

Subatomic Structure Notes

Subatomic Particles	Mass (AMU)	Charge	Location
Proton	1 amu	+1	Nucleus
Neutron	1 amu	0	Nucleus
Electron	1/1836 amu (5.45 X10 ⁻⁴)	-1	Outside Nucleus in electron cloud

Quarks - Protons and Neutrons are made up of Quarks

There are 6 total - up, down, strange, charm, top, bottom

History of Atomic Model

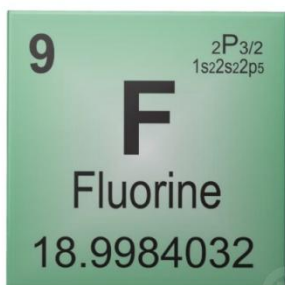
- 1) Democritus (400 B.C.)- elements consist of atoms that are “uncuttable.” Aristotle rejected this idea
- 2) Dalton (1800)- a solid sphere
- 3) Thompson (1904)- Plum pudding model
- 4) Rutherford (1911)- almost all of the mass is in the nucleus (positive charge) with electrons surrounding.
- 5) Bohr Model (1913)- electrons in fixed orbits, nucleus has protons and neutrons.
- 6) Electron Cloud Model (current)- electrons do not follow fixed orbits (energy levels)

Protons- Give an atom its identity

Atomic #- tells us # of protons

Mass #- (decimal) tell us number of protons + neutrons in the nucleus

Atomic #



protons = Atomic

Ex: Fluorine has 9 protons

electrons = # protons

Ex: Fluorine has 9 electrons

neutrons = Mass # (rounded)—Atomic

Ex: 19-9 = 10 neutrons for Fluorine

Mass # (round)