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**Unit 3 Review – Matter**

**Section 3-1 Notes**

* Matter has **volume** and **mass**
* **Physical properties** include: **color, shape, texture, density, phase of matter, malleability** and **solubility**
* **Chemical properties** include: **flammability, reactivity**
* **Physical changes** – when you change a physical property
* **Chemical changes** – when something new is created (composition of substance is changed)
	+ **Signs of chemical changes** include: **gas formation, light formation, heat formation, color/odor change**
* **Kinetic Molecular Theory** – all matter is made of particles that are constantly in motion
* **Solids** – definite shape/definite volume, tightly packed particles, particles move slowly
* **Liquids** – no definite shape/definite volume, particles close and slide past one another, move at a medium speed
* **Gas** – no definite shape/no definite volume, particles very spread out, move quickly

**Section 3-2 Notes**

* **ALL PHASE CHANGES ARE PHYSICAL CHANGES**
* **Melting, vaporization and sublimation (left to right)** are all phase changes that include:
	+ Added heat (thermal) energy
	+ Increase in temperature
	+ Increase in particle speed (motion)
	+ Increased space between particles
* **Freezing, condensation and deposition (right to left)** are all phase changes that include:
	+ Removal of heat (thermal) energy
	+ Decrease in temperature
	+ Decrease in particle speed (motion)
	+ Decreased space between particles
* **Melting –** solid to liquid
* **Freezing** – liquid to solid
* **Vaporization (included evaporation and boiling)**  - liquid to gas
* **Condensation** – gas to liquid
* **Sublimation** – Solid directly to a gas
* **Deposition** – Gas directly to a solid
* **MELTING/FREEZING POINT OF WATER** = 0⁰ C
* **BOILING POINT OF WATER** = 100⁰ C