Q1W1-Bio-G10-Qs. Bank

Matching

Match each item with the correct statement below.

a. adaptation
b. control
c. evolution
d. homeostasis
e. hypothesis
f. reproduction

____ 1. The process whereby an organism produces more of its own kind
____ 2. The part of an experiment against which results are compared
____ 3. An organism's tendency to maintain a stable internal environment
____ 4. Any structure, behavior, or internal process that enables an organism to better survive in an environment
____ 5. A testable explanation for a question or problem
____ 6. The gradual change in the characteristics of a species over time

Match each item with the correct statement below.

a. development
b. adaptation
c. homeostasis
d. evolution
e. reproduction
f. environment

____ 7. The gradual change in the characteristics of a species over time
____ 8. The living and nonliving factors in an organism's surroundings
____ 9. Any structure, behavior, or internal process that enables an organism to better survive in an environment
____ 10. An organism's tendency to maintain a stable internal environment
____ 11. The series of changes that an organism undergoes during its lifetime
____ 12. The process whereby an organism produces more of its own kind

Match each item with the correct statement below.

a. energy
b. systems and interactions
c. nature of science
d. homeostasis
e. unity within diversity
f. evolution

____ 13. A variety of structural and behavioral adaptations help organisms regulate their internal environment.
____ 14. Organisms depend on internal and external systems that interact in complex ways to help them perform their life functions.
____ 15. Over time, gradual changes in structures, behaviors, and internal processes of organisms result in diversity of species.
____ 16. Although different organisms interact within ecosystems to form a stable system, all living things share the same characteristics of life.
____ 17. Biology is a continuous search for information about the natural world.

Match the letter of the safety symbol to its description.

a. 
b. 
c. 
d. 

____ 18. Substance is flammable or combustible; using an open flame could cause a fire or an explosion.
____ 19. Chemicals or reactions between chemicals could produce dangerous fumes.

____ 20. Handling of hot objects could cause burns.

Modified True/False
Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

____ 21. The liter is a metric unit of volume. _____

____ 22. For ease of understanding, scientists report measurements using the English system. _____

____ 23. Whether applications of science to everyday life are considered good, bad, right, or wrong comes under the category of technology. _____

____ 24. Counts or measurements are examples of data produced by descriptive research. _____

____ 25. In an experiment, the control group is used to test the effect of the independent variable. _____

____ 26. A natural law is based on the analysis of data collected in a controlled experiment. _____

____ 27. A law is a possible explanation for a scientific question. _____

____ 28. A centrifuge is used to make small details of an object visible to a scientist. _____

____ 29. Biologists generally form hypotheses using deductive reasoning. _____

____ 30. Biologists discover problems by observing the world around them. _____

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

____ 31. The theme that reflects the idea that there has been a gradual change in the characteristics of species over time is _____.
a. energy
b. unity within diversity
c. reproduction
d. evolution

____ 32. Living things adjust to a stimulus by a reaction called a(n) _____.
a. environment
b. growth spurt
c. homeostasis
d. response

____ 33. Living things change during their lives through _____.
a. reproduction
b. growth and development
c. making responses
d. adaptation and organization

____ 34. All living things _____ to make more living things.
a. reproduce
b. develop
c. grow
d. adapt

____ 35. Which of the following are likely topics for a course in biology?
a. Why does the Texas horned lizard squirt blood out of its eyes?
b. How is a banded pipefish able to hide in its environment of seaweeds?
c. What chemicals cause plant stems to lengthen or flowers to bloom?
d. All of these.

____ 36. Questions about living things that can be answered by biologists are _____.
a. what
c. how

b. why
d. all of these

____ 37. Key to the study of biology is learning about the _____.
a. rocks
c. chemicals
b. life around us
d. all of these

____ 38. Living things do not adapt to their surroundings by _____.
a. making adjustments to nonliving factors around them
b. maintaining a steady internal environment
c. responding to other organisms
d. building on previous knowledge

____ 39. Which statement is incorrect? As an organism develops, _____.
a. it produces more of its own kind
b. it takes on the characteristics of a particular species
c. its amount of living material increases
d. different parts grow at different rates

____ 40. The study of standards for what is right and what is wrong is called _____.
a. pure science
c. ethics
b. applied science
d. technology

____ 41. The information gathered from experiments is called _____.
a. the data
c. the hypothesis
b. the research
d. the conclusion

____ 42. A structured procedure for collecting information to test a hypothesis is a(n) _____.
a. principle
c. control
b. theory
d. experiment

____ 43. The application of science to the needs and problems of society is _____.
a. quantitative research
c. descriptive research
b. technology
d. pure science

____ 44. A scientific explanation of known facts arrived at through repeated testing over time is a(n) _____.
a. theory
c. natural law
b. observation
d. experiment

