

STATES OF MATTER PhET

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PREDICTIONS

1. Draw 10 particles of a solid, liquid and gas substance. Your drawing should consider the spacing between particles.

<u>Solid</u>	<u>Liquid</u>	<u>Gas</u>

2. In which state of matter are the particles moving the fastest?
3. Is there a state of matter in which the particles are not moving at all?

EXPERIMENT

Test your predictions using this [simulation](#) (click **States**).

1. Draw 10 particles of a solid, liquid and gas substance. Your drawing should consider the spacing between particles.

<u>Solid</u>	<u>Liquid</u>	<u>Gas</u>

2. Describe the relative **motion (speed)** of the particles in each phase.

Solid:

Liquid:

Gas:

PHASE CHANGES

PREDICTIONS

1. How does adding energy to a solid affect the motion of the particles?
2. How can a gas at room temperature (like oxygen) become solid?

EXPERIMENT

Test your predictions using this [simulation](#) (click **States**).

1. Start with solid Argon and *explain* how to make Argon change to the liquid state and then to the gaseous state.
2. Start with gaseous Argon and *explain* how to make the Argon change to the liquid state and then to the solid state.
3. Explain how the absorption of energy (heating) affects the speed of the particles in a substance.
4. Explain how the release of energy (cooling) affects the speed of the particles in a substance.
5. Can you make the particles of any of the substances stop moving?

MAKING CONNECTIONS

1. When you apply heat energy to a substance, where does the energy go? Think about the law of conservation of energy.