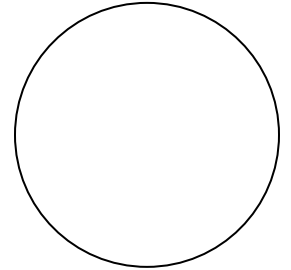


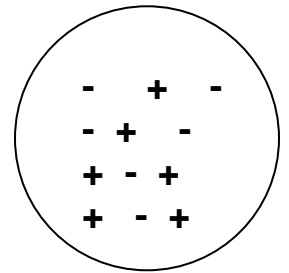
Models of the Atom – space left for your brief notes.
Look in book for specific information on these models.

a) *Democritus - believed that all matter was composed of atoms, and these were indivisible*

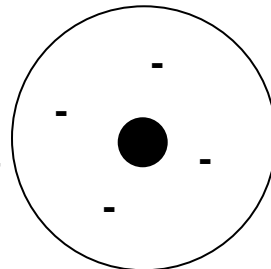
b) *Dalton (early 1800s) – pool ball model –*



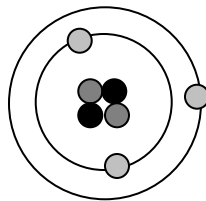
c) *Thomson (~1897) – plum-pudding model –*



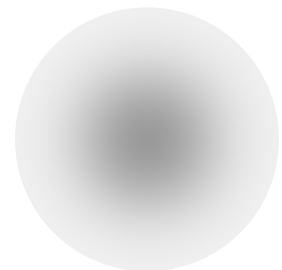
d) *Rutherford (1909) –*



e) *Bohr (1913) –*



f) *Charge – cloud (Quantum model) –*



Name: _____ Block: _____

Atomic Structure Worksheet- Proton, Neutron, Electron counting

Fill in the blanks for the elements in this chart. For the purposes of this chart, round all atomic masses to the nearest whole number. Example: Lithium has an atomic mass of 6.941, round to 7. It has an atomic number of 3, therefore lithium has 3 protons and 3 electrons (these are always the same in a neutral atom), and $7-3 = 4$ neutrons (mass number – atomic number). The symbol would be: ${}^7_3\text{Li}$, where the superscript is the atomic **mass**, and the subscript is the atomic **number**.

Element	Atomic Number	Number of Protons	Number of Electrons	Atomic Mass	Number of Neutrons	Symbol
hydrogen						
carbon						
chlorine						
silver						
lead						
calcium						
tantalum						
radium						
samarium						
uranium						
americium						
lawrencium						

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:

mass
number

↓

15

7

↑

atomic
number

${}^{15}_{7}\text{N}^{+3}$

charge

↙

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 ⁺						
${}^{12}_6\text{C}$						
${}^7_3\text{Li}^+$						
${}^{35}_{17}\text{Cl}^-$						
${}^{39}_{19}\text{K}$						
${}^{24}_{12}\text{Mg}^{2+}$						
As ³⁻						
Ag						
Ag ⁺¹						
S ⁻²						
U						