

Mr. Courtney
Unit 1: Introduction to Matter
Chapter 3: States of Matter
Section 1: Three States of Matter
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Objectives:

- **Describe** the properties shared by particles of all matter
- **Describe** three states of matter
- **Explain** the difference between the states of matter

Particles of Matter

- **The states of matter** are the physical forms in which a substance can exist. The three most familiar states of matter are solid, liquid and gas.
- Matter is made up of tiny particles called *atoms* and *molecules*. These particles are always in motion and are always bumping into one another.
- The particles in matter interact with each other.
- The way the particles interact with each other helps determine the state of the matter

Solids

- A solid is the state of matter that has a definite shape and volume.
- The particles in a solid do not move fast enough to overcome the attraction between them.
- Each particle vibrates in place and is locked in place by the particles around it.
- **There are Two Types of Solids** Crystalline solids have a very orderly, three-dimensional arrangement of particles. Iron, diamond and ice are crystalline solids.
- Amorphous solids are made of particles that do not have a special arrangement. Glass, rubber, and wax are amorphous solids.

Liquids

- **Liquid** is the state of matter that has definite volume but takes the shape of its container
- The particles of a liquid move fast enough to overcome some of the attraction between them.
- The particles in a liquid slide past each other.
- **Liquids have Unique Characteristics** Two special properties of liquid are surface tension and viscosity.
- **Surface tension** is a force that acts on the particles at the surface of a liquid.
- **Viscosity** is a liquid's resistance to flow.