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Warm-Up | Phase Changes

Lesson Objectives

By the end of this lesson, you should be able to:

- Describe phase changes in terms of _____-molecular theory.
- Describe the energy changes that happen during changes of _____.

Science Practice: Make and interpret graphs of temperature vs. _____ for changes of state.

Words to Know

Write the letter of the definition next to the matching word as you work through the lesson. You may use the glossary to help you.

_____	condensing	A. a transition from liquid phase to vapor phase
_____	deposition	B. a transition from vapor phase to liquid phase
_____	boiling	C. a transition directly from vapor phase to solid phase
_____	melting	D. a transition from liquid phase to solid phase
_____	vapor pressure	E. a transition from solid phase to liquid phase
_____	freezing	F. a transition directly from solid phase to vapor phase
_____	sublimation	G. the pressure exerted by the gas in equilibrium with a pure liquid at a given temperature

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Lesson Question

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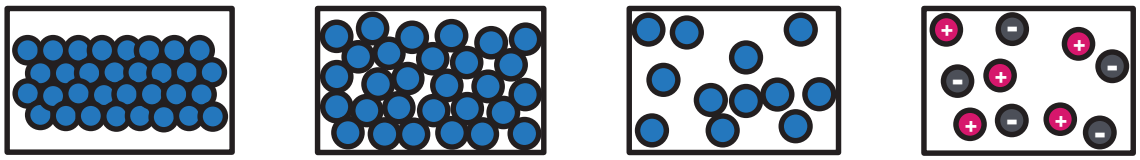
States of Matter

The state of matter depends on the motion of particles.

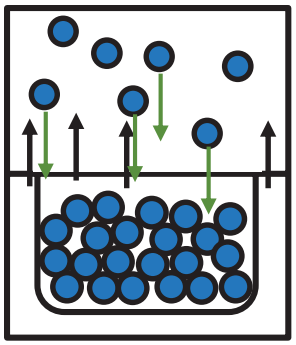


[ ] [ ] [ ] [ ]

Equilibrium between Liquid and Gas

- [ ] move between liquid and gas phase.
- Gas particles exert [ ].

[ ]: the pressure exerted by the gas in equilibrium with a pure liquid at a given temperature



- Related directly to [ ]

The higher the vapor pressure, the more readily the liquid evaporates.

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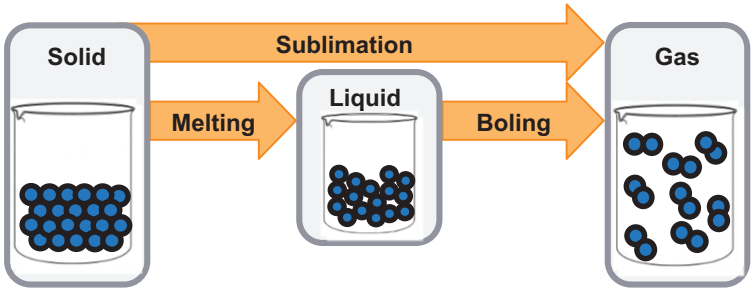
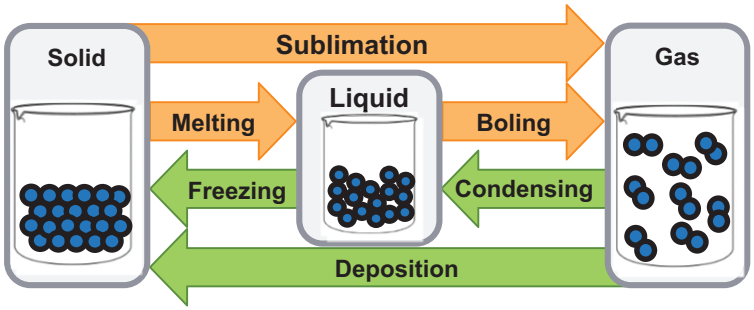
Phase Transitions

- _____ is the transition from solid phase to liquid phase.
- _____ is the transition from liquid phase to vapor phase.
- _____ is the transition directly from solid phase to vapor phase.



