Bio.G12-Q3W7-Animal behavior-Qs Bank

True/False
Indicate whether the statement is true or false.

____ 1. Courtship behavior is something only male animals can instinctively perform.

____ 2. Courtship behavior is adaptive because it ensures that members of the same species can recognize each other and mate.

____ 3. A territory is a physical space that one animal defends against all other species of animals.

____ 4. Setting up territories reduces conflicts between members of the same species.

Matching

Match each item with the correct statement below.

a. imprinting
b. trial-and-error learning
c. habituation

____ 5. You stay with relatives who have a clock that chimes every hour. The first two nights, the chimes keep you awake, but after that you no longer notice them.

____ 6. A boy receives a day-old duckling as gift. It soon follows the boy wherever he goes.

____ 7. A young woman takes up archery. At first, her arrows don't hit the target, but after a week of practice, she is hitting the bull's eye fifty percent of the time.

Match each item with the correct statement below.

a. courtship behavior
b. fight-or-flight response
c. language
d. insight
e. classical conditioning
f. instinct
g. motivation
h. innate behavior
i. dominance hierarchy
j. territory
k. behavior
l. imprinting
m. communication
n. aggression
o. estivation

____ 8. An internal need that causes an animal to act

____ 9. Behavior that males and females of a species carry out before mating

____ 10. A form of social ranking within a group, in which some individuals are more subordinate than others

____ 11. Form of behavior in which an animal, soon after hatching or birth, forms a social attachment to another object

____ 12. Inherited behavior

____ 13. Mobilizes the body for greater activity

____ 14. Exchange of information that results in a change of behavior

____ 15. State of reduced metabolism that occurs in mammals living under intense heat

____ 16. Use of symbols to represent ideas

____ 17. Anything an animal does in response to a stimulus

____ 18. Learning by association

____ 19. Behavior that is used to intimidate another animal of the same species

____ 20. Learning in which an animal uses previous experience to respond to a new situation

____ 21. Physical space that contains the breeding area, shelter, or potential mates of an animal

____ 22. Complex pattern of innate behavior

Match each item with the correct statement below.

a. motivation
b. communication
c. habituation
d. insight
e. language
f. trial and error
g. pheromone

____ 23. simplest type of learned behavior
____ 24. chemical means of communication
____ 25. use of symbols to represent ideas
____ 26. exchange of information that causes behavior change
____ 27. most complex learning
____ 28. internal need that causes an animal to act
____ 29. trying one solution and then another
____ 30. loss of sensitivity to stimuli

Completion

Complete each statement.

31. The type of dominance hierarchy formed by chickens is called a(n) _____.
32. A cycle of behavior that occurs roughly every 24 hours is known as a(n) _____.
33. Some animals use the positions of the _____ to navigate. Others may use _____ clues or Earth's _____.
34. _____ is similar to hibernation, in that metabolic activity _____ in response to internal and external cues.

Short Answer

35. What is meant by animal behavior?
36. How is behavior adaptive?
37. Explain the relationship between innate behaviors and genetics.
38. What is learned behavior?
39. What is a major advantage of being able to learn?
40. What is an instinct?
41. A person is learning to conduct scientific experiments. He or she makes many mistakes but finally succeeds. What type of learning is that person exhibiting? Explain.
42. A student goes to school and learns to change classes when the bell rings. Of what kind of learning is this an example? Explain.
43. Why do parents and teachers ask you to practice what you learn?
44. Why is learning more important to a human with a 70-year life span than to an insect with a one-year life span?

45. Birds are frightened away by a scarecrow at first, but after a few days, they ignore it and come back to feed. Why is this?

