Chapter 32 Assessment

Reviewing Content

1. c
2. c
3. a
4. a
5. b
6. c
7. a
8. b
9. d
10. a

Understanding Concepts

11. Hair, subcutaneous fat, and a high metabolic rate

12. Regulate body activities by releasing hormones.

13. Protect animals from disease

14. Sharp teeth, such as canines and incisors, are used for biting and ripping flesh from prey. Most carnivores also have sharp molars that are used to slice meat into small pieces. Herbivores have flattened molars to grind plant food.

15. Chest muscles lift the rib cage, and the diaphragm pulls the bottom of the chest cavity downward, increasing the volume of the chest cavity. Air enters the lungs. Chest muscles then relax, lowering the rib cage. The diaphragm relaxes, and air is pushed out of the lungs.

16. Filters urea from the blood, excretes excess water or retains needed water, and retains salts, sugars, and other important molecules the body needs.

17. Mammals have larger brains than other animals in proportion to their body size. As a result, mammals are capable of complicated behaviors such as learning and social conduct.

18. Sample answers: a flexible backbone; limb bones and muscles that enable mammals to run, walk, burrow, fly, hop, swim, swing, and pounce.

19. The young of all three groups feed on milk. Monotremes lick milk from their mothers' abdomens; marsupials attach to nipples in the mother's marsupium; placental mammals obtain milk by nursing.

20. Compared to young that are hatched from eggs, the young of placental mammals are given a longer period of development during which they receive regular nourishment.

21. Mammals that feed on ants and termites evolved in different groups in different regions. They all have powerful front claws; a long, hairless snout; and a sticky tongue.

22. A flat facial structure allows both eyes to face forward, with overlapping fields of view.

23. Primates have flexible hands, and usually flexible feet. The position of the thumbs enables primates to grasp branches and other objects. Some have prehensile tails that help them grasp branches.

24. Hominids are omnivores that have bipedal locomotion, opposable thumbs, and well-developed cerebrums. Humans are an example.

25. The Laetoli footprints are fossil footprints that were probably made by a species of *Australopithecus* between 8 and 3.6 million years ago. They show that hominids were bipedal millions of years ago.

26. *Homo habilis,* which means "handy man." *H. habilis* was given this name because it apparently made and used tools.

Critical Thinking

27. The first diagram has *A. africanus* as the only immediate descendant of *Australopithecus* and in the main line to *H. sapiens.* The second diagram has both *A. africanus* and *Homo habilis* as immediate descendants, and *A. africanus* is not in the main line to *H. sapiens.*

28. The embryo of a placental mammal develops in the mother's uterus for a longer period of time than does the embryo of a marsupial. Therefore, a marsupial is born sooner and is less well developed than a placental mammal. A newborn marsupial must develop further in the mother's pouch.

29. Well-developed senses enable mammals to be aware of dangers and to find food. Well-developed brains enable mammals to react much more quickly to dangers. For example, dolphins can detect location of objects by sound, so they can find food even in poor light. Dogs can track prey by scent, so their chance of finding food is increased.

30. Monotremes have two reptile characteristics: they have a cloaca, and they lay soft-shelled eggs that are incubated outside the body.

31. Mammals have hair and produce milk to nourish the young, characteristics that bats share. Birds lay eggs and have feathers and do not nourish their young with milk, so bats are not birds, even though they fly.

32. Mammal A is a chiropteran, or member of the bat order, because it can fly. Mammal B is a rodent, such as a chipmunk, because of its diet and tooth structure. Mammal C is a cetacean, such as a whale, because it is a filter feeder and lives its entire life in water.

33. By estimating a fossil's age, paleontologists can infer when it was alive relative to other hominid species. Structural characteristics help them infer possible evolutionary relationships.

34. Parents protect developing young and may teach them ways to survive. If the parents die before the young are mature, the young may also die before mating and reproducing.

35. Endocrine system and circulatory system; endocrine glands produce hormones that travel in the blood to the organs that they affect.

Standardized Test Prep

1. B
2. E
3. B
4. C
5. E
6. A
7. C
8. A
9. C
10. E