- _____ is the transition from liquid phase to solid phase.
- _____ is the transition from vapor phase to liquid phase.
- _____ is the transition directly from vapor phase to solid phase.



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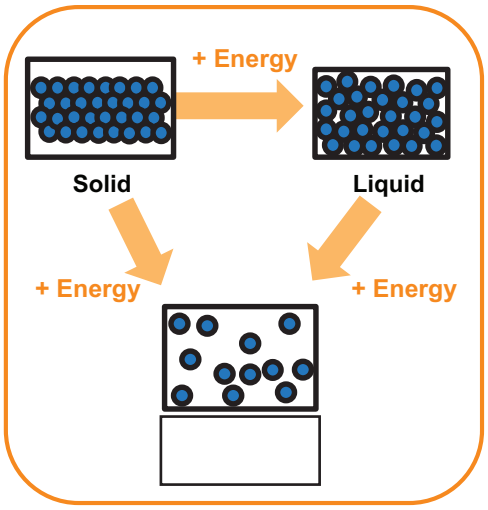
Energy and Phase Changes

Substances [ ] energy when they:

- melt
- boil
- sublime

Substances [ ] energy when they:

- condense
- freeze
- deposit



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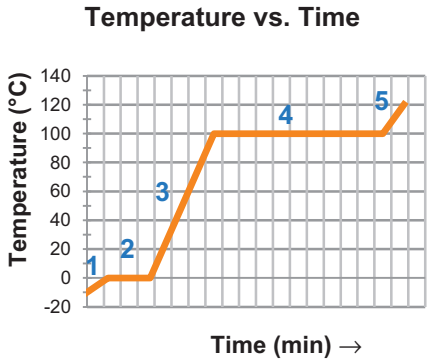
Temperature and Phase Changes

1. The temperature of solid [ ].
2. The solid melts.
3. The temperature of the liquid increases.
4. The liquid [ ].
5. The temperature of the [ ] increases.



Temperature is constant during phase changes.

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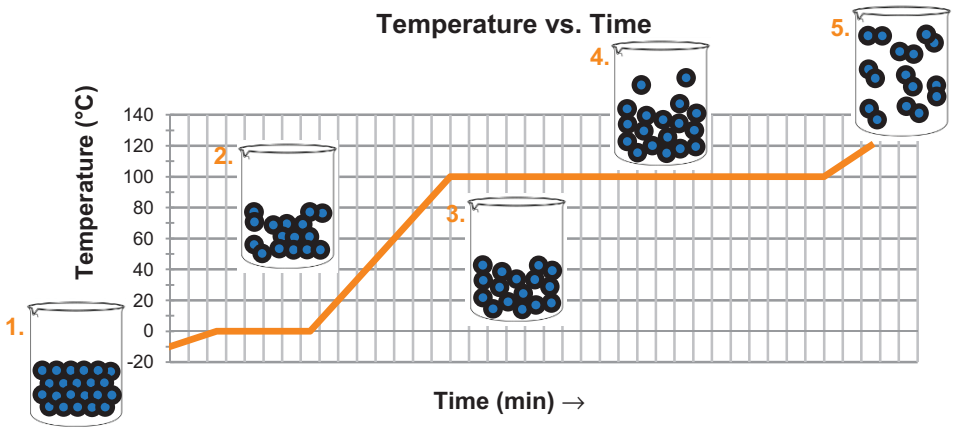
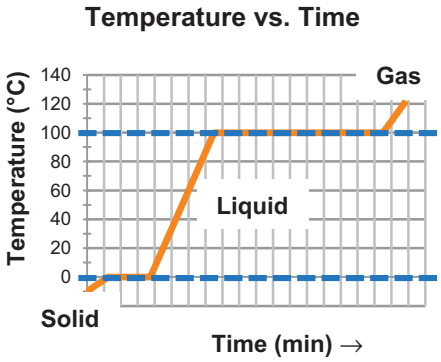
Molecular Level Changes as Heat Is Added



At the _____ point, the particles in the solid phase begin to enter the _____ phase. As the liquid is heated, the particles move faster and faster, entering the _____ phase.

