the Sun.** Energy from the Sun cannot drive cellular processes directly. Light energy must first be converted into chemical energy. Plants can capture energy from the Sun and convert it into chemical energy. However, only part of the energy captured by a plant is used as fuel for cellular processes. Some of the sugar produced is used as building material so the plant can grow. The remaining sugar is stored. Describe the different ways plants store sugar.

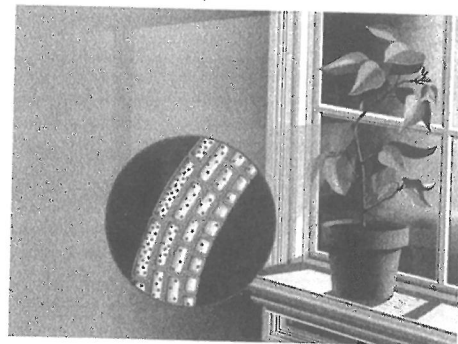
2. **Plants are adapted to different environments.** Leaves, stems, and roots are adaptations that enable plants to live on land. Just as there are many different types of land environments, there are many different types of plants that have adapted to these environments. How are the reproduction adaptations of desert flowering plants and flowering plants living on snowy mountains similar? Why are both adaptations similar?

3. **Plants respond to their environment.** A stimulus is something that produces a response from an organism. The ability to respond to the environment helps plants grow and survive. One powerful stimulus in a plant's environment is light. Plants respond to light with the help of the hormone auxin. The diagram below illustrates how auxin affects the way a plant grows. Number the captions below to describe the sequence of events.

Cells with high levels of auxin grow longer and cause the plant to bend.

Auxin moves to cells on the dark side of the plant.

Sunlight stimulates the production of auxin.



4. **Plants respond to seasonal changes.** Most regions of the world go through seasonal changes every year. Seasonal changes—such as changes in temperature and the length of the day—have an effect on plants. How does a plant benefit by responding to seasonal changes?

SECTION | ANIMALS ARE CONSUMERS.

2.3 Reinforcing Key Concepts

BIG IDEA Multicellular organisms live in and get energy from a variety of environments.

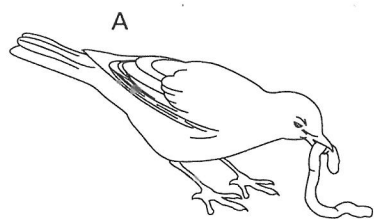
KEY CONCEPT Animals are consumers.

1. **Animals obtain energy and materials from food.** All animals must have a method for processing the food they take in and a method for obtaining the oxygen needed for cellular respiration. Complete the chart to describe some of the different methods used by animals to process food and obtain energy.

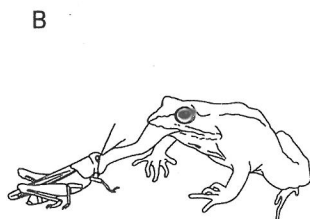
Animal	Method of Processing Food	Method of Obtaining Oxygen for Cellular Respiration
Fish	a.	b.
Sponge	c.	d.
Tiger	e.	f.

2. **Animals interact with the environment and with other organisms.**

Interactions that occur between animals of different species often involve the search for food. A predator is an animal that hunts other animals for food. An animal that is hunted by another animal as a source of food is the prey. Label the predator and the prey in each drawing.



Robin & earthworm



Frog & grasshopper



Chimpanzee & termites

3. **Animals respond to seasonal changes.** Some animals do not do well in extreme heat or cold. Unlike plants, animals can respond to seasonal changes by changing their location. Animals that travel to different places during different seasons are called migratory animals. Not all animals migrate, however. Some animals change their behaviors in response to seasonal changes. How can animals change their behavior in response to seasonal changes? What types of animals behave in this way?



Name _____

Period _____

Date _____

SECTION

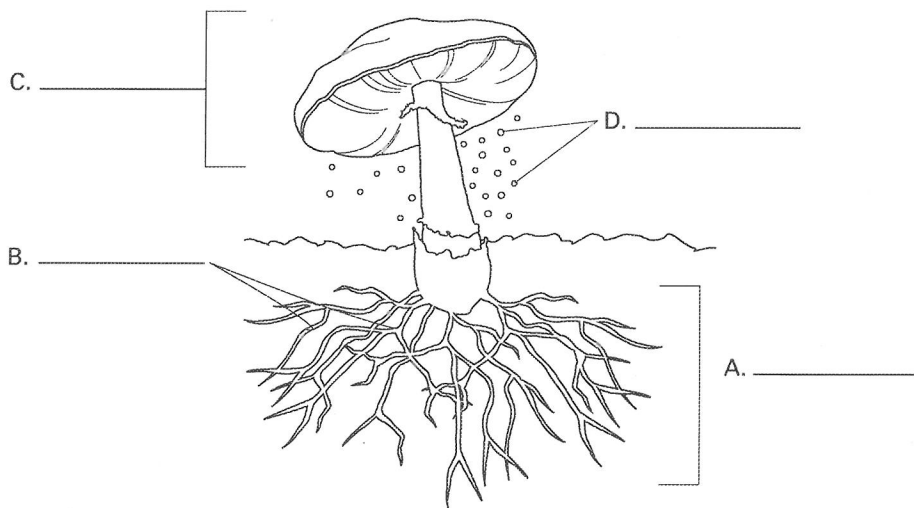
MOST FUNGI ARE DECOMPOSERS.

2.4 Reinforcing Key Concepts

BIG IDEA Multicellular organisms live in and get energy from a variety of environments.

KEY CONCEPT Most fungi are decomposers.

1. **Fungi absorb materials from the environment.** Multicellular fungi do not have tissues or organs. Instead, a typical fungus is made up of *hyphae*, *mycelium*, *spores*, and a *reproductive body*. In the diagram below, write the correct name and function of each part of the fungus.



2. **Fungi include mushrooms, molds, and yeasts.** A convenient and simple way to study fungi is to look at their forms: mushrooms, molds, and yeasts. Complete the chart below by indicating which fungi are molds, mushrooms, or yeasts.

Name of Fungus	Mold, Mushroom, or Yeast
<i>Saccharomyces cerevisiae</i>	
<i>Pilobolus</i>	
toadstool	
<i>Penicillium</i>	

3. **Fungi can be helpful or harmful to other organisms.** Fungi have a close relationship to the environment and all living things in the environment. Give one example of a way that fungi have been helpful to your life. Give one way that they have been harmful.

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CHAPTER 2
Introduction to Multicellular Organisms