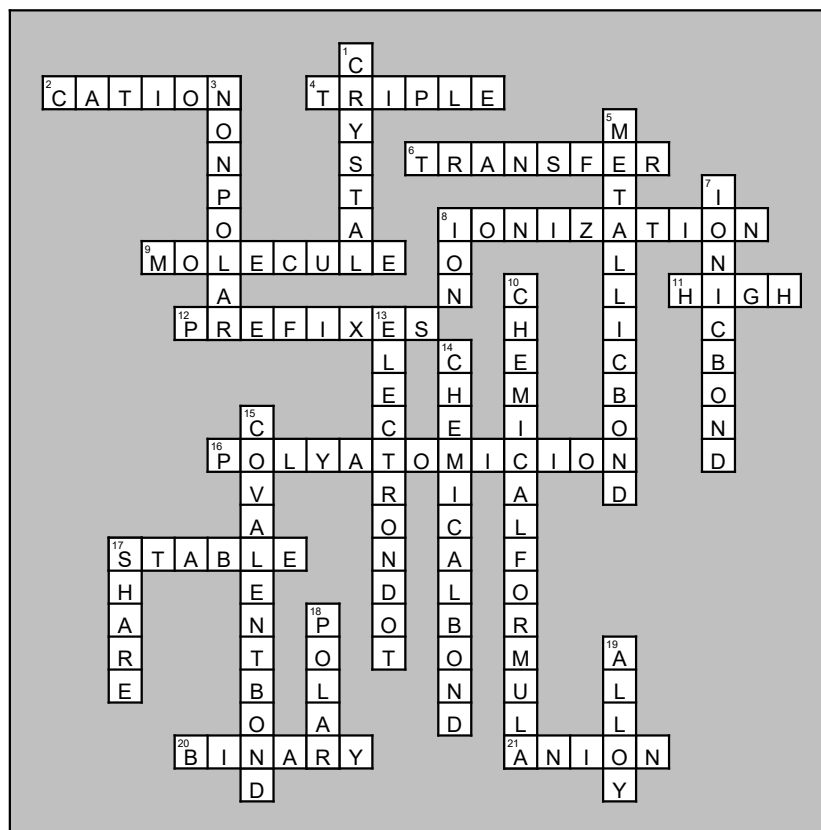


# Crossword



## Across

- Positively charged particle formed when an atom (metal) loses electrons. These are named by using the metallic element's name and is listed first in a chemical formula.
- When two atoms share THREE pair of electrons between them, they form a \_\_\_ bond. e.g. nitrogen molecule.
- Some elements achieve stable electron configuration through \_\_\_ of electrons between atoms, making ionic bonds. Atoms \_\_\_ electrons to gain a stable electron configuration (complete valence).
- Energy used to remove an electron from the valence (outermost energy level). Needed to overcome the electrostatic attraction between the protons in the atom's nucleus and the electron(s) orbiting around the nucleus.
- A neutral group of atoms that are joined together by one or more covalent bonds. The attractions between the shared electrons and the protons in each nucleus hold the atoms together in a chemical bond.
- Ionic compounds in the solid state have \_\_\_ melting points and are poor conductors until dissolved in water.
- Molecular formulas use \_\_\_ that appear as subscripts in the chemical formula and indicate the number of atoms of each element in the molecule. e.g. mono (1), di (2), tri (3), tetra (4).
- Covalently bonded groups of atoms that have a positive or negative charge and act as ONE unit. "many atoms" ion.
- When the highest occupied energy level of an atom is filled with electrons, the atom is \_\_\_ and not likely to react. Noble gases have 8 valence electrons (in their outermost shell).
- Ionic compounds with TWO elements bonded together. Name the metallic element "as is" and then the non-metallic element with the suffix -ide.
- Negatively charged particle formed when an atom (non-metal) gains electrons. These are named by using the non-metallic element plus the suffix -ide.

## Down

- Ionic compounds form \_\_\_ lattice structures when in the solid state, which are orderly 3-D arrangements of ions in a fixed position, a rigid framework.
- When electrons are shared equally between two atoms, this type of bond forms. Molecules as a whole can be \_\_\_ when the overall individual bonds cancel each other out. The atoms within the molecule are "symmetrical" or "balanced".
- The attraction between a metal cation and the shared valence electrons that surround it. Valence electrons are free to move among the various atoms in the structure.
- The force that holds cations and anions together when electrons are transferred from one atom to another.
- When atoms gain or lose electrons they become an \_\_\_, taking on a positive or negative electric charge.
- A notation showing what elements a compound contains and the ratio of the atoms or ions of these elements in that compound. Uses elemental symbols and subscripts.
- Diagram used as a model that focuses only on valence electrons in an atom. The Symbol in the center represents the nucleus (protons, neutrons) and all the other electrons in the atom.
- An electrostatic (positive to negative attractive) force that holds atoms or ions together as a unit.
- A chemical bond in which two atoms share a pair of valence electrons. When ONE pair of electrons is shared, this is a single bond. When TWO pair of electrons are shared, this is a double bond.
- Covalent bonds \_\_\_ electrons in their valence to create stable electron configurations.
- When electrons are shared unequally between two atoms, this type of bond forms. "Opposite in character, nature, or direction."
- A mixture of two or more metals that improve the individual properties and characteristics of the metal elements involved.