# ChemThink: Covalent Bonding

Covalent bonding forms when atoms are _____ electrons.

When two atoms get close enough, the nucleus attracts the other atom's ( Protons / Neutrons / Electrons ).

Before bonding, the atom's electrons spend most of their time _____ the nuclei of each atom. Once bonded, the electrons spend most of their time _____the two nuclei.

Atoms must be able to hold onto their own _____, while _____ another atom's electron.

Covalent bonds form between two _____.

When atoms move closer, the potential energy ( Increases / Decreases ). At a certain point the potential energy _____ if you try and move the atoms closer because the _____ in each nucleus are _____ each other.

The ideal distance between the atoms is known as the _____.

Lower in energy = _____

| Bond Type | Draw an Example | # of paired $e^-$ | Total # of $e^-$ shared | Strongest/ Weakest |
|---|---|---|---|---|
| Single | | | | |
| Double | | | | |
| Triple | | | | |

**Naming Simple Covalent Compounds:**

The ending of the name of the second element is changed to _____.

Prefixes are added to the beginning of some element names, and are used to tell us _____ _____ atoms of that element are present in the _____.

The following prefixes are used in covalent compounds:

| Prefix | Means | Prefix | Means |
|---|---|---|---|
| mono- | | hexa- | |
| di- | | hepta- | |
| tri- | | octa- | |
| tetra- | | nona- | |
| penta- | | deca | |

Exception: You never use the prefix _____ if there is only one atom of the _____ element.

Examples:

| | |
|---|---|
| $N_2O$ | |
| $NO_2$ | |
| $N_2O_4$ | |
| $N_2O_3$ | |
| NO | |
| | Disulfur dichloride |
| | Sulfur dioxide |
| | Disulfur trioxide |
| | Disulfur monoxide |
| | Sulfur trioxide |