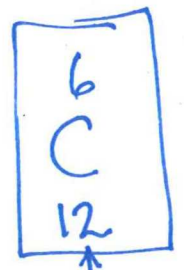
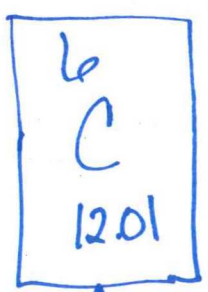


Isotopes



Mass Number - $p+n$

Atomic Weight - the average weight of the element + all of its isotopes.

Isotope - atoms of the same element with varying #'s of neutrons

Isotopes of Hydrogen: 3 most common isotopes

$\begin{matrix} 1 \\ 1 \\ \text{H} \end{matrix}$	$\begin{matrix} 2 \\ 1 \\ \text{H} \end{matrix}$	$\begin{matrix} 3 \\ 1 \\ \text{H} \end{matrix}$	$\begin{matrix} 7 \\ 1 \\ \text{H} \end{matrix}$
p=1 n=0 e=1	p=1 n=1 e=1	p=1 n=2 e=1	p=1 n=6 e=1
protium	deuterium	tritium	

Isotopes of Neon: $^{20}_{10}\text{Ne}$

- 3 stable isotopes

$\begin{matrix} 20 \\ 10 \\ \text{Ne} \end{matrix}$	$\begin{matrix} 21 \\ 10 \\ \text{Ne} \end{matrix}$	$\begin{matrix} 22 \\ 10 \\ \text{Ne} \end{matrix}$
p=10 n=10 e=10	p=10 n=11 e=10	p=10 n=12 e=10

+ 16 radioactive isotopes range from ^{16}Ne → ^{34}Ne

- all very short lived
- longest lived ^{24}Ne - $\frac{1}{2}$ life of 3.38 min
- all others life span is less than a minute, most under a second