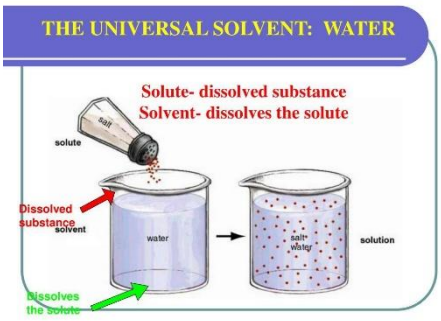
MATTER VOCABULARY
LEVELS 1-4

- **Atom:** The smallest unit of an element that still has the properties of that element.
- **Compound:** A pure substance made of **two or more different elements chemically bonded together**. Example: water (H_2O).
- **Condensation:** The change from a **gas to a liquid**, usually when a substance cools.
- **Element:** A pure substance made of only **one type of atom**. Example: oxygen or gold.
- **Energy:** The **ability to do work or cause change**. Energy can exist in many forms, such as heat, light, chemical, electrical, and kinetic energy.
- **Evaporation:** The change from a **liquid to a gas** that happens at the surface of a liquid.
- **Freezing:** The process where a **liquid changes into a solid** because heat energy is removed. *Example: Water freezes into ice.*
- **Melting:** The process where a **solid changes into a liquid** because heat energy is added. *Example: Ice melts into water.*
- **Mixture:** Two or more substances combined **without being chemically bonded**. Example: salt water.
- **Molecule:** Two or more atoms chemically bonded together. Can be the same element.
- **Phase Change:** A change from one **state of matter to another**, such as melting, freezing, or evaporation.
- **Polarity (Water):** Waters bent molecular shapes attract or repel dissolving ionic bonds. Covalent bonds found in hydrocarbons, oils, and hydrophobic carbon chains do not dissolve in water.
- **Water Cycle:** Water on earth circulates between the ocean, atmosphere, land, streams, rivers, and back through its changing states of matter.
- **States of Matter:** The different physical forms matter can have. The three common states are **solid, liquid, and gas**. A fourth state, plasma, releases its electrons.
- **Universal Solvent:** Water, due to its polarity and ability to dissolve more substances than any other liquid Is considered the universal solvent.



MATTER VOCABULARY
LEVELS 3-4

- **Angle of Sunlight:** The radiant light angle on earth varies based on location, season, and time of day. The maximum angle is 90 degrees, minimum angle 0 degrees at sunrise and sunset.

- **Anion:** A **negatively charged ion**. It forms when an atom **gains electrons**.
Example: Cl^- (chloride ion)

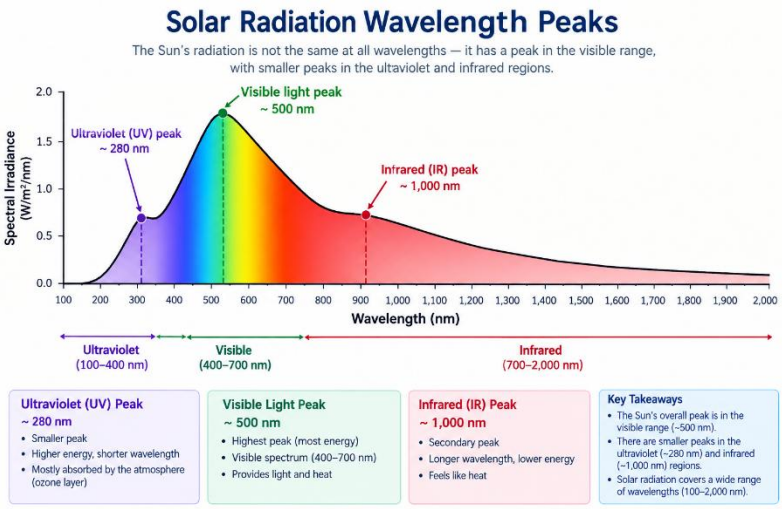
- **Cation:** A **positively charged ion**. It forms when an atom **loses electrons**.
Example: Na^+ (sodium ion)

- **Covalent bond:** A chemical bond where **two atoms share electrons**.
Example: H_2O (water), where hydrogen and oxygen share electrons.

  Easy way to remember
  Anion = – → gains electrons
  Cation = + → loses electrons
  Covalent = sharing → atoms share electrons

- **Ion:** An atom or group of atoms that has an **electrical charge** because it has gained or lost electrons.

- **Photoelectric Effect:** The release of **electrons from a material when light shines on it**.
Example: Water loses electron bonds and vaporizes/evaporates from earth's surface without reaching a boiling temperature.



- **Solar Radiation Peak:** Our sun's peak wavelength of light is 500 nm. This is in the green spectrum of visible light. Green visible light is the best wavelength for producing the photoelectric effect on water vaporization.

- **Solute:** The substance that is **dissolved** in a solution. Example: salt in salt water.

- **Solvent:** The substance that **dissolves the solute**. Example: water in salt water.

- **Sublimation:** The process where a **solid changes directly into a gas** without becoming a liquid first. *Example: Dry ice changes directly from solid carbon dioxide into a gas.*