Teach, *continued*

Answers to Caption Questions

Figure 5: dolphins

Teaching Key Ideas

Animal Senses Have students look ahead to **Figure 9** and study these pictures. Discuss the relationship between each animal's senses and its survival, based on its lifestyle and habitat. LS Visual

Close

Formative Assessment

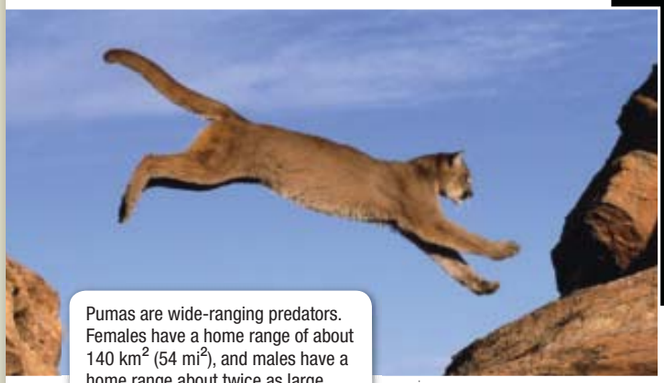
Which of the following are characteristics of mammals?

A. ectothermic, have hair (Incorrect. Mammals have hair and are endotherms.)

B. endothermic, produce milk (Correct! Mammals generate heat internally; females nourish young with milk.)

C. respiratory system adapted to ectothermy, produce milk (Incorrect. Although females produce milk, mammals are endotherms.)

D. hairless, have specialized teeth (Incorrect. Mammals have specialized teeth and hair.)



Pumas are wide-ranging predators. Females have a home range of about 140 km^2 (54 mi^2), and males have a home range about twice as large.



Bats are the only mammals that exhibit true flight. They use echolocation to help locate food.

Figure 5 Mammals are adapted to various modes of locomotion, including running and jumping (left) and flying (right). **Other than bats, which mammals use echolocation to find food?**

echolocation the process of using reflected sound waves to find objects

ACADEMIC VOCABULARY

process a set of steps, events, or changes

Movement and Response

Mammals use various modes of locomotion, including running, hopping, climbing, burrowing, flying, and swimming. Adaptations in body structure help mammals move around in their particular environment. The mountain lion shown in **Figure 5** has powerful limbs for running and jumping. A bat's front limbs are modified into wings for flight. The limbs of dolphins and whales are adapted to swimming.

Mammals rely on their senses—vision, hearing, smell, taste, and touch—for survival. The importance of a given sense depends on a mammal's lifestyle and habitat. Although bats and dolphins live in very different environments, both animals use sound to sense their environments. They make high-pitched clicks that spread into the air or the water. When sound waves hit an object, such as a moth or a fish, they bounce back to the bat or dolphin. The bat or dolphin can use these sound echoes to "see" their prey or obstacles in the environment. This process, called **echolocation,** allows a bat to navigate through a forest or catch a moth in total darkness, as **Figure 5** shows. Dolphins use echolocation to catch fish and navigate at sea.

Reading Check *What are three types of locomotion that mammals use?*

Section 1 Review

KEY IDEAS

1. **Name** three key characteristics of mammals.
2. **Relate** the mammal's heart and respiratory systems to its endothermic metabolism.
3. **Compare** the functions of different types of mammalian teeth.
4. **Describe** how mammals are unique in terms of parental care.
5. **Name** five types of locomotion that mammals use.

CRITICAL THINKING

6. **Justifying Conclusions** A classmate tells you that a mammal's metabolism makes it hard for the mammal to be active at night because of the cold. Is your classmate correct?

WRITING FOR SCIENCE

7. **Essay** Write an essay about how whales stay warm even though they have no hair and why seals can survive in cold climates with little hair. Compare how these mammals survive the cold with how other mammals do.

Answers to Section Review

1. hair, mammary glands, specialized teeth
2. The mammals' circulatory and respiratory systems acquire and distribute oxygen more efficiently than the respiratory and circulatory systems of ectotherms.
3. incisors: biting and cutting; canines: stabbing and holding; premolars and molars: crushing and grinding
4. Young mammals are dependent on their mothers for a relatively long period. They receive food, protection, and shelter from her. Mammals are unique in the way that they nourish their young after birth.
5. running, hopping, burrowing, flying, swimming
6. No, an endothermic metabolism allows mammals to be active during the day and night, regardless of the temperature, because their body temperature does not change with the temperature of the environment.
7. These groups have blubber that keeps them warm. They also generate a lot of heat by being active and endothermic. Other mammals stay warm with a thick layer of hair, but they, too, have an endothermic metabolism.