

Subatomic Particles

protons (p^+) and neutrons (n^0)

Mass # $\rightarrow$ # part. that contribute to mass

electrons (e^-)

Bonding/Ions (+/-)

$$\left[\begin{array}{l} 1 p^+ \\ 1 n^0 \end{array} = 1 \text{ amu} \text{ "atomic mass unit"} \right]$$

Subatomic Particle Relationships

$$\text{Atomic \# (Z)} = \# p^+ = \# e^- = \text{Element}$$

$$\text{Mass \#} = \# p^+ + \# n^0 \quad n^0 = \text{Mass \#} - \text{Atomic \#}$$

Isotope

X ← Mass #
Y A ← Atomic #

Element A - X

$${}^{12}_6\text{C} \quad 6p^+, 6e^-$$

$$n^0 = 12 - 6$$

Carbon-12 = 6 n^0

Overall = need mass #
Atomic #