____ 45. The part of an experiment in which all conditions are kept the same is the _____.
a. hypothesis
c. conclusion
b. control
d. independent variable

____ 46. The steps commonly used by scientists in gathering information to test hypotheses and solve problems are called _____.
a. descriptive research
c. scientific methods
b. pure science
d. applied science

____ 47. A testable explanation for a question or problem is a(n) _____.
a. experiment
c. observation
b. hypothesis
d. verifiable law

____ 48. Knowledge gained by scientific research _____.
a. can always be used to provide monetary benefits for humans
b. always raises social, ethical, and moral concerns
c. is never inherently good or bad
d. never results in data that can be applied to solve problems

____ 49. Technology has allowed humans to produce more food and reduce the chance of starvation by individuals in some countries. How has this advance created additional technological needs?
a. The technology has allowed populations to continue to grow, creating the need for additional food.

b. The technology caused salts to be deposited in soils.
c. The technology caused the false belief that the problem was solved forever.
d. All of these.

____ 50. Why is the hypothesis that black cats cause bad luck not science?
a. The results of studying the hypothesis are not repeatable.
b. The results of studying the hypothesis are open to judgment.
c. The hypothesis cannot be tested by controlled experiments.
d. All of these.

____ 51. Which of the following studies is outside the realm of science?
a. astrology
b. animal behavior
c. plant growth
d. bacterial reproduction

____ 52. Because it is often difficult to gather numerical data, _____ information is collected.
a. quantitative
b. descriptive
c. scientific
d. ethical

____ 53. Quantitative research is often reported as _____ to aid understanding.
a. graphs or charts
b. descriptions of behavior
c. long lists of numbers
d. all of these

____ 54. _____ research is usually based on numerical measurements.
a. Ethical
b. Descriptive
c. Quantitative
d. Scientific

____ 55. An experiment is _____.
a. an observation about nature
b. a way to prove a fact
c. a problem that may be solved
d. a test of a hypothesis

____ 56. Which of the following results from quantitative analysis of Figure 1-6?

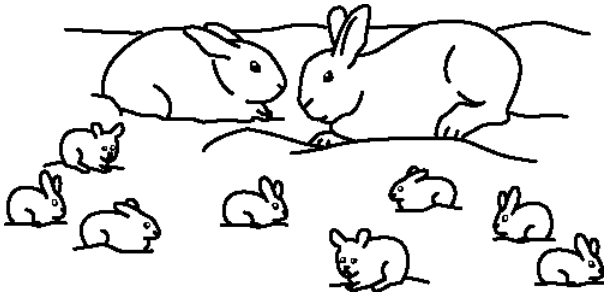


Figure 1-6

a. the babies are cold
b. there are 7 babies
c. there isn't enough food
d. these are the first babies this rabbit has had

____ 57. What might be involved in a lab that contained the warnings in Figure 1-7?

Figure 1-7

a. small animals
b. dangerous plants
c. sharp objects
d. dangerous chemicals

____ 58. Which of the adaptations on a dolphin, shown in Figure 1-8 is used for breathing underwater?

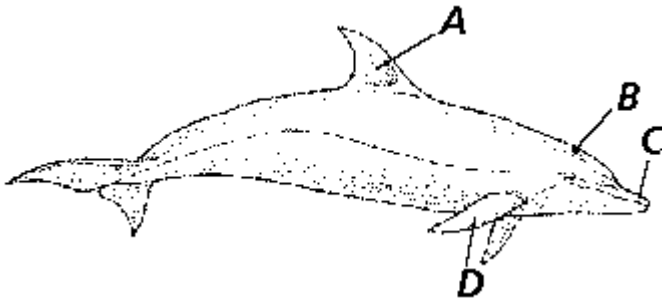


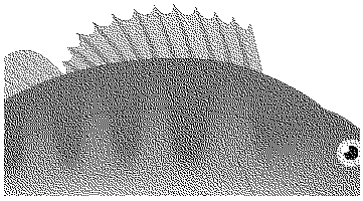
Figure 1-8

a. A
b. B
c. C
d. D

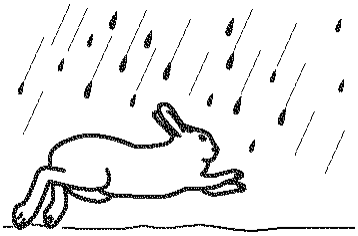
____ 59. Which of the examples shows a response to a stimulus?

a.

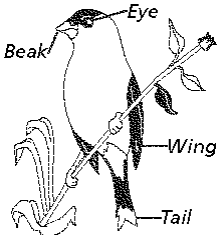
c.



b.

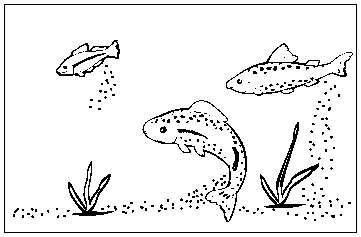


d.

