Name_____ Class_____ Date _____

Multiple Choice

Write the letter that best answers the question or completes the statement on the line provided.

____ **1.** The work of scientists begins with
a. testing a hypothesis.
b. careful observations.
c. creating experiments.
d. drawing conclusions.

____ **2.** Hypotheses may arise from
a. prior knowledge.
b. logical inferences.
c. imaginative guesses.
d. all of the above

____ **3.** A controlled experiment allows the scientist to isolate and test
a. a conclusion. c. several variables.
b. a mass of information. d. a single variable.

____ **4.** Scientists publish the details of important experiments so that
a. their work can be repeated.
b. their experimental procedures can be reviewed.
c. others can try to reproduce the results.
d. all of the above

____ **5.** A well-tested explanation that unifies a broad range of observations is a(an)
a. hypothesis. c. inference.
b. theory. d. controlled experiment.

____ **6.** All of the following are characteristics of all living things EXCEPT
a. growth. c. movement.
b. reproduction. d. use energy.

____ **7.** Biology is the study of
a. the land, water, and air on Earth.
b. the living world.
c. animals and plants only.
d. the environment.

____ **8.** The process by which organisms keep their internal conditions relatively stable is called
a. homeostasis. c. metabolism.
b. evolution. d. photosynthesis.

Name_____ Class_____ Date _____

____ **9.** What is the term for a group of organisms of one type living in the same place?

a. biosphere c. population
b. ecosystem d. environment

____**10.** In the metric system, the basic unit of length is the

a. centimeter. c. millimeter.
b. kilometer. d. meter.

____**11.** Which is not a unit of measurement in SI?

a. meter c. liter
b. ounce d. gram

____**12.** An instrument that allows light to pass through the specimen and uses two lenses to form an image is a(an)

a. compound light microscope.
b. electron microscope.
c. TEM.
d. SEM.

____**13.** What is the term given to a group of cells that develop from a single original cell?

a. community c. nutrient solution
b. cell culture d. cell fractionation

____**14.** What technique is used to separate the different cell parts?

a. microscopy c. cell fractionation
b. cell culture d. all of the above

____**15.** Safety procedures are important when working

a. in a laboratory. c. with animals.
b. in the field. d. all of the above

Completion

Complete each statement on the line provided.

16. The information gathered from observation is called _____ .

17. The smallest units that are considered to be alive are called _____ .

18. A revised version of the original _____ system is called the SI, an abbreviation for the International Systems of Units.

19. The _____ microscope is generally used in high school laboratories.

20. An instrument used to separate cell parts is called a(an) _____ .

Name_____ Class_____ Date _____

Short Answer

In complete sentences, write the answers to the questions on the lines provided.

21. What is an inference?

_____

_____

_____

_____

22. What is a hypothesis?

_____

_____

_____

_____

23. What are five of the levels of organization that biologists study?

_____

_____

_____

_____

24. What does cell fractionation allow a scientist to study?

_____

_____

_____

_____

25. What safety precaution must you carry out after every scientific activity?

_____

_____

_____

_____

Name_____ Class_____ Date _____

Using Science Skills

Use the table below to answer the following questions on the lines provided.

Common Metric Units	
Length	**Mass**
1 meter (m) = 100 centimeters (cm) 1 meter = 1000 millimeters (mm) 1000 meters = 1 kilometer (km)	1 kilogram (kg) = 1000 grams (g) 1 gram = 1000 milligrams (mg) 1000 kilograms = 1 metric ton (t)
Volume	**Temperature**
1 liter (L) = 1000 milliliters (mL) 1 liter = 1000 cubic centimeters (cm^3)	0°C = freezing point of water 100°C = boiling point of water

Figure 1-1

26. Using Tables and Graphs What four common metric units in Figure 1-1 are used to measure length?

_____

_____

27. Applying Concepts Referring to Figure 1-1, why are conversions easier to do using the metric system rather than using traditional English units, such as inches, feet, and yards?

_____

_____

_____

_____

28. Using Tables and Graphs What is the boiling point of water, in degrees Celsius?

_____

29. Applying Concepts Using Figure 1-1, what number does the prefix *kilo-* represent?

_____

30. Calculating If you have 2 L of water, how many milliliters do you have?

_____