Interpreting a Temperature Diagram

- The _____ increases when there is only solid, liquid, or gas.
- Phase transitions happen at specific temperatures.
- The melting point or _____ point is the *y*-value of the lower horizontal line.
- The _____ point is the *y*-value of the upper horizontal line.



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Summary | Phase Changes

Lesson Question

What happens when matter changes its form?

Answer

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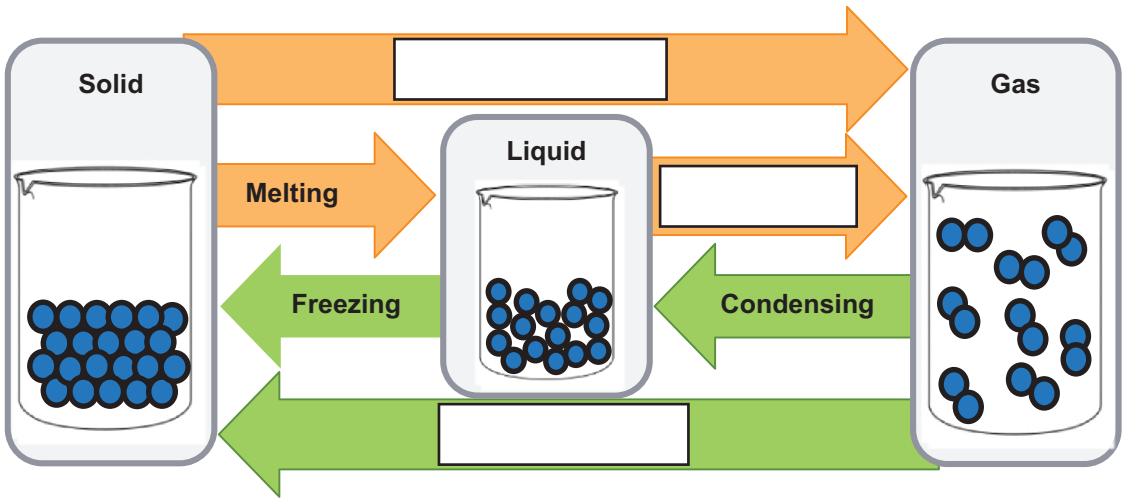
Molecular Motion and Phase Changes



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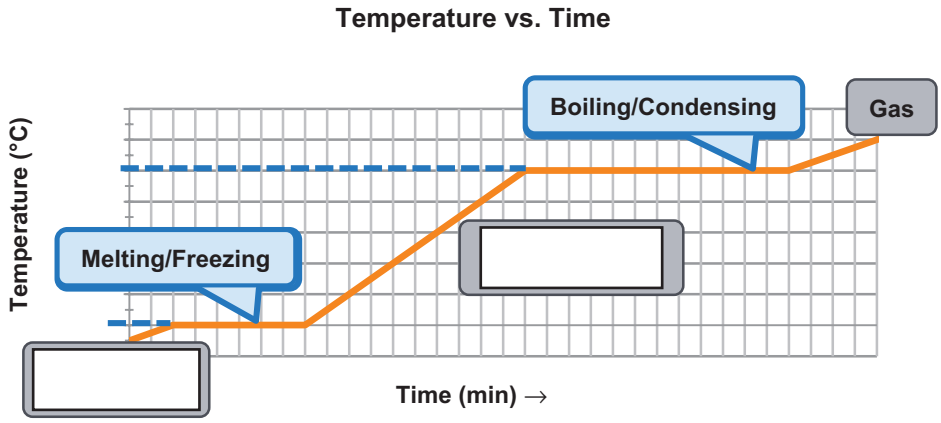
Diagramming Phase Changes



The _____ increases when the substance is a solid, liquid, or gas.

Use this space to write any questions or thoughts about this lesson.

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