

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Per: \_\_\_\_\_

**Chemistry**  
**Assessment #13: States of Matter PRACTICE**

*For each of the following questions or statements, select the most appropriate response and write its letter on the answer line:*

- \_\_\_\_\_ 1. In the physical change of state lab, we observed freezing of lauric acid. During the freezing process, the temperature:
- A. jumps about randomly
  - B. increases
  - C. remains constant
  - D. decreases
  - E. cannot be determined
- \_\_\_\_\_ 2. Matter changing from being a liquid to a gas is referred to as:
- A. condensation
  - B. decomposition
  - C. solidification
  - D. sublimation
  - E. vaporization
- \_\_\_\_\_ 3. Which is NOT a correct assumption related to the Kinetic Theory?
- A. intermolecular forces influence the properties a gas
  - B. a gas is composed of particles relatively far apart from one another
  - C. collisions are perfectly elastic
  - D. particles in a gas move in random motion
  - E. no attractive or repulsive forces exist between the particles
- \_\_\_\_\_ 4. As a solid element melts, which of the following best describes the behavior of atoms?
- A. the atoms spread out and they have more attraction for one another
  - B. the atoms spread out and they have less attraction for one another
  - C. the atoms move closer together and they have more attraction for one another
  - D. the atoms move closer together and they have less attraction for one another
  - E. the atoms become larger and they have greater attraction for one another
- \_\_\_\_\_ 5. Crystalline solids:
- A. exist only at high temperatures
  - B. exist only at very low temperatures
  - C. have their particles arranged randomly
  - D. have highly ordered structures
  - E. are usually very soft

- \_\_\_\_\_ 6. Which of the following statements about gases is FALSE?
- A. All gases are colorless and odorless at room temperature.
  - B. Gases are highly compressible.
  - C. Distances between molecules of gas are very large compared to bond distances within molecules.
  - D. Non-reacting gas mixtures are homogeneous.
  - E. Gases expand spontaneously to fill the container they are placed in.
- \_\_\_\_\_ 7. Imagine that a milk jug is filled with hot water, emptied, sealed and then placed in an ice bath. The closed container will decrease in volume as the hot water and trapped water vapor are cooled. What best explains this?
- A. the particles gained kinetic energy
  - B. the jug was melted when the hot water was put inside
  - C. the cold applied to the jug condenses the water
  - D. there are fewer collisions of particles
  - E. the heat from the jug melts the ice
- \_\_\_\_\_ 8. In liquids, the attractive intermolecular forces are:
- A. very weak compared with kinetic energies of the molecules
  - B. not strong enough to hold molecules close together
  - C. strong enough to keep the molecules confined to vibrating about their fixed lattice points
  - D. not strong enough to keep molecules from moving past each other
  - E. strong enough to hold molecules relatively far away from each other
- \_\_\_\_\_ 9. One significant difference between gases and liquids is that:
- A. a gas is made up of molecules, a liquid is not
  - B. a gas assumes the volume of its container, a liquid does not
  - C. a gas may consist of both elements and compounds, a liquid may not
  - D. a gas is always a mixture, a liquid is not
  - E. a gas assumes the shape of its container, a liquid does not
- \_\_\_\_\_ 10. The freezing point of a substance is the same as:
- A. the triple point
  - B. the critical point
  - C. the melting point
  - D. the boiling point
  - E. the vapor-pressure curve

## Answers

1. C
2. E
3. A
4. B
5. D
6. A
7. D
8. D
9. B
10. C