

SECTION 32-1 REVIEW

INTRODUCTION TO THE MAMMALS

VOCABULARY REVIEW Define the following terms and explain its importance.

1. **mammary gland** _____

2. **diaphragm** _____

3. **cerebral cortex** _____

4. **nocturnal** _____

5. **subcutaneous fat** _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The heart of a mammal
 - a. contains two chambers, like the heart of a bird.
 - b. contains four chambers, like the heart of an amphibian.
 - c. has four chambers with all of them completely separated.
 - d. allows deoxygenated blood to mix with oxygenated blood.
- _____ 2. The lower jaw of a mammal
 - a. is composed of a single, large bone.
 - b. contains teeth that are uniform in size.
 - c. contains teeth that are uniform in shape.
 - d. does not usually leave a trace in the fossil record.
- _____ 3. Early mammals are thought to have avoided competition with dinosaurs by feeding on
 - a. insects at night.
 - b. plants at night.
 - c. plants during the day.
 - d. small vertebrates during the day.
- _____ 4. One place where you would expect to find mammals but not reptiles is
 - a. a desert.
 - b. the Arctic.
 - c. a rain forest.
 - d. the ocean.

SHORT ANSWER Answer the questions in the space provided.

1. Discuss the process of respiration in all mammals, including whales. (p.824) _____

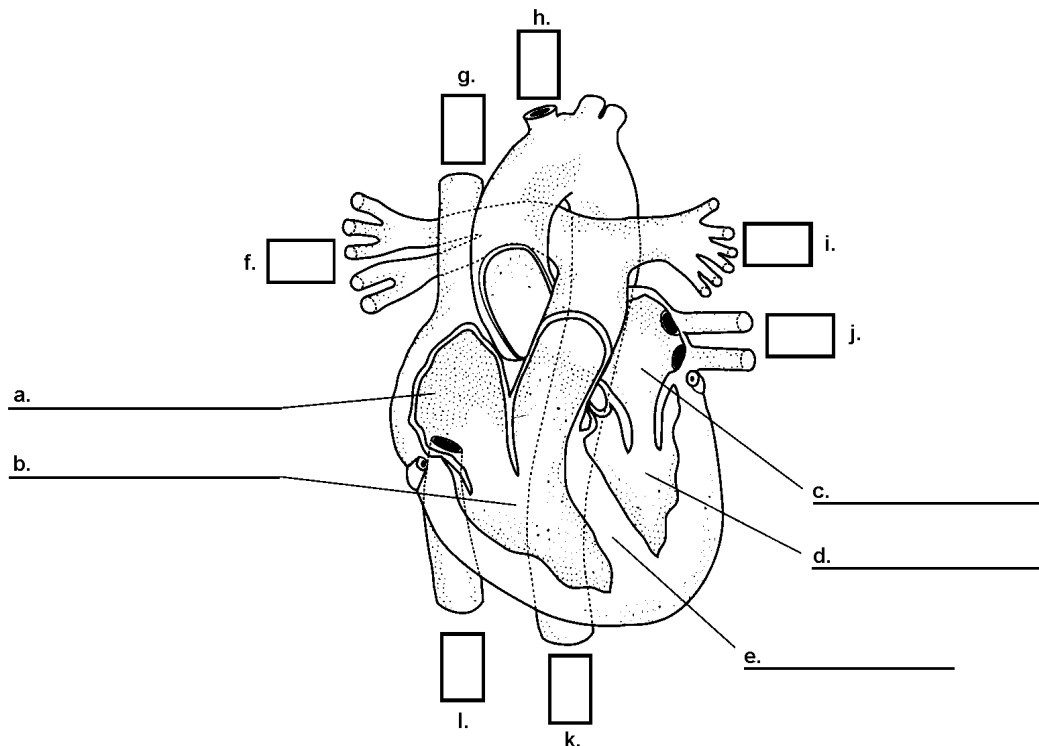
2. How are symbiotic bacteria beneficial to plant-eating mammals? (p.823) _____

3. Name the three main parts of a mammalian brain, and list a function of each part. (p.825) _____

4. The ears of North American mammals are often smaller in arctic species than they are in desert species. Explain why there is such a difference. Hint: Think of surface area. (p.822) _____

5. The bones in the limbs of a monkey, horse, mole, bat, and seal are said to be homologous. What does homologous mean? (p.826) _____

STRUCTURES AND FUNCTIONS Identify the structures labeled *a - e* in the diagram of a mammalian heart shown below. In the rectangles labeled *f - l*, draw an arrow to indicate whether blood is flowing toward the heart or away from the heart. Use the following terms: right atrium, left atrium, right ventricle, left ventricle, and septum. Color the chambers on the right side blue to represent blood high in carbon dioxide and low in oxygen. Color the left side of the heart red. This is blood that just came from the lungs and is high in oxygen.(p.824)



SECTION 32-2 REVIEW

DIVERSITY OF MAMMALS

VOCABULARY REVIEW Define the following terms and explain its importance.

