

PS Chemistry
Key Terms & Kinetic Theory

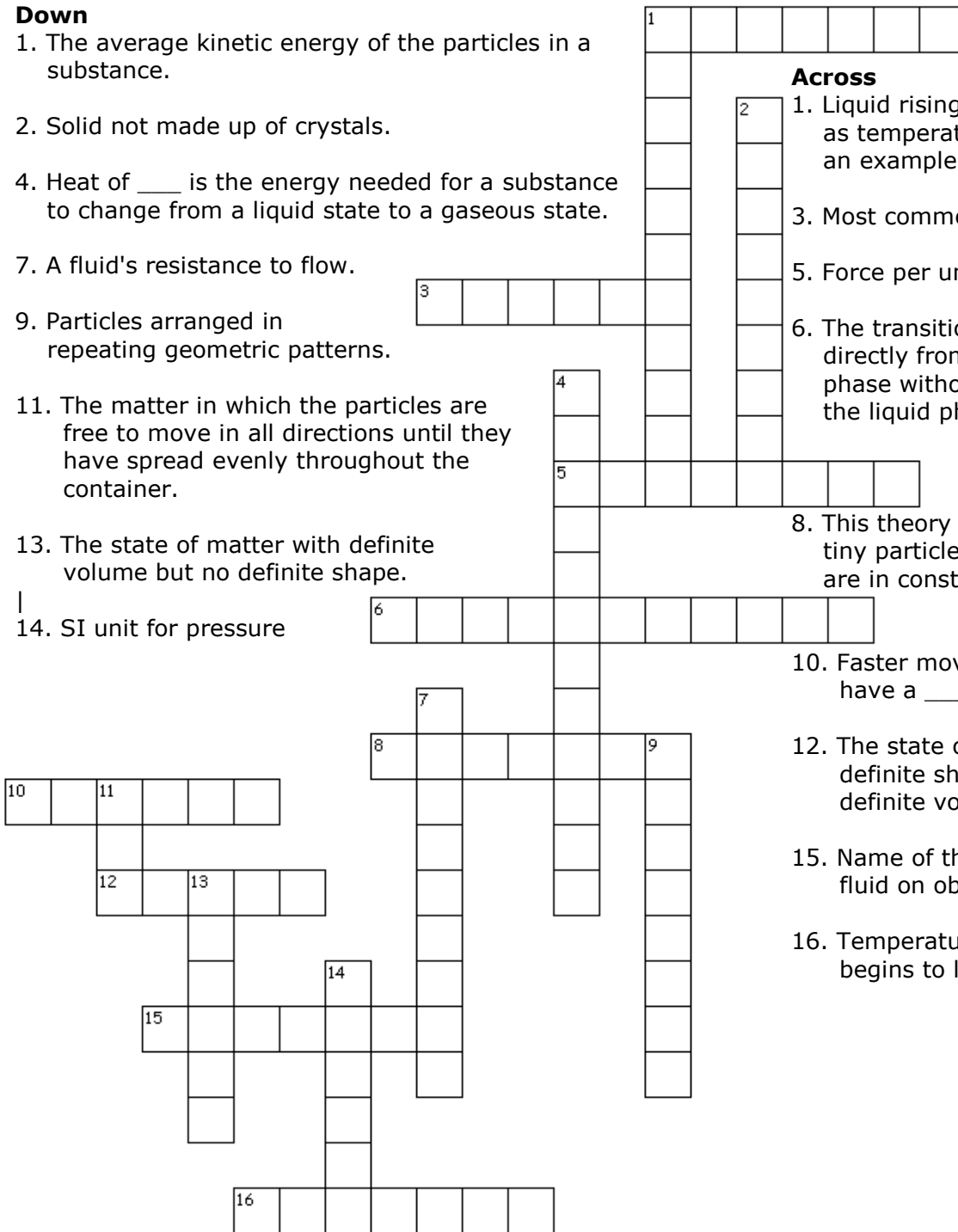
Name _____ Period ____

Down

1. The average kinetic energy of the particles in a substance.
2. Solid not made up of crystals.
4. Heat of ____ is the energy needed for a substance to change from a liquid state to a gaseous state.
7. A fluid's resistance to flow.
9. Particles arranged in repeating geometric patterns.
11. The matter in which the particles are free to move in all directions until they have spread evenly throughout the container.
13. The state of matter with definite volume but no definite shape.
14. SI unit for pressure