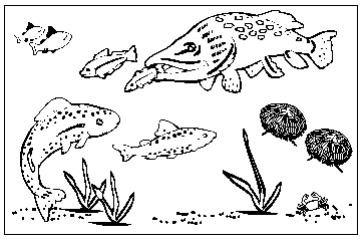


____ 60. Which of the pictures in Figure 1-10 shows the most diversity?

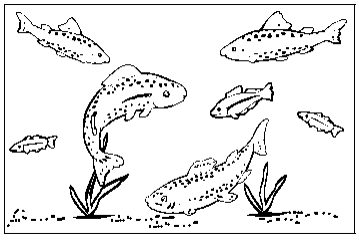
a.



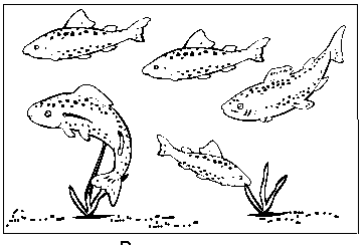
c.



b.



d.



____ 61. An organism is affected by interactions with which of the following?

a. Other organisms of the same species
b. Other organisms of different species
c. The natural environment
d. All of the above

____ 62. A group of organisms that can interbreed and produce fertile offspring is called a(n) ____.
a. family.
b. species.
c. organization.
d. community.

____ 63. Inside the human body, heat is constantly generated as a byproduct of chemical reactions. Humans must be able to release heat to the environment. This adaptation is necessary for maintaining ____.
a. energy.
b. organization.
c. homeostasis.
d. locomotion.

____ 64. Sugar dissolves in, or mixes completely with, water. The solubility of a substance in water is determined by measuring the maximum amount of the substance that dissolves in a given amount of water at a given temperature. Hypothesis: The solubility of sugar in water increases as the temperature of the water decreases. Identify the independent variable and the dependent variable that you would use to test this hypothesis.
a. Dependent variable—volume of water; independent variable—water temperature
b. Dependent variable—water temperature; independent variable—amount of sugar that dissolves
c. Dependent variable—amount of sugar that dissolves; independent variable—water temperature
d. Dependent variable—amount of sugar that dissolves; independent variable—mineral content of the water

____ 65. Which of the following tools would you need to carry out the experiment in question 4?
a. Thermometer
b. Metric balance
c. Graduated cylinder
d. All of the above

____ 66. A scientist performs a series of experiments to confirm an idea regarding cellular metabolism. The results of her experiments support her initial idea, and after conferring with colleagues, she discovers that evidence from many experiments has supported the same idea. This idea now can be considered a(n) ____.
a. theory.
b. hypothesis.
c. observation.
d. control.

____ 67. Which of the following procedures is considered a scientific method?
a. Collecting data
b. Making a hypothesis
c. Observing
d. All of the above

____ 68. To simplify the results of an experiment, many researchers hold all variables constant except for one. They then compare the results with respect to that one variable. This type of experiment is known as a ____.
a. variable experiment.
b. multi-factor experiment.
c. controlled experiment.
d. None of the above

____ 69. Which of the following units is part of the International System of Measurement (SI)?
a. Pound
b. Inch
c. Meter
d. Gallon

____ 70. A scientist uses graphs, tables, and charts to publish the results of his research. What type of research was he probably performing?
a. Descriptive research
b. Quantitative research
c. Qualitative research
d. None of the above

Q1W1-Bio-G10-Qs. Bank
Answer Section

MATCHING

1. ANS: F PTS: 1
2. ANS: B PTS: 1
3. ANS: D PTS: 1
4. ANS: A PTS: 1
5. ANS: E PTS: 1
6. ANS: C PTS: 1

7. ANS: D PTS: 1 DIF: B OBJ: 1-2
   NAT: C1 | C3 | C4
8. ANS: F PTS: 1 DIF: B OBJ: 1-2
   NAT: C1 | C3 | C4
9. ANS: B PTS: 1 DIF: B OBJ: 1-2
   NAT: C1 | C3 | C4
10. ANS: C PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4
11. ANS: A PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4
12. ANS: E PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4

13. ANS: D PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4
14. ANS: B PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4
15. ANS: F PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4
16. ANS: E PTS: 1 DIF: B OBJ: 1-2
    NAT: C1 | C3 | C4
17. ANS: C PTS: 1 DIF: B OBJ: 1-1
    NAT: F3 | F4 | G1

18. ANS: C PTS: 1 DIF: B OBJ: 1-1
    NAT: F3 | F4 | G1
19. ANS: B PTS: 1 DIF: B OBJ: 1-1
    NAT: F3 | F4 | G1
20. ANS: A PTS: 1 DIF: B OBJ: 1-1
    NAT: F3 | F4 | G1

