Solids (pp. 91–92)

1. Which state of matter has a definite volume and a definite shape?

   _____

2. Is the following sentence true or false? A solid will keep its volume and its shape in any position and in any container.

   _____

3. Why do solids have a definite shape and a definite volume?

   _____

   _____

   _____

   _____

4. Complete the table about types of solids.

Solids			
Type of Solid	**Description**	**Examples**	**Melting Temperature**
a.	Made up of crystals	**b.**	Specific
c.	Particles not arranged in a regular pattern	**d.**	Not distinct

5. Circle the letter of each sentence that is true about particles in a solid.
   a. They are completely motionless.
   b. They stay in about the same position.
   c. They vibrate back and forth.
   d. They move around one another freely.

Liquids (pp. 93–94)

6. Which state of matter has no definite shape but does have a definite volume? _____

7. Is the following sentence true or false? A liquid's volume does not change no matter what shape its container has.
_____

8. A substance that flows is called a(n) _____.

9. What causes surface tension?
_____
_____
_____

10. Circle the letter of the term that means the resistance of a liquid to flowing.
    a. amorphous
    b. solid
    c. viscosity
    d. surface tension

11. Is the following sentence true or false? Liquids with high viscosity flow quickly. _____

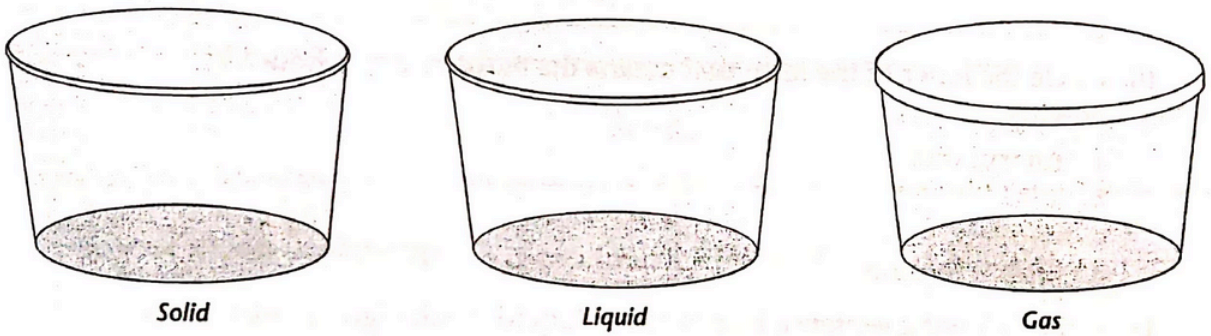
Gases (p. 95)

12. Which state of matter has neither definite shape nor definite volume?
_____

13. If you put a gas into a container with a top, what will the gas do?
_____
_____

14. Is the following sentence true or false? Like a liquid, a gas is a fluid.
_____

15. In the containers below, draw how the particles are arranged in the three states of matter.



Solid *Liquid* *Gas*

Changes of State *(continued)*

Changes Between Solid and Liquid (pp. 97–98)

1. A change from a solid to a liquid involves a(n) _____ in thermal energy.
2. A change from a liquid to a solid involves a(n) _____ in thermal energy.
3. The change in state from a solid to a liquid is called _____.
4. In most pure substances, melting occurs at a characteristic temperature called the _____.
5. Describe what happens to the water molecules in an ice cube that is set on the kitchen counter. What does this action cause?

_____

_____

_____

_____

_____

_____

6. The change of state from liquid to solid is called _____.
7. Is the following sentence true or false? At its freezing point, the particles of a solid are vibrating so fast that they break free from their fixed positions. _____

Changes Between Liquid and Gas (pp. 98–100)

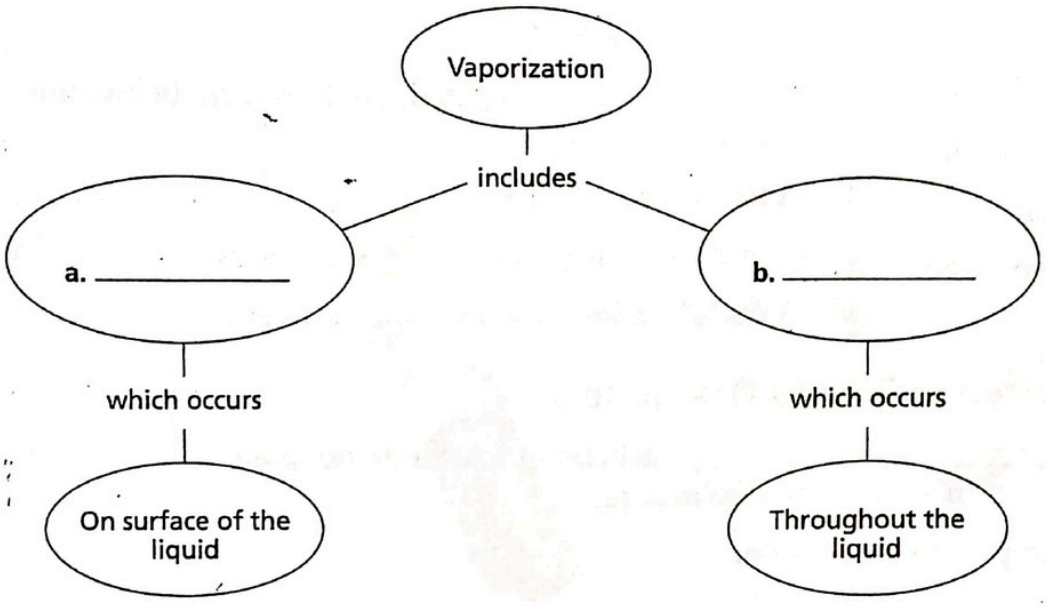
8. The change from a liquid to a gas is called _____.
9. When does vaporization take place?

_____

_____

_____

10. Complete the concept map.



11. The temperature at which a liquid boils is called its _____.

12. Why is the boiling point of water lower in the mountains than it is at sea level?

_____

_____

_____

_____

_____

13. Is the following sentence true or false? Condensation is the opposite of vaporization. _____

14. When condensation occurs, does a gas lose or gain thermal energy?

_____

_____

Changes of State *(continued)*

Match the term with its example.

Term	Example
____ 15. boiling point	a. As a pot of water is heated, bubbles form below the surface and rise.
____ 16. evaporation	b. A temperature of 100°C.
____ 17. boiling	c. Clouds form from water vapor in the sky.
____ 18. condensation	d. A puddle dries up after a rain shower.

Changes Between Solid and Gas (p. 101)

19. During _____, particles of a solid do not pass through the liquid state as they form a gas.

20. Give an example of sublimation.

_____

_____

_____

_____