Workbook Ch. 2

Section 1: Tools and Measurement

Write the letter of the correct answer in the space provided.

1. What is anything that helps you do a task called?

a. a microscope

b. a cylinder

c. a measure

d. a tool

Tools for Science

2. How is the volume of water in a jar measured?

a. with a ruler

b. with a graduated cylinder

c. with a tape measure

d. with a meterstick

Tools for Seeing

Match the correct description with the correct term. Write the letter in the space provided.

a. meterstick

b. thermometer

c. graduated cylinder

d. compass

e. balance

3. tool for measuring temperature

4. tool for measuring length

5. tool for measuring mass

\_\_\_\_\_ 6. tool for determining direction

Measurement

7. Which of the following is another name for the metric system?

a. the National System of Measurement

b. the International System of Units

c. the Universal Unit System

d. the International System of Measures

The International System of Units

8. What are all units of the SI based on?

a. the number .01

b. the number 5

c. the number 10

d. the number 100

Workbook continued

Match the correct definition with the correct term. Write the letter in the space provided.

9. the basic SI unit of length

a. volume

b. meter

c. mass

d. area

e. temperature

10. the measure of the size of a surface

11. a measure of the amount of matter in an object

12. the amount of space that something occupies

13. a measure of how hot or cold something is

writing numbers in scientific notation

14. Which of the following is used to write very large numbers and very small numbers?

a. shorthand

b. Morse code

c. scientific notation

d. the alphabet

16. One kilometer is equal to how many meters?

17. One gram is equal to how many kilograms?

18. When measuring temperature, 100°C equals how many kelvins?

19. The basic SI unit used to measure length is called

a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

20. A measure of the size of a surface or a region is called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

21. What is the equation used for calculating the area of a square or rectangle?

22. A measure of the amount of matter in an object is

called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

23. The basic unit for mass is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

24. Name two SI units that can be used to describe the mass of smaller objects.

25. Name one SI unit that can be used to describe the mass of large objects.

26. A measure of the size of a body or region in three-dimensional space is

called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

27. How would you calculate the volume of a box-shaped object?

28. The volume of a liquid is often given in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

29. A measure of how hot or cold something is is called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

30. What is the SI base unit for temperature called?

Section 2: Models in Science

Write the letter of the correct answer in the space provided.

1. What is a representation of an object or process called?

a. theory

b. law

c. model

d. variable

2. Why is studying a model helpful to scientists?

a. Scientists can study something in greater detail.

b. Variables can never be changed.

c. The subjects of the study are harmed.

d. Studying models is never helpful.

Mathematical Models

3. What are mathematical models made up of?

a. mathematical equations and data

b. things you can touch

c. objects that are real

d. things you cannot describe

4. Which of the following are needed to process complex mathematical models?

a. metersticks

b. graduated cylinders

c. thermometers

d. computers

THEORIES AND LAWS

Use the terms from the following list to complete the sentences below.

theory law

5. A statement or equation that reliably predicts events under certain conditions

is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. A system of ideas that explains observations and is supported by scientific

evidence is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Theories Are Supported by Scientific Observations

7. Which of the following statements about the theory of an   
Earth-centered universe is true?

a. The theory was never questioned.

b. Observations led to a new theory.

c. The theory has been forgotten.

d. Observations proved the theory true.

Laws Can Support Theories

8. Who discovered the law of universal gravitation?

a. Stephen Hawking

b. Copernicus

c. Benjamin Franklin

d. Sir Isaac Newton

9. Which of the following laws supports the theory of a sun-centered solar system?

a. the law of models

b. the universal law

c. the law of universal gravitation

d. the law of physics

Section 3: Mapping Earth’s Surface

Write the letter of the correct answer in the space provided.

1. What is a representation of the features of a physical body such as Earth called?

a. cylinder

b. law

c. map

d. theory

FINDING DIRECTIONS ON EARTH

2. What is a tool that uses Earth’s natural magnetism to show direction called?

a. compass

b. meterstick

c. balance

d. scale

using a compass

3. Earth’s axis of rotation can be used to establish \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. What does the needle of a compass point toward?

a. magnetic west pole

b. magnetic north pole

c. magnetic east pole

d. magnetic south pole

FINDING LOCATIONS ON the EARTH

Use the terms from the following list to complete the sentences below.

equator North Pole longitude grid

parallels latitude prime meridian

5. The distance north or south from the equator is called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. Lines of latitude are also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

7. The imaginary circle halfway between the poles is called

the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

8. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is 90°N latitude.

9. The distance east and west from the prime meridian

is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

10. The imaginary line that is designated as 0° longitude is called the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

11. Lines of latitude and longitude cross to form a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

system on globes and maps.

Information Shown On Maps

Match the correct description with the correct term. Write the letter in the space provided.

12. list of symbols used in a map

a. title

b. legend

c. scale

13. information about a map’s subject

14. relationship between distance on Earth’s surface and distance on a map

Global Positioning System

Use one of the terms from the following list to complete the sentence below.

global positioning system geographic information system

15. A system of orbiting satellites that sends radio signals to Earth is called

a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Section 4: Maps in Earth Science

TOPOGRAPHIC MAPS

Write the letter of the correct answer in the space provided.

1. What kind of map shows the surface features of Earth?

a. topographic map

b. climate map

c. road map

d. city map

2. What is the height of an object above sea level called?

a. longitude

b. latitude

c. topography

d. elevation

Contour Lines

Use the terms from the following list to complete the sentences below.

steep contour interval relief

contour line gentle index contour

3. On a topographic map, a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connects points

of equal elevation.

4. The difference in elevation between one contour line and the next is called

the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. The difference in elevation between the highest and lowest points on a map

is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. Contour lines that are close together show a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

slope.

7. Contour lines that are far apart show a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ slope.

8. A dark line used to make topographic maps easier to read is called a(n)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Workbook 2.4 continued

9. What color are contour lines on a topographic map?

a. black c. brown

b. blue d. pink

The Rules of Contour Lines

10. Which of the following statements about contour lines is NOT true?

a. Contour lines never cross.

b. Contour lines that cross a valley or stream are shaped like a “U.”

c. Contour line spacing depends on the ground’s slope.

d. Contour lines that cross a valley or stream are shaped like a “V.”

11. How are the tops of hills, mountains, and depressions shown on a topographic map?

a. by open circles

b. by open triangles

c. by closed triangles

d. by closed circles

12. What are maps that geologists make by physically walking over an area called?

a. contour maps

b. geologic maps

c. index maps

d. remote-sensing maps

Match the correct description with the correct term. There are two extra terms. Write the letter in the space provided.

13. a map that records information including rock units and structural features

a. contact

b. fault

c. geologic map

d. geologic unit

14. a rock of a given rock type and age range

15. Contour lines never \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

16. What does it mean when a contour line is shaped like a “V”?