PARTS OF AN ATOM

Name _____

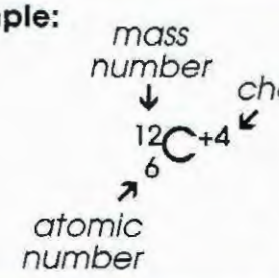
An atom is made up of protons and neutrons which are in the nucleus, and electrons which are in the electron cloud surrounding the atom.

The atomic number equals the number of protons. The electrons in a neutral atom equal the number of protons. The mass number equals the sum of the protons and neutrons.

The charge indicates the number of electrons that have been lost or gained. A positive charge indicates the number of electrons (which are negatively charged) lost. A negative charge indicates the number of electrons gained.

This structure can be written as part of a chemical symbol.

Example:



This carbon ion would have 6 protons, 6 neutrons and 2 electrons.

Complete the following chart.

Element/ Ion	Atomic Number	Atomic Mass	Mass Number	Protons	Neutrons	Electrons
$^{24}_{12}Mg$						
$^{39}_{19}K$						
$^{23}_{11}Na^{+1}$						
$^{19}_{9}F^{-1}$						
$^{27}_{13}Al^{+3}$						
$^{1}_{1}H$						
Ba^{+2}						
Au						
S^{-2}						
He						
Xe						
Be^{2+}						

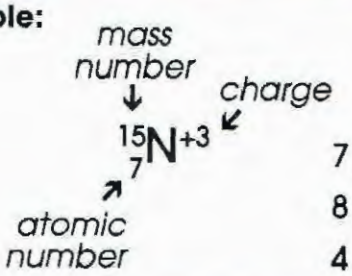
ATOMIC STRUCTURE

Name _____

An atom is made up of protons and neutrons (both found in the nucleus) and electrons (in the surrounding electron cloud). The atomic number is equal to the number of protons. The mass number is equal to the number of protons plus neutrons. In a neutral atom, the number of protons equals the number of electrons. The charge on an ion indicates an imbalance between protons and electrons. Too many electrons produces a negative charge, too few, a positive charge.

This structure can be written as part of a chemical symbol.

Example:



7 protons
8 neutrons (15 – 7)
4 electrons

Complete the following chart.

Element/ Ion	Atomic Number	Atomic Mass	Mass Number	Protons	Neutrons	Electrons
H						
H^+						
$^{12}_{6}C$						
$^{7}_{3}Li^+$						
$^{35}_{17}Cl^-$						
$^{39}_{19}K$						
$^{24}_{12}Mg^{2+}$						
As^{3-}						
Ag						
Ag^{+1}						
S^{-2}						
U						