46. Which external and internal cues stimulate an animal to migrate?

47. What are three effects of setting up territories?

48. In a fight between two males of a species, how does the defeated male animal avoid serious injury?

49. In what way does an instinctive behavior pattern differ from a reflex?

50. Explain the role genes play in animal behavior.

51. How does instinctive courtship behavior aid survival?

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 52. A famous pianist can play a melody after hearing someone hum a few bars, even though she has never heard the melody before. This type of behavior is called _____.
a. insight
b. conditioning
c. experience
d. rhythmic response

____ 53. Animal communication can occur through _____.
a. sounds
b. touches
c. smells
d. all of these

____ 54. Which of these is an example of imprinting?
a. Young ducklings follow their mother.
b. A bird makes a nest of grasses and twigs.
c. Your cat rubs against your ankles when you open a can of cat food.
d. A chimpanzee searches for a longer pole to reach for a distant fruit.

____ 55. For trial-and-error learning to take place, an animal receives _____.
a. a dose of imprinting
b. a reward for a particular response
c. conditioning
d. habituation

____ 56. Owls sleep during the day and are awake at night because of their kind of _____.
a. estivation
b. habituation
c. circadian rhythm
d. conditioning

____ 57. Which of the following is NOT an example of the use of a pheromone?
a. Wolves mark their territories by urinating at the boundaries.
b. Hyenas give off an odor that keeps different clans of hyenas apart.
c. Poisonous snakes wind around each other and butt heads.
d. The skunk releases a rotten odor when it is threatened.

____ 58. Which biologists first demonstrated conditioning in dogs?
a. Dimitri Mendeleev
b. Bruno Huber
c. Ivan Pavlov
d. Gregor Mendel

____ 59. When a bird sings to signal others of the same species to keep away, it is showing signs of _____.
a. cheerfulness
b. courtship behavior
c. conditioning
d. aggression

____ 60. When a male sea lion patrols the area of beach where his female sea lions rest, he is displaying _____.
a. habituation
b. pecking order
c. territorial behavior
d. circadian rhythm

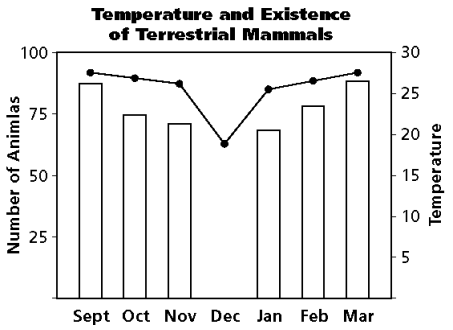

Figure 33-1

____ 61. What is the most likely reason for the dip in population shown in figure 33-1?
a. migration
b. sickness
c. hibernation
d. habitat destruction

____ 62. What appears to be the trigger for this fluctuation in population shown in Figure 33-1?
a. sunlight
b. moisture
c. temperature
d. learned behavior

____ 63. Predict the population of the organisms shown in Figure 33-1 for February of the next year?
a. almost zero
b. about 50
c. about 75
d. about 100

____ 64. Which area of the world would be a poor choice to transplant the population shown in Figure 33-1?
a. Hawaii
b. the Midwest
c. Florida
d. Iceland

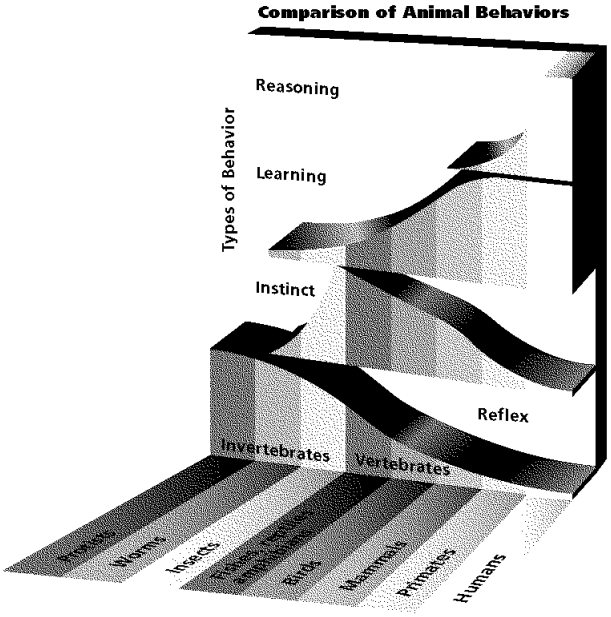

Figure 33-2

____ 65. According to Figure 33-2, which animal would be most likely to solve a problem?
a. rat
b. ostrich
c. shark
d. planaria

