Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading B

Section: Four States of Matter (pp. 110–113)

MATTER: MOVING PARTICLES

1. What is a state of matter?

_____

_____

2. What are the three most familiar states of matter?

_____

_____

_____

3. Matter is made up of particles called _____ and _____.

Match the correct description with the correct state of matter. Write the letter in the space provided.

_____ **4.** Particles do not move fast enough to overcome the strong attraction between them.

_____ **5.** Particles move independently of one another.

_____ **6.** Particles are close together but can slide past one another.

a. solid
b. liquid
c. gas

SOLIDS

_____ **7.** The particles of matter that make up a solid
- **a.** have a weaker attraction than those of a liquid.
- **b.** do not move at all.
- **c.** do not move fast enough to overcome the force of attraction.
- **d.** move from place to place.

8. What is the definition of a solid in terms of shape and volume?

_____

_____

_____

LIQUIDS

9. How do the particles of a liquid make it possible to pour juice into a glass?

10. The juice in a beaker is poured into a graduated cylinder. The volume of juice in either container is 350 mL. What does this show you about the properties of a liquid?

GASES

11. What is the definition of a gas in terms of shape and volume?

12. How is it possible for one small tank of helium to fill hundreds of balloons?

PLASMAS

13. What state of matter makes up more than 99% of the matter in the universe?

14. How do plasmas behave differently than gases?

15. Give one example of a natural plasma and one example of an artificial plasma.

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading B

Section: Changes of State (pp. 114–119)

ENERGY AND CHANGES OF STATE

_____ **1.** Which of the following have the most energy?
- **a.** particles in steam
- **b.** particles in liquid water
- **c.** particles in ice
- **d.** particles in freezing water

2. When a substance changes from one physical form to another, we say the substance has undergone a(n) _____.

3. List the five main kinds of changes of state.

_____

_____

_____

_____

_____

MELTING: SOLID TO LIQUID

4. Could you use gallium to make jewelry? Why or why not?

_____

_____

_____

_____

5. The temperature at which a substance changes from solid to liquid is the _____ of the substance.

FREEZING: LIQUID TO SOLID

6. A substance's _____ is the temperature at which it changes from a liquid to a solid.

7. What happens if energy is added to or removed from a glass of ice water?

_____

_____

_____

_____

EVAPORATION: LIQUID TO GAS

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

_____ **8.** the change of a substance from a liquid to a gas

_____ **9.** the change of state from a liquid to a gas when the vapor pressure equals the atmospheric pressure

_____ **10.** the temperature at which a liquid boils

a. boiling point

b. evaporation

c. boiling

11. As you go higher above sea level, the _____ decreases and the _____ of a substance gets lower.

CONDENSATION: GAS TO LIQUID

12. The change of state from a gas to a liquid is called _____.

13. At a given pressure, the condensation point for a substance is the same as its _____.

14. For a substance to change from a gas to a liquid, particles must _____.

SUBLIMATION: SOLID TO GAS

15. Why is solid carbon dioxide called "dry ice"?

_____

_____

_____

16. The change of state from a solid directly to a gas is called _____.

TEMPERATURE AND CHANGES OF STATE

17. The speed of the particles in a substance changes when the _____ changes.

18. When a substance is undergoing a change of state, the temperature of the substance does not change until the _____ is complete.