

Changes of State-Chapter 2 Section 2

Picture Representation/Examples

Changes between SOLIDS to LIQUIDS

- **MELTING:** The change in state from a solid to a liquid.
- Melting occurs at a specific melting point.
- Melting point is a characteristic property of a substance.
- At its melting point, the particles of a solid substance are vibrating so fast that they break free from their fixed positions.

Changes between LIQUIDS to SOLIDS

- **FREEZING:** The change in state from liquid to solid.
- At its freezing temperature, the particles of a liquid are moving so slowly that they begin to form regular patterns.

Changes between LIQUIDS and GASES

- **VAPORIZATION:** The change from a liquid to a gas.
- Vaporization takes place when the particles in a liquid gain enough energy to form a gas.
- There are two main types of vaporization—evaporation and boiling.

- **EVAPORATION:** vaporization that takes place only on the surface of a liquid.

- **BOILING:** occurs when a liquid changes to a gas below its surface as well as at the surface.

Changes between GASES and LIQUIDS

- **CONDENSATION**: the opposite of vaporization.
- Condensation occurs when particles in a gas lose enough thermal energy to form a liquid.
- Water vapor is a colorless gas that is impossible to see. You see tiny droplets of water suspended in air.

Changes between SOLIDS and GASES

- **SUBLIMATION**: occurs when the surface particles of a solid gain enough energy that they form a gas.
- During sublimation, particles of a solid do not pass through the liquid state as they form a gas.

1. Why does the evaporation of sweat cool your body on a warm day?

2. You are stranded in a blizzard. You need water to drink, and you're trying to stay warm. Should you melt snow and then drink it, or just eat snow? Explain.
