

States of Matter Notes

What is matter?

- Matter is anything that has volume and mass.
- In other words, matter is everything around you!!!
- Matter can exist as a solid, liquid, or gas and it can change from one state to another.

Solids

- Solids have a definite shape and volume.
- The molecules of a solid are tightly packed and vibrate in place.
- What are some examples of solids? _____

Liquids

- Liquids have a definite volume, but can take the shape of the container they are placed in.
- The molecules of a liquid are close together and move around slowly.
- What are some examples of liquids? _____

Gases

- Gases do not have a definite shape or volume.
- The molecules of a gas are far apart and fast moving.
- What are some examples of gases? _____

Changing State

- Matter can change from one physical state to another when energy is added or taken away.
- This happens when there is a change in temperature or pressure.

Melting

- Melting is the phase change from a solid to a liquid.
- The molecules speed up and move away from each other.
- The melting point of water is 0°C (32°F).

Freezing

- Freezing is the phase change from a liquid to a solid.
- The molecules slow down and move closer to each other.
- The freezing point of water is 0°C (32°F).

Evaporation

- Evaporation is the phase change from a liquid to a gas that occurs below the liquid's boiling point.
- The molecules speed up and move far away from each other.
- The boiling point of water is 100°C (212°F).

Condensation

- Condensation is the phase change from a gas to a liquid.
- The molecules slow down and move closer to each other.

Sublimation

- Sublimation is the phase change directly from a solid to a gas.
- The molecules speed up and move far away from each other.
- This phase change is very rare.