____ 66. According to Figure 33-2, which animal has no instinctive behavior?
a. leech
c. gnat

b. earthworm

d. paramecium

Problem

Black-headed gulls were observed carrying away eggshells of their already-hatched chicks. This behavior led animal behaviorist Niko Tinbergen to hypothesize that the gulls remove the eggshells so as not to alert crow predators to the presence of eggs that still contain live chicks. He carried out an experiment to test his hypothesis, and the results are given in Table 33-1.

Distance from eggshell to egg (cm)	Crow predation		Risk of predation (%)
	Eggs taken	Eggs not taken	
15	63	87	42
100	48	102	32
200	32	118	21

Table 33-1

67. Do you think the gull's behavior is instinctive or learned? Give reasons for your choice. You may refer to Table 33-1.

68. Based on Table 33-1, some eggs were still taken by the crows even when the eggshells were 200 cm from the eggs. Hypothesize what this shows.

69. How do the data in Table 33-1 support Tinbergen's hypothesis?

An animal behaviorist confronted with a particular behavior will try to determine its usefulness to the animal. One such behavior is stotting in the Thomson's gazelle. Stotting is the behavior in which, in the presence of a predator, the gazelle jumps about a half meter off the ground with all four legs held straight and stiff and with the white rump patch clearly visible.

One behaviorist, Timothy M. Caro, devised 11 hypotheses that might explain this behavior in gazelles. Here are a few of them.

A. Stotting warns other gazelles, particularly their offspring, that a predator is near.
B. Stotting signals other gazelles to flee as a group, lessening the predator's chances of cutting a victim from the herd.
C. Stotting confuses the predator, keeping it from focusing on one animal.
D. Stotting communicates to the predator that it has been seen by the gazelle.

Caro then set about eliminating all but the most probable hypothesis. First, he made predictions about how the gazelles would behave if a certain hypothesis were correct.

Questions to be answered	Predictions Based on Hypotheses			
	A	B	C	D
Would solitary gazelles stott?				
Would groups of gazelles stott?				
Would gazelles display the white rump to predators?				

Would they display the white rump to other gazelles?				

Table 33-2

70. On Table 33-2, answer the questions with a simple Yes or No after you consider each of the hypotheses and how it would affect the gazelles' behavior.

71. How would letting the predator know that it has been seen benefit the gazelle? Refer to Table 33-2.

72. Based on Table 33-2, explain which hypothesis appears to be the correct one.

73. Caro found that all stotting gazelles turned their rumps toward the predator. Which hypothesis does this eliminate? You may refer to Table 33-2.

74. Caro continued his investigation to try to eliminate some of the hypotheses. He discovered that a solitary gazelle sometimes stotts when a cheetah approaches. Which hypothesis does this eliminate? Why? You may refer to Table 33-2.