1. **monotreme** mammal _____

2. **marsupial** mammal _____

3. **placental** mammal _____

4. **convergent evolution** _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The egg-laying mammals are commonly called
a. monotremes. b. marsupials. c. carnivores. d. rodents.
- _____ 2. Which of the following animals is a marsupial?
a. echidna c. duckbilled platypus
b. spiny anteater d. kangaroo
- _____ 3. Proboscideans are mammals that
a. have sharp teeth and claws. c. spend most of their time underwater.
b. have trunks. d. have hooves and antlers.
- _____ 4. Chiropterans are commonly called
a. sloths. b. manatees. c. bats. d. whales.
- _____ 5. At hatching, a monotreme is
a. very small and only partially developed.
b. small but fully developed.
c. nearly adult-sized but only partially developed.
d. nearly adult-sized and fully developed.

SHORT ANSWER Answer the questions in the space provided.

1. A large mammal is standing in a meadow chewing its cud. It has an even number of toes on its hooves. Is it a perissodactyl, proboscidean, or artiodactyl? Explain your answer. (pp.830-831) _____

2. Name the mammalian order to which humans belong and what other animals are in this order? (p.831) _____

3. What is the placenta and what four materials are exchanged through it? (p.829) _____

4. What effect on the evolution of mammals was caused when the continents drifted apart? (p.832) _____

STRUCTURES AND FUNCTIONS In the space above each drawing below, write the name that corresponds to the order of the mammal shown in that drawing. Choose the names from the following list: (pp.830-831)

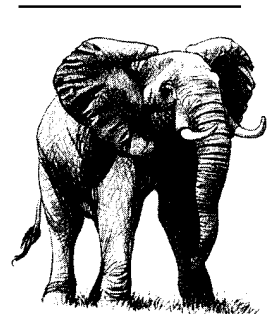
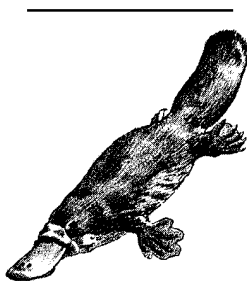
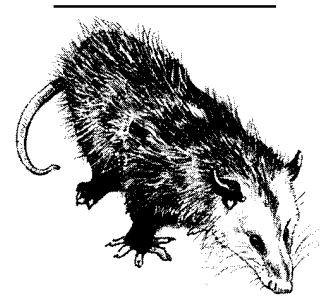
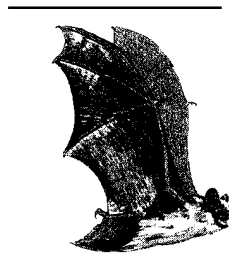
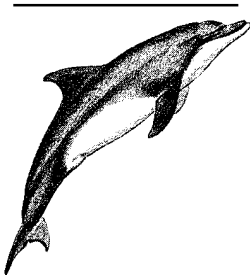
Artiodactyla
Carnivora
Cetacea

Chiroptera
Marsupialia
Monotremata

Lagomorpha
Primates
Proboscidea

Perissodactyla
Sirenia
Xenarthra

Rodentia
Insectivora



SECTION 32-3 REVIEW

PRIMATES AND HUMAN ORIGINS

VOCABULARY REVIEW Define the following terms and explain its importance.

