

Biology Chapter 1 Test: The Study of Life**True/False**

Indicate whether the statement is true or false.

- ___ 1. The study of biology includes things that were once living and those alive today.
- ___ 2. It is important to study the genetic makeup of other organisms because information in their genetic makeup may hold information about our own.
- ___ 3. An amoeba is unicellular; therefore, it is an organism.
- ___ 4. A single entity has been discovered that shows many of the characteristics of living things including growth, organization, and the ability to maintain homeostasis. However, because it does not reproduce, it is not considered a living thing.
- ___ 5. Peer review allows others in the field to assess a scientist's investigations and results.
- ___ 6. After observing tadpoles swimming in the water, you could infer that all amphibians have gills.
- ___ 7. Jake has hypothesized that if you add aspirin to the water when watering plants, the plants will have more blooms. To verify his hypothesis, Jake should use the same amount of water and aspirin for each of the plants in the experimental group.

Multiple Choice

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

- ___ 8. Which of the following are likely topics in a biology course?
- Why does the Texas horned lizard squirt blood out of its eyes?
 - How is a banded pipefish able to hide in its environment of seaweeds?
 - What chemicals cause plant stems to lengthen or flowers to bloom?
 - All of these.
- ___ 9. Living things do all of the following *except*
- make adjustments to nonliving factors around them.
 - maintain a steady internal environment.
 - respond to other organisms.
 - pass an identical genetic code to their offspring for many generations.
- ___ 10. Technology has allowed humans to produce more food and reduce the chance of starvation. Which of the following is the most significant result of this technology?
- The technology increased population growth, creating the need for additional food.
 - The technology caused salts to be deposited in soils.
 - The technology caused the false belief that the problem was solved forever.
 - All of these.
- ___ 11. Because it is often difficult to gather numerical data, _____ information is collected.
- quantitative
 - descriptive
 - scientific
 - ethical

12. Students in a biology class ran an experiment on a type of flowering plant. Their goal was to find the optimal time in the plant's life for flowering. What time period will provide the most flowering plants? Use Table 1-1 to determine your answer.

| Day | Number of Plants Flowering |
|-----|----------------------------|
| 2 | 6 |
| 4 | 12 |
| 6 | 18 |
| 8 | 22 |
| 10 | 8 |

- a. 5–6 days
b. 6–7 days
c. 7–8 days
d. 8–9 days

13. Which of the following results from quantitative analysis of Figure 1-1?

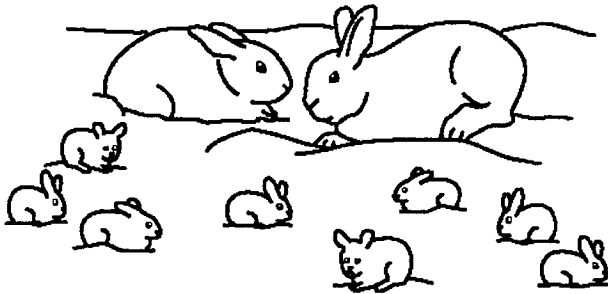


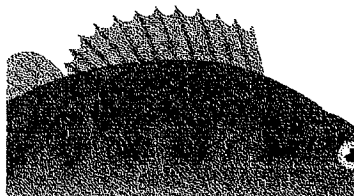
Figure 1-1

- a. The babies are cold.
b. There are 8 offspring.
c. There isn't enough food.
d. These are the first offspring these rabbits have had

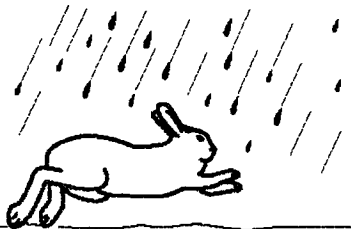
14. Which of the examples shows a response to a stimulus?



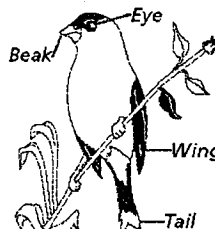
a.



c.



b.



d.

15. Which of the following would most likely be the major focus of a biologist?
- bacteria found in hot springs
 - the composition of water in hot springs
 - the temperature of hot springs
 - the location of hot springs
16. What is a possible benefit of studying plants in the rain forest?
- The plants may hold medicines to treat human diseases.
 - The plants may produce needed carbon dioxide.
 - The plants may be cut down and sold in floral shops.
 - The plants may make toxins for human consumption.
17. Which best describes the purpose of science?
- to explain the nature of things
 - to propose solutions to political issues
 - to solve the ethical problems of society
 - to debate the meaning of life
18. A person studying a topic is presented with new information that conflicts with previous findings. What would a scientist do in this situation?
- ignore the new information
 - argue against the new information
 - evaluate the new information
 - keep the new information to himself
19. In the peer-review process for a report of the results of a study on the ecology of honeybees, who would be an appropriate reviewer?
- a politician that knew about bees
 - a biologist studying insects
 - a university president
 - a physicist that keeps bees

- _____ 20. What is the basis of the metric measurement system?
- Its measures are based on divisions that are powers of ten.
 - It is based on European measurement standards.
 - It is the only scientific measurement system.
 - It is based on the wavelength of krypton-86 radiation.
- _____ 21. Which of the following is an observation?
- You record the air temperature every day for a week.
 - You propose that a cold front is approaching.
 - You hypothesize that the temperature will increase tomorrow.
 - You conclude that the season is changing.
- _____ 22. Which is an inference?
- You measure a plant's height every day for a week.
 - You give a plant the same amount of water every day.
 - Every day for a week, you collect data on a plant's movement.
 - After watching a plant for a week, you determine it needs more sunlight.
- _____ 23. Tasha is testing the effect of blue-colored light on the growth of tomato plants. Which is the independent variable in this experiment?
- light color
 - light intensity
 - amount of light
 - temperature of light
- _____ 24. Which of the following best describes a benefit of studying biology.
- One is able to experiment on a variety of animals.
 - One is able to intelligently debate issues such as cloning.
 - One is able to preserve the animals that are extinct.
 - One is able to understand the causes of changes in weather.
- _____ 25. Which of the following correctly sequences the steps of the scientific method?
- question, observe, explain, design and conduct experiment, collect and analyze data, report findings
 - observe, question, make a testable explanation, experiment, collect and analyze data, state findings
 - form a hypothesis, observe, investigate a testable question, collect and analyze data, state results
 - design and conduct an investigation based on a testable question, form a hypothesis, collect data, state findings