

Biology 2 Chapter 1 Test Review

Modified True/False

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

- ___ 1. Accepting ideas is the cornerstone of scientific thought. _____
- ___ 2. Skepticism is a habit of mind in which a person accepts the validity of accepted ideas.

- ___ 3. The law of gravity and the law of conservation of energy are natural laws. _____
- ___ 4. Scientific investigations require ethical behavior. _____
- ___ 5. Most scientific investigations begin with observations that lead to universal laws.

- ___ 6. A hypothesis is a possible explanation that can be tested by observation or experimentation.

- ___ 7. The control group and the experimental group are identical except for one variable.

- ___ 8. Light and electron autoclaves help magnify objects. _____
- ___ 9. In the event of a lab accident, one thing you should always do is remain calm. _____
- ___ 10. Biology is the study of nonliving things. _____
- ___ 11. A student who wants to study bacteria would take microbiology classes. _____
- ___ 12. Reproduction insures ongoing generations of both one-celled organisms and frogs.

- ___ 13. Homeostasis is the maintenance of a stable internal environment in spite of changes in the external environment. _____
- ___ 14. The application of technology to medicine has greatly increased the ability of people to live healthy lives.

- ___ 15. Genetic engineering is widely used in agriculture to produce crops that are pest-resistant.

- ___ 16. Making a new kind of fastener modeled on the way an aquatic animal fastens onto rocks on the ocean floor is an example of nanotechnology. _____
- ___ 17. One good way to protect the environment is to learn more about it. _____

- a. absolutely certain and never questioned.
 - b. unchangeable.
 - c. revised as new evidence is presented.
 - d. a controlled experiment.
- ___ 12. Scientists build theories from many
- a. experiments that support hypotheses.
 - b. hypotheses that are rejected.
 - c. experiments with different variables.
 - d. untested ideas.
- ___ 13. The metric system of measurement is based on powers of
- a. 1.
 - b. 10.
 - c. 100.
 - d. 1000.
- ___ 14. One meter is equal to
- a. 1,00 mm.
 - b. 10 cm.
 - c. 0.001 km.
 - d. 10 km.
- ___ 15. A specialized tool used to magnify organisms so that they can be observed is a
- a. pipette.
 - b. microscope.
 - c. satellite.
 - d. laminar-flow hood.
- ___ 16. You can work safely in the science lab by
- a. taking shortcuts in procedures.
 - b. waiting until the end of experiments to clean area.
 - c. estimating measurements of chemicals.
 - d. following all instructions.
- ___ 17. Biology is the study of
- a. life.
 - b. minerals.
 - c. weather.
 - d. energy.
- ___ 18. Which of the following is *not* one of the seven properties of life?
- a. metabolism
 - b. homeostasis
 - c. responsiveness
 - d. photosynthesis
- ___ 19. All living things maintain a balance within their cells and with the environment through the process of
- a. growth.
 - b. development.
 - c. homeostasis.
 - d. evolution.
- ___ 20. The energy that drives metabolism in animals comes from
- a. homeostasis.
 - b. food.
 - c. water.
 - d. heredity.
- ___ 21. The process by which organisms make more of their own kind is called
- a. heredity.
 - b. growth.
 - c. metabolism.
 - d. reproduction.
- ___ 22. Children tend to resemble their parents due to
- a. heredity.
 - b. responsiveness.
 - c. metabolism.
 - d. homeostasis.
- ___ 23. A field of sunflowers facing the sun is an example of

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|--|----------------|--------------------|
| | a. metabolism. | c. responsiveness. |
| | b. growth. | d. heredity. |
- ___ 24. The changes in human babies during their first year of life is an example of
- | | |
|--------------------|-----------------|
| a. heredity. | c. evolution. |
| b. responsiveness. | d. development. |
- ___ 25. An agent that causes a disease is called a(n)
- | | |
|-------------|--------------|
| a. cholera. | c. epidemic. |
| b. copepod. | d. pathogen. |
- ___ 26. All the genetic material contained in an individual or a species is called its
- | | |
|------------------|---------------------|
| a. epidemiology. | c. DNA fingerprint. |
| b. genome. | d. genetic code. |
- ___ 27. The application of a biological structure or process to solve design problems is called
- | | |
|-----------------|--------------|
| a. adaptation. | c. cloning. |
| b. biomimetics. | d. decoding. |
- ___ 28. The analysis of biological traits to identify people is called
- | | |
|-----------------|----------------|
| a. arithmetics. | c. genetics. |
| b. biometrics. | d. statistics. |

Completion

Complete each statement.

- The questioning and often doubtful attitude required for scientific thought is called _____.
- The truths that govern science and are valid everywhere in the universe are universal _____.
- _____ are a system of moral principles and values.
- Most scientific investigations begin with _____ that lead to questions.
- A reason to set up an experiment is to test a _____.
- In a controlled experiment, the _____ group is the group that has one variable changed.
- In an experiment, the _____ group receives no experimental treatment.
- Factors that may change as a result of experimental treatment are _____ variables.
- A(n) _____ is a specific, testable prediction for a limited set of conditions, and a(n) _____ is a general explanation for a broad range of data.
- Scientists use the _____ system to make measurements.
- SI is the abbreviation for the _____ System of Units.

12. The SI base unit for length is the _____.
13. A kilogram is equal to _____ grams.
14. Every living organism is composed of one or more _____.
15. All cells have the same basic _____.
16. The sum of all chemical reactions carried out in an organism is _____.
17. The energy used by living organisms originates from the _____.
18. The study of _____ involves finding out how diseases are spread.
19. Cholera bacteria can cause the disease only when _____ increases.
20. A _____ is a medical procedure that allows a person to resist infection by a certain disease.
21. Many new tools for studying and treating diseases caused by problems in genes have come from the study of _____.
22. In developed countries, the length of human lives has nearly _____ in the past century.
23. One example of an assistive technology that helps people in everyday life is _____.
24. The gene that was added to Bt corn came from a(n) _____.
25. Bt corn contains a gene that produces a _____ that kills the European corn borer.
26. The robotic items produced through nanotechnology often resemble tiny _____.
27. Imitating biological structures, processes, and systems to solve engineering problems is called _____.
28. Because of _____, dissection is no longer needed to determine the shapes and locations of internal organs.
29. Fingerprints and iris patterns are useful in identification because they are _____ to individuals.
30. Material used in _____ is obtained from hair and skin cells.
31. Research that involves human stem cells is limited because many people think that such research is _____.
32. The study of living organisms and their environments is called _____.
33. The existence of undiscovered resources is an important reason to study and _____ natural environments.

34. The movements of wildlife can be studied through the technology of _____.
35. Wildlife agents use the technology of _____ to identify the remains of endangered animals and to identify who killed them.
36. The people in communities who make contributions to environmental research are called _____.
37. Students make contributions to environmental conservation by helping to care for _____ or _____ wildlife.

Short Answer

1. What two groups are part of a controlled experiment?
2. What is the difference between an independent variable and dependent variables in a controlled experiment?
3. What makes SI easy to use?
4. What are the base SI units for volume, length, and mass?
5. What are two common kinds of microscopes. How do they differ?

Essay

1. The results of an experiment do not support the hypothesis that the experiment was designed to test. Was the experiment a waste of time? Explain your answer.
2. Explain the difference between an independent variable and a dependent variable in a controlled experiment. Also indicate whether or not each kind of variable would be found in a control group and an experimental group