MODIFIED TRUE/FALSE

21. ANS: T PTS: 1 DIF: B
    OBJ: 1-3 NAT: G1 | G2
22. ANS: F

SI
metric

PTS: 1 DIF: B OBJ: 1-3 NAT: G1 | G2

23. ANS: F, ethics

PTS: 1 DIF: B OBJ: 1-6 NAT: F3 | F5 | E1

24. ANS: F, quantitative

PTS: 1 DIF: B OBJ: 1-5 NAT: F4 | G1 | G2

25. ANS: F, experimental

PTS: 1 DIF: B OBJ: 1-3 NAT: G1 | G2

26. ANS: F, conclusion

PTS: 1 DIF: B OBJ: 1-4 NAT: C6 | F4 | F5

27. ANS: F, hypothesis

PTS: 1 DIF: B OBJ: 1-4 NAT: C6 | F4 | F5

28. ANS: F, microscope

PTS: 1 DIF: B OBJ: 1-3 NAT: G1 | G2

29. ANS: F, inductive

PTS: 1 DIF: B OBJ: 1-4 NAT: C6 | F4 | F5

30. ANS: T PTS: 1 DIF: B
OBJ: 1-1 NAT: F3 | F4 | G1

MULTIPLE CHOICE

31. ANS: D PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

32. ANS: D PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

33. ANS: B PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

34. ANS: A PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

35. ANS: D PTS: 1 DIF: B OBJ: 1-1
NAT: F3 | F4 | G1

36. ANS: D PTS: 1 DIF: B OBJ: 1-1
NAT: F3 | F4 | G1

37. ANS: B PTS: 1 DIF: B OBJ: 1-1
NAT: F3 | F4 | G1

38. ANS: D PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

39. ANS: A PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

40. ANS: C PTS: 1 DIF: B OBJ: 1-3

NAT: G1 | G2

41. ANS: A PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

42. ANS: D PTS: 1 DIF: B OBJ: 1-4
NAT: C6 | F4 | F5

43. ANS: B PTS: 1 DIF: B OBJ: 1-6
NAT: F3 | F5 | E1

44. ANS: A PTS: 1 DIF: B OBJ: 1-4
NAT: C6 | F4 | F5

45. ANS: B PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

46. ANS: C PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

47. ANS: B PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

48. ANS: C PTS: 1 DIF: B OBJ: 1-6
NAT: F3 | F5 | E1

49. ANS: A PTS: 1 DIF: B OBJ: 1-6
NAT: F3 | F5 | E1

50. ANS: D PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

51. ANS: A PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

52. ANS: B PTS: 1 DIF: B OBJ: 1-5
NAT: F4 | G1 | G2

53. ANS: A PTS: 1 DIF: B OBJ: 1-5
NAT: F4 | G1 | G2

54. ANS: C PTS: 1 DIF: B OBJ: 1-5
NAT: F4 | G1 | G2

55. ANS: D PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

56. ANS: B PTS: 1 DIF: B OBJ: 1-5
NAT: F4 | G1 | G2

57. ANS: D PTS: 1 DIF: B OBJ: 1-3
NAT: G1 | G2

58. ANS: B PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

59. ANS: B PTS: 1 DIF: A OBJ: 1-2
NAT: C1 | C3 | C4

60. ANS: C PTS: 1 DIF: B OBJ: 1-2
NAT: C1 | C3 | C4

61. ANS: D
Organisms depend upon other living things as well as nonliving things in the environment.

PTS: 1

62. ANS: B
A species is a group of organisms that can reproduce to create fertile offspring.

PTS: 1

63. ANS: C
Homeostasis is the regulation of an organism's internal environment to preserve conditions conducive to life. Temperature regulation is one form of homeostasis in human beings.

PTS: 1

64. ANS: C
The dependent variable is the amount of sugar that dissolves, and the independent variable is water temperature. As you lower the temperature of the water, more sugar should dissolve in the water.

PTS: 1

65. ANS: D
You would need a thermometer to measure water temperature, a balance to mass the sugar, and a graduated cylinder to measure the water volume.

PTS: 1

66. ANS: A
A theory is a hypothesis that has been supported by extensive scientific research and evidence.

PTS: 1

67. ANS: D
Scientific methods involve observing, developing hypotheses, collecting data, publishing results, and forming theories.

PTS: 1

68. ANS: C
A controlled experiment is one in which a group in which all conditions remain the same is compared to a group in which one variable has been changed. By comparing a controlled group and an experimental, or changed, group, the effect of a changed variable can be determined.

PTS: 1

69. ANS: C
The SI is a decimal system consisting of meters, grams, liters. seconds, and degrees Celsius.

PTS: 1

70. ANS: B
Quantitative research results in numerical data that can be displayed easily as charts, graphs, and tables.

PTS: 1