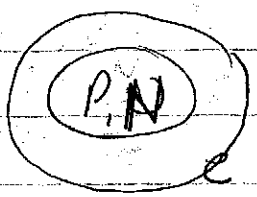
Notes Atomic Structure H5

Atoms are composed of Protons, Neutrons & electrons.



Subatomic = smaller than an atom.

P = positive
N = Neutral
E = Negative

Atomic # of any element tells me the Number of protons.

Carbon = #6 Neon = #10

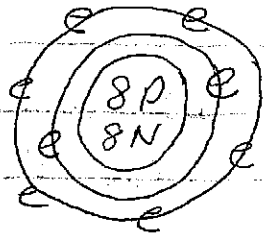
Atomic Mass = # of protons + # Neutrons

All of an atoms mass comes from the nucleus, electrons are very tiny, their mass is not important.

Carbon-12	Carbon-13	Carbon-14
P = 6	P = 6	P = 6
N = 6	N = 7	N = 8
E = 6	E = 6	E = 6

Isotopes

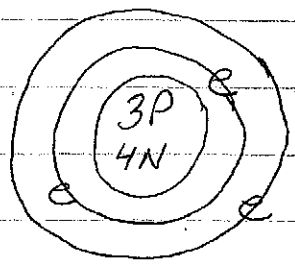
Sketch an atom of oxygen-16



1st shell = 2e⁻
2nd shell = 8e⁻
3rd shell = 18e⁻

Sketch an atom of Lithium

Atomic # = 3



Valence = the last shell or level of electrons.

Lithium has 1 valence electron.

What happens when an atom is not neutral?

Ion = an atom that has lost or gained electrons.

Ca^{+2} = Calcium ion
F^{-1} = Fluoride ion
N^{-3} = Nitride ion
Rb^{+1} = Rubidium ion

How do we determine the proton, neutron and electrons of an ion?

Calcium Ca	Calcium Ion Ca^{+2}
P = 20	P = 20
N = 20	N = 20
E = 20	E = 18

Fluorine F	Fluoride F^{-1}
P = 9	P = 9
N = 10	N = 10
E = 9	E = 10