

Concept Review

Section: Matter and Energy

1. Identify each of the following as a gas, liquid, solid, or plasma.

- _____ a. The particles are closely packed together, but they can still slide past each other.
- _____ b. The particles are in a constant state of motion and rarely stick together.
- _____ c. The particles are locked in fixed positions.
- _____ d. The particles are broken apart.

2. **Select** the answer that best completes each statement describing the energy transfers taking place as water changes state from solid to liquid, from liquid to gas, and from gas back to liquid.

- a. Energy must be added/released (choose one) to separate the water molecules as ice melts.
- b. The fastest/slowest (choose one) moving molecules break away from the surface of liquid water to form water vapor.
- c. The process described in (b) is called _____.
- d. During the above process, energy is released/absorbed (choose one).
- e. Water molecules speed up/slow down (choose one) as water vapor returns to the liquid water state.
- f. The process described in (e) is called _____.
- g. Energy is released/absorbed (choose one) during the above process.

3. **Apply** the kinetic theory to describe the motion of particles in a homogeneous mixture of sugar and water as it is boiled.

4. **Explain** how mass and energy are conserved when water evaporates.
