

= The Hindenburg

Filled with Hydrogen and it blew up

Today's blimps are filled with Helium

One valence electron can make a difference

Any atom that doesn't have a completely filled outermost orbital, it's reactive

All the atoms in group 18 has a completely filled up outer orbital so it'll never chemically combine or react to another element

Atoms like this is are called **inert** atoms

Electromagnetic force can be measured by how much energy it takes to remove an electron from the atom

Group 18 atoms hold on to their electrons very tightly and it's the toughest to remove an electron from

Group 1 has the weakest hold on their electrons

The more complete the outermost orbital is, the harder it is to remove an electron

Valence electrons determine whether the atom reacts or not

Stable electron arrangement

Group 18 has a stable electron arrangement

All have 8 valence electrons with the exception of helium

Every other atom besides the 6 atoms in group 18 doesn't have a stable electron arrangement

They all want to have a stable electron arrangement

They either lose electrons, gain electrons or share electrons

Atoms can't ever completely merge together

The nuclei repulse each other

But each nuclei are attracted to the other atoms electrons

Pulls the atoms closer together

Reacts to each other (gaining or losing atoms)

The atom with a stronger pull gains electrons while the weaker electron loses them, but they're willing to give the electrons up to obtain a stable electron arrangement

Atoms want to be both neutral and have a stable electron arrangement and when they take or lose electrons, they become either negative or positive instead of staying neutral

the two atoms that exchanged electrons chemically combine and become neutral and have a stable electron arrangement

Atoms have to collide with enough force to be able to react with each other

Ending of the negative atom changes from ine to ide

ex) chlorine to sodium chlor**ide**

Charged atoms are called **Ions**

Process of becoming an Ion is called Ionization

Process requires energy and it's called Ionization energy

the number of electrons that an atom gains or loses, it's called an **oxidation number**

1st fam: Alkali Metals

2nd fam: Alkaline Earth Metals

3rd fam: Boron

4th fam: Carbon

5th fam: Nitrogen