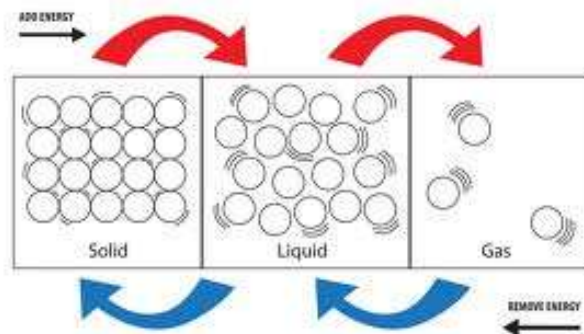
Across

1. Liquid rising in a thermometer as temperature increases is an example of ____ expansion.
3. Most common state of matter.
5. Force per unit area.
6. The transition of a substance directly from the solid to the gas phase without passing through the liquid phase.
8. This theory of matter states that the tiny particles that make up matter are in constant random motion.
10. Faster moving particles will have a ____ temperature.
12. The state of matter that has a definite shape and a definite volume.
15. Name of the force exerted by a fluid on objects immersed in it.
16. Temperature at which a solid begins to liquefy is the __ point.



Label. On the diagram below, label vaporization and condensation.

- 1) _____
- 2) _____



Fill in the blank. *Word Bank* (some words will be used more than once, some not at all)

condensation evaporation gas liquid vaporization
 energy faster heat solid

3) *What is Vaporization?*

Vaporization is the process of converting a _____ into a _____. It is also called _____. Since we know that the particles of a gas are moving _____ than those of a liquid, an input of _____ must be required for a liquid to become a gas. The most common way to add energy to a liquid system is by adding _____.

4) *What is condensation?*

Condensation is the process by which a _____ changes phases into a _____. You must remove _____ from or cool a gas to convert it into a liquid. The Heat of Vaporization is the same for both processes, just positive for _____ and negative for _____.

Analyze. Use the graph (Figure 2-10) to fill in the blanks.

5) At the start, 40°C, the substance exists in what state of matter? _____

6) As energy is absorbed, the temperature of the substance rises at a constant rate. At what temperature does the substance begin to melt? _____

7) The temperature remains constant at 80°C while the substance changes from a liquid to a _____.

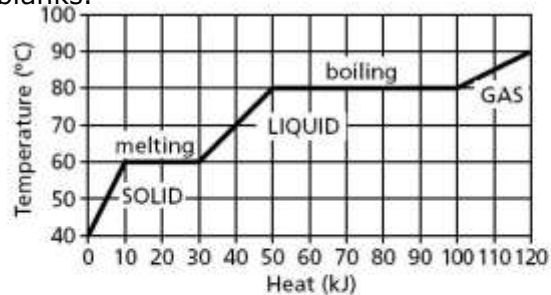


Figure 2-10. The graph represents the temperature of 1 kilogram of a material as heat is added.

When a gaseous substance is allowed to cool, it releases energy. The curve will be the reverse of the warming curve (right to left).

8) What happens to the substance as the temperature drops from 90°C to 80°C? _____

9) What happens to the substance as the temperature drops from 70°C to 60°C? _____

Understanding Phase Changes. Complete the table by writing the initial and final phases for each phase change. Then place a check (✓) in the correct energy column.

	Phase		Energy	
	initial	final	required	released
Condensation				
Deposition				
Freezing				
Melting				
Sublimation				
Vaporization				