75. Which of Caro's hypotheses would you select? Give reasons for your choice. You may refer to Table 33-2.

Bio.G12-Q3W7-Animal behavior-Qs Bank
Answer Section

TRUE/FALSE

1. ANS: F PTS: 1
2. ANS: T PTS: 1
3. ANS: F PTS: 1
4. ANS: T PTS: 1

MATCHING

5. ANS: C PTS: 1
6. ANS: A PTS: 1
7. ANS: B PTS: 1

8. ANS: G PTS: 1 DIF: B OBJ: 33-1
   NAT: C6 | G1 | G2
9. ANS: A PTS: 1 DIF: B OBJ: 33-1
   NAT: C6 | G1 | G2
10. ANS: I PTS: 1 DIF: B OBJ: 33-1
    NAT: C6 | G1 | G2
11. ANS: L PTS: 1 DIF: B OBJ: 33-1
    NAT: C6 | G1 | G2
12. ANS: H PTS: 1 DIF: B OBJ: 33-1
    NAT: C6 | G1 | G2
13. ANS: B PTS: 1 DIF: B OBJ: 33-2
    NAT: C3 | C6 | F4
14. ANS: M PTS: 1 DIF: B OBJ: 33-3
    NAT: C3 | C6 | F4
15. ANS: O PTS: 1 DIF: B OBJ: 33-2
    NAT: C3 | C6 | F4
16. ANS: C PTS: 1 DIF: B OBJ: 33-4
    NAT: C6 | F4 | F6
17. ANS: K PTS: 1 DIF: B OBJ: 33-1
    NAT: C6 | G1 | G2
18. ANS: E PTS: 1 DIF: B OBJ: 33-3
    NAT: C3 | C6 | F4
19. ANS: N PTS: 1 DIF: B OBJ: 33-2
    NAT: C3 | C6 | F4
20. ANS: D PTS: 1 DIF: B OBJ: 33-3
    NAT: C3 | C6 | F4
21. ANS: J PTS: 1 DIF: B OBJ: 33-1
    NAT: C6 | G1 | G2
22. ANS: F PTS: 1 DIF: B OBJ: 33-1
    NAT: C6 | G1 | G2

23. ANS: C PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
24. ANS: G PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
25. ANS: E PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
26. ANS: B PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
27. ANS: D PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
28. ANS: A PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
29. ANS: F PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
30. ANS: C PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4

COMPLETION

31. ANS: pecking order

PTS: 1
32. ANS: circadian rhythm

PTS: 1
33. ANS: sun and stars, geographic, magnetic field

PTS: 1
34. ANS: Estivation, decreases

PTS: 1

SHORT ANSWER

35. ANS:
anything an animal does in response to a stimulus in its environment

PTS: 1
36. ANS:
An animal’s behavior enables it to carry out activities, such as getting food or reproducing, that enhance its survival.

PTS: 1
37. ANS:
Innate behaviors are genetically programmed responses to certain stimuli. Offspring inherit the genetic basis for innate behaviors from their parents.

PTS: 1

38. ANS:
behavior that can be changed through practice or experience

PTS: 1

39. ANS:
Learning makes it possible for behavior to change, or adapt, in response to a changing environment.

PTS: 1

40. ANS:
a complex pattern of innate behavior

PTS: 1

41. ANS:
Trial-and-error learning. The person tries one solution and then another when working on an experiment.

PTS: 1 DIF: A OBJ: 33-4 NAT: C6 | F4 | F6

42. ANS:
Conditioning. Students learn that changing classes is associated with the bell.

PTS: 1 DIF: A OBJ: 33-4 NAT: C6 | F4 | F6

43. ANS:
Learning is improved by practice and experience.

PTS: 1 DIF: A OBJ: 33-4 NAT: C6 | F4 | F6

44. ANS:
Learning has survival value in a changing environment. The environment would not change drastically during the life of an insect that lived only one year.

PTS: 1 DIF: A OBJ: 33-4 NAT: C6 | F4 | F6

45. ANS:
The birds' behavior is the result of a form of learning known as habituation, which causes them to stop responding to a repeated stimulus that is not associated with any punishment or reward.

PTS: 1 DIF: A OBJ: 33-4 NAT: C6 | F4 | F6

46. ANS:
Colder temperatures and shorter days may be the external cues that stimulate an animal to migrate. The secretion of hormones may be the internal cue for the same purpose.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

47. ANS:
Setting up territories reduces conflicts, controls population growth, and reduces competition for resources.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

48. ANS:
Usually, the defeated animal shows signs of submission in order to inhibit further aggressive action by the victor.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

49. ANS:

A reflex is a simple reaction that usually takes place in less than a second. An instinctive behavior pattern is complex. It may have several parts that take weeks to complete.

PTS: 1 DIF: A OBJ: 33-1 NAT: C6 | G1 | G2

50. ANS:
An animal's hormonal balance and its nervous system, especially the sense organs, affect the animal's sensitivity to stimuli. Because genes control an animal's hormonal production and nervous system development, it can be said that genes indirectly control behavior.

