Name: _____

Periodic Table Vocabulary

Periodic Table – a chart that organizes information about all of the known elements according to their atomic number.

Element – a substance that cannot be broken down into a simpler substance by ordinary chemical means.

Atom – the smallest unit of an element that has all of the properties of the element;
basic building block of matter.

Atomic Mass – the number of protons and neutrons in the nucleus of one atom of the element. Located under the elemental symbol (at the bottom of the element box on the periodic table).

Atomic Number – the number of protons contained in each nucleus of its atoms of the element. Located over the elemental symbol (at the top of the element box on the periodic table).

Period – a horizontal row (left to right) in the periodic table.

Group – a vertical column (up and down) on the periodic table.

Reactivity – describes how likely an element is to form bonds with other elements.

Valence Electrons – electrons that are located in the outermost energy level of an atom.

Ion – an atom that has gained or lost one or more valence electrons.

Metal – an element or substance that conducts heat and electricity, is malleable and ductile and has low ionization energy and low electronegativity values. Metals tend to lose their electrons to form cations. Metals are found on the left side of the boron staircase.

Nonmetal – an element that does not conