

Vocabulary: Melting Points



Vocabulary

- **Boiling point** – the temperature at which boiling occurs.
 - The boiling point is a different temperature for every chemical.
- **Covalent bond** – a chemical bond in which atoms share a pair of valence electrons.
 - Covalent bonds occur between two nonmetals.
- **Intermolecular forces** – forces that hold together different molecules. Examples of intermolecular forces are hydrogen bonds, dipole forces, and London dispersion forces.
 - Hydrogen bonds exist in compounds that have hydrogen bonded to oxygen, fluorine, or nitrogen. Water and ammonia are examples of compounds that have hydrogen bonds.
 - Dipole forces exist in polar compounds like hydrogen sulfide.
 - London dispersion forces exist between molecules of every molecular compound and are strongest in large molecules like the molecules in paraffin wax.
 - Forces between different atoms or ions are called interatomic or interionic forces. These forces exist in chemicals that are not molecular covalent compounds.
- **Ionic bond** – a bond formed by the attraction between two oppositely charged ions.
 - Ionic bonds form when an anion has taken one or more electrons from a cation.
 - Ionic bonds occur between metals and nonmetals.
- **Melting point** – the temperature at which a solid turns into a liquid.
 - The melting point is a different temperature for every chemical.
- **Metallic bond** – a bond formed by each atom donating one or more electrons into the “sea of electrons.”
 - The sea of electrons forms around the positively charged metal atoms.
 - Atoms leaving a metallic bond must remove one or more electrons from the electron sea, which requires a lot of energy. Metallic bonds are very strong.
- **Molecular solid** – a solid substance composed of individual molecules that are held together by intermolecular forces. Common examples include ice and sugar.
 - The covalent bonds holding the atoms together in each molecule are stronger than the intermolecular forces holding the molecules together.
- **Network solid** – a solid substance composed of a large, covalently-bonded crystal. Graphite, diamond, and silica are common examples.



- Salt – a substance or chemical formed from a metal and a nonmetal. Salts are composed of two or more oppositely charged ions held together by strong electrostatic forces (ionic bonds).
- Smoke – solid particles suspended in a gas.
- Sublimation – the transition from a solid to a gas without going through the liquid phase.
 - At normal atmospheric temperature and pressure, carbon dioxide sublimates from a solid to a gas.
- Sublimation point – the temperature at which a solid turns into a gas.
- Transition point – the temperature at which a substance changes phase or state.
 - Transition points include melting points, boiling points, and sublimation points.