Atoms & the Periodic Table

Vocabulary:

Metals: the most reactive are found in Group 1, first column on the left on the periodic table; **there are more metals than metalloids or nonmetals**; all but **1 metal are solid at room temperature**

Nonmetals: at room temperature, **more than half of these elements are gases**

Metalloids: **share characteristic** with both **metals** and **nonmetals**

Atom: protons and neutrons are found in the nucleus; # **protons = # electrons**

Protons- has a **positive** charge; number of protons is equal to the atomic number

Electrons- has a **negative** charge; **moves around the nucleus;** same number of electrons as protons

Neutrons- neutral charge; you find the # of neutrons by rounding the atomic mass and subtracting the # of protons (atomic mass - # of protons)

***Isotope:** An atom with the same number of protons and a different number of neutrons than other atoms of the same element

***Malleable**- a metal can be hammered out into a new shape

***Ductile**- able to be pulled into wire

***Conductive**- allows heat and electricity to pass easily through

***Magnetic**- will attract to other metals

The Periodic Table:

Mendeleev created the first periodic table by arranging elements by increasing atomic mass.

The modern periodic table is organized by increasing atomic number.

There are **7 periods** on the Periodic Table of Elements. (These run horizontally- left to right)

There are **18 groups/families** on the Periodic Table of Elements

Elements found in the same column (up and down) of the periodic table **have similar properties**.

You can predict an **elements properties by it's location on the periodic table**.

Bohr Model: Scientists use **models to help describe atoms because they are too small**

Be familiar with the Bohr model. You will have to create 1 on the quiz.

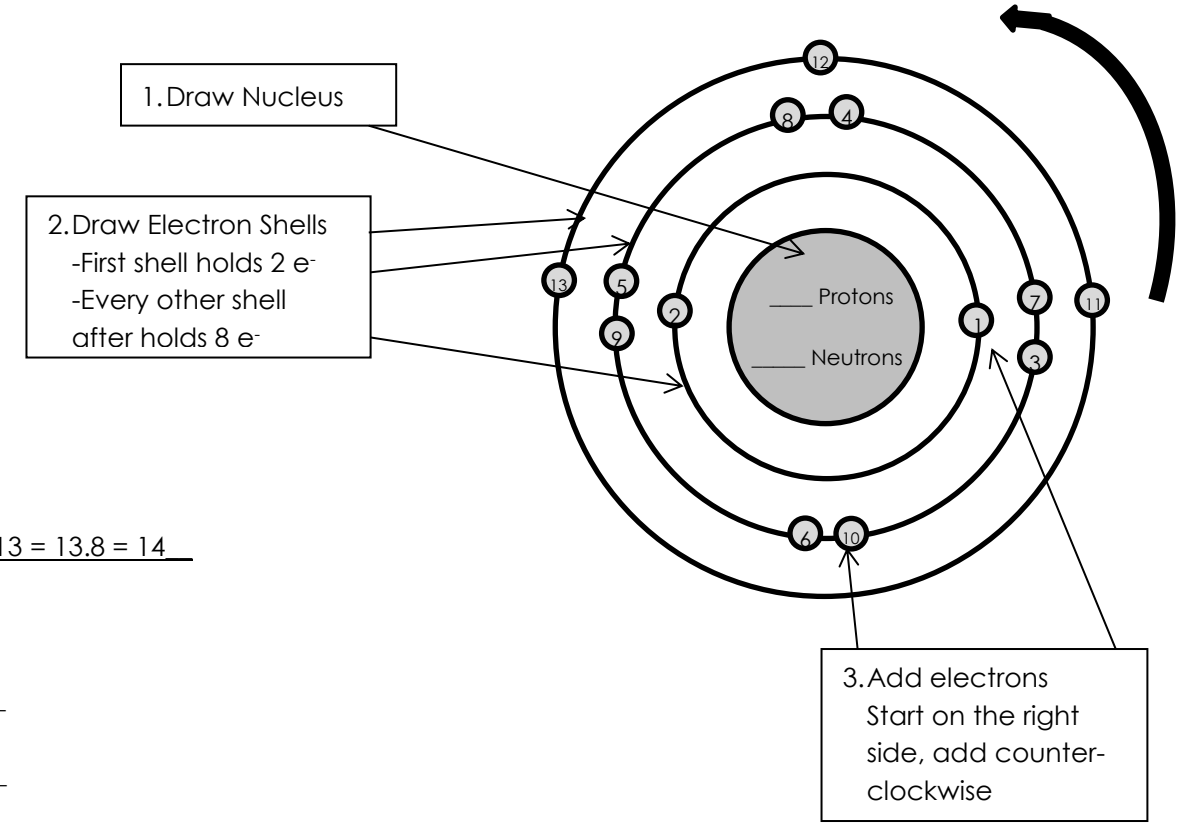
1. **Locate the element on the periodic table.**
   a. Figure out what period (row) it is in. That is how many energy shells it has.
   b. Figure out how many protons (Atomic Number)
   c. Figure out how many electrons (number of protons = number of electrons)
   d. Figure out how many neutrons (Atomic Mass − # protons)

13

Al

Aluminum

26.892



Atomic #: _13____

Atomic Mass: _26.8 – 13 = 13.8 = 14__

# of Protons: __13___

# of Neutrons: __14___

# of Electrons: __13___

****Be sure to look at the periodic table. Know which number is the atomic number, atomic mass, how to find the # of protons, neutrons, and electrons. Also, know how to find the chemical symbol.**