1. **binocular vision** _____

2. **prehensile** _____

3. **bipedal** _____

4. **opposable thumb** _____

5. **hominid** _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. Small, nocturnal primates with large eyes adapted to seeing in the dark belong to the primate group called
a. prosimians. b. anthropoids. c. hominoids. d. hominids.
- _____ 2. Having a thumb that can move against the other fingers makes it possible for a primate to
a. hold objects firmly. c. display elaborate social behaviors.
b. merge visual images. d. judge the locations of tree branches.
- _____ 3. Hominids differ from other primates on the basis of all of the following except
a. brain size. c. method of reproduction.
b. method of locomotion. d. shape of the hip bones.
- _____ 4. A primate that uses its prehensile tail to swing from branch to branch is the
a. gorilla. b. chimpanzee. c. spider monkey. d. gibbon.
- _____ 5. Bipedal locomotion consists of
a. swinging from branch to branch. c. using the tail to grasp branches.
b. walking upright on two feet. d. Both a and c are correct.

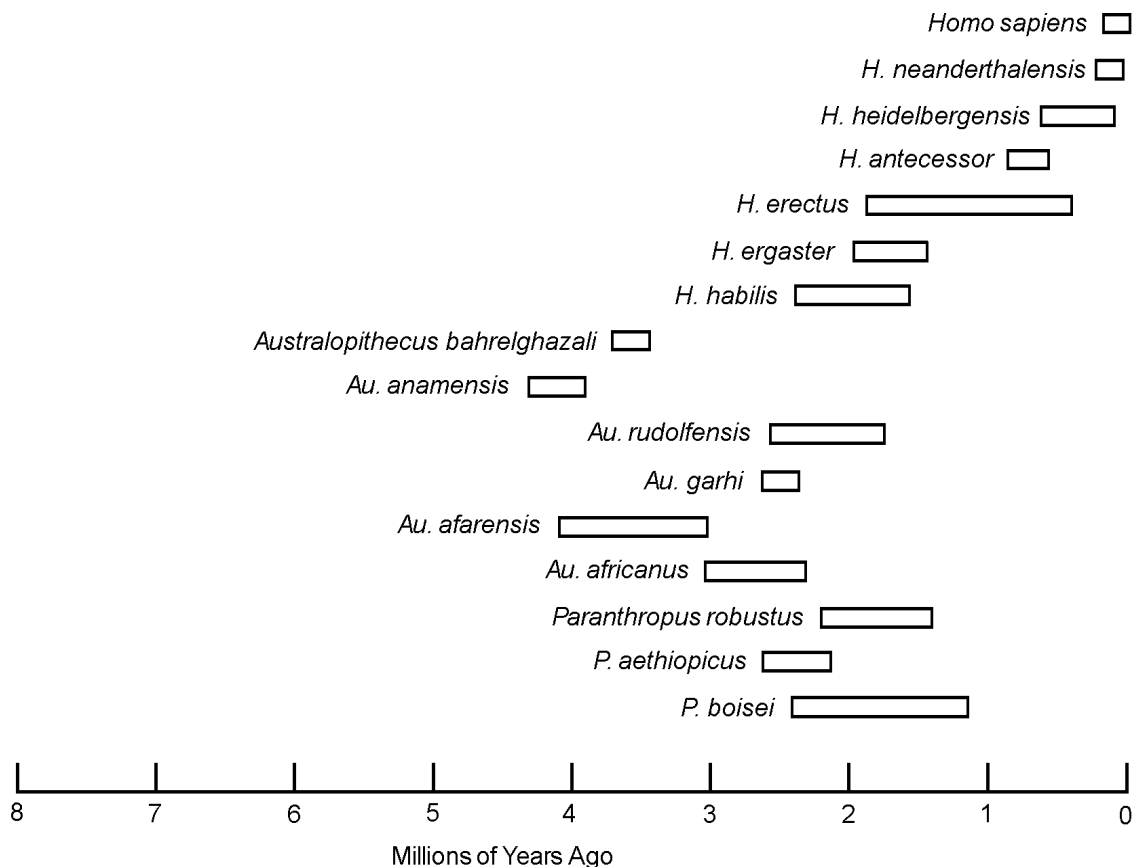
SHORT ANSWER Answer the questions in the space provided.

1. Compare and contrast New World monkeys and Old World monkeys. (p.835)_____

2. How have paleontologists changed their views on the evolution of early hominids? What caused them to change their way of thinking? (p.838)_____

3. How are bipedal locomotion and opposable thumbs important developments in the evolution of man? (p.835)

STRUCTURES AND FUNCTIONS The timeline shows some fossil hominids that scientists have discovered. The bar shows the time ranges during which each species may have existed. Each species has a genus name and species name. Color the bars for all the species in the genus *Homo* (H) **red**. Color the bars for all the species in the genus *Australopithecus* (Au) **blue**. Color the bars for all of the species in the genus *Paranthropus* (P) **yellow**. (p.839)

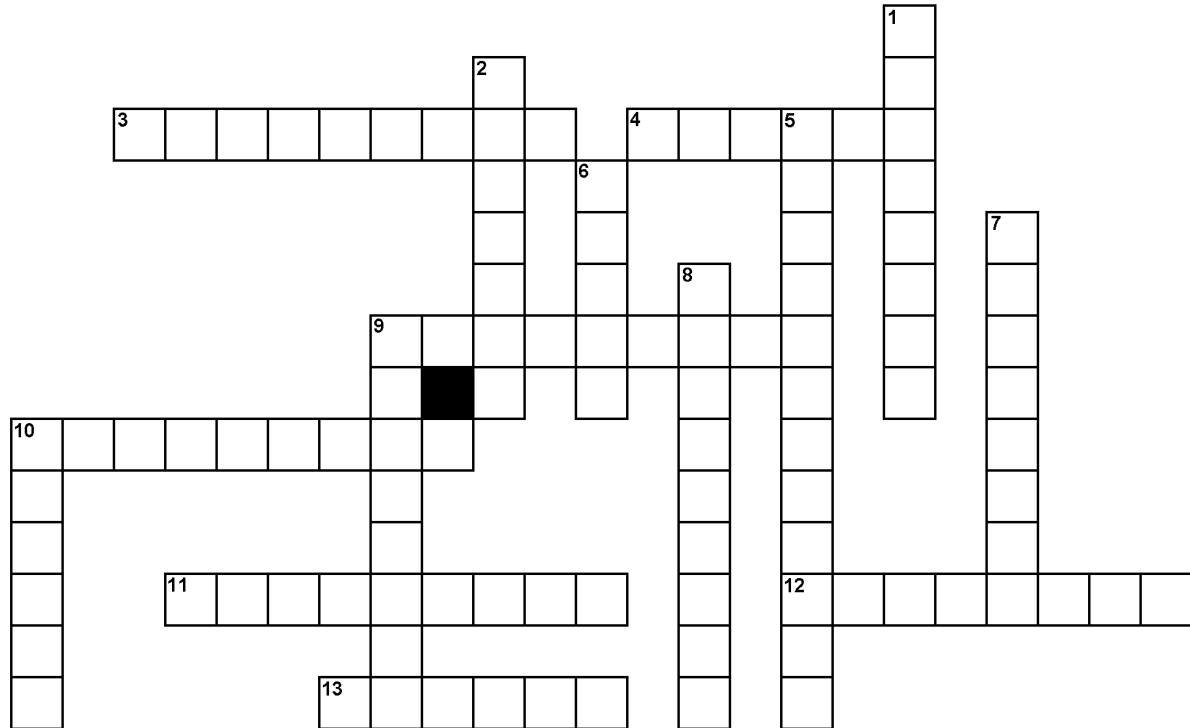


1. Which hominid existed at the earliest time? _____

2. Is the hominid evolution a simple straight-line transformation from one species to another? Explain your answer.

VOCABULARY - CHAPTER 32

The crossword puzzle is a simple way to master some of the more important vocabulary terms in this chapter.



Across

3. 95% of all mammals develop internally and are nourished by a special organ of exchange called the placenta; these mammals are called ____ mammals
4. _____ is a keratinized plate that hangs from the roof of the mouth of some whales
9. a pouched mammal like the opossum and kangaroo
10. egg laying mammal like the duckbilled platypus
11. hoofed mammals
12. _____ are the front teeth of mammals that are used to bite or snip food
13. _____ teeth in mammals are used for piercing flesh; also called fangs

Down

1. an aquatic carnivore like a seal, sea lion, or walrus
2. _____ gland is a modified sweat gland that produces milk
5. using high frequency sound waves to find objects
6. a pouch at the beginning of the large intestine that helps some mammals digest cellulose
7. the order of mammals that have an opposable thumb; monkeys, apes, and humans
8. a sheet of muscle that separates the thorax from the abdomen; the breathing muscle found in mammals
9. class of vertebrates that are warm-blooded, feed their young milk, and have body hair
10. the back teeth of mammals used to crush food are called the _____

The following words are **not** in this chapter but are used in this puzzle. Use a reference source and look up their meanings to complete this puzzle. **baleen, ungulates, pinniped, echolocation, and cecum.**