PTS: 1 DIF: A OBJ: 33-1 NAT: C6 | G1 | G2

51. ANS:
This behavior helps members of a species to recognize other members of the same species. In some species, it may also prevent females from killing males before they mate and may help females in choosing a healthy mate.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

MULTIPLE CHOICE

52. ANS: A PTS: 1 DIF: B OBJ: 33-4
NAT: C6 | F4 | F6
53. ANS: D PTS: 1 DIF: B OBJ: 33-4
NAT: C6 | F4 | F6
54. ANS: A PTS: 1 DIF: B OBJ: 33-4
NAT: C6 | F4 | F6
55. ANS: B PTS: 1 DIF: B OBJ: 33-3
NAT: C3 | C6 | F4
56. ANS: C PTS: 1 DIF: B OBJ: 33-1
NAT: C6 | G1 | G2
57. ANS: C PTS: 1 DIF: B OBJ: 33-1
NAT: C6 | G1 | G2
58. ANS: C PTS: 1 DIF: B OBJ: 33-4
NAT: C6 | F4 | F6
59. ANS: D PTS: 1 DIF: B OBJ: 33-2
NAT: C3 | C6 | F4
60. ANS: C PTS: 1 DIF: B OBJ: 33-2
NAT: C3 | C6 | F4
61. ANS: A PTS: 1 DIF: A OBJ: 33-1
NAT: C6 | G1 | G2
62. ANS: C PTS: 1 DIF: A OBJ: 33-1
NAT: C6 | G1 | G2
63. ANS: C PTS: 1 DIF: A OBJ: 33-1
NAT: C6 | G1 | G2
64. ANS: D PTS: 1 DIF: A OBJ: 33-1
NAT: C6 | G1 | G2
65. ANS: A PTS: 1 DIF: A OBJ: 33-3
NAT: C3 | C6 | F4
66. ANS: D PTS: 1 DIF: A OBJ: 33-3
NAT: C3 | C6 | F4

PROBLEM

67. ANS:
Answers will vary. Students may suggest that the behavior is a reproductive instinct. Shell-removing behavior may have evolved genetically as an adaptation to an environment with predators. Other students may see the behavior as learned; the gull may have seen predators investigating the shells and learned to remove them from the nest.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

68. ANS:
Answers may vary. When the crows see the eggshells, they search the vicinity to try to find the eggs. However, the larger the area, the less opportunity the crows have of actually finding the eggs.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

69. ANS:
When eggshells were closer to the eggs, more eggs were taken by the crows. When the eggshells were farther away from the eggs, fewer eggs were taken by the crows.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

70. ANS:

Questions to be answered	**Predictions Based on Hypotheses**			
	A	**B**	**C**	**D**
Would solitary gazelles stott?	**No**	**Yes**	**No**	**Yes**
Would groups of gazelles stott?	**Yes**	**No**	**Yes**	**No**
Would gazelles display the white rump to predators?	**No**	**No**	**Yes**	**Yes**
Would they display the white rump to other gazelles?	**Yes**	**Yes**	**No**	**No**

Table 33-2

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

71. ANS:
Answers will vary. The predator may abandon the hunt if it knows it has been detected. The predator may know from experience that it is less likely to succeed when the gazelle knows it is being stalked.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

72. ANS:
Hypothesis D appears to be the correct one because all the other possible hypotheses were eliminated.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

73. ANS:
This eliminates hypothesis B because the actual behavior is directed toward the predator, not toward the other gazelles.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

74. ANS:
It eliminates hypotheses A and B because if a gazelle is solitary, its stotting will not warn other gazelles. It also eliminates hypothesis C because the stotting of a solitary gazelle will not confuse the predator.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4

75. ANS:
Answers will vary. Accept any reasonable explanation for the choice because all of the hypotheses are plausible.

PTS: 1 DIF: A OBJ: 33-2 NAT: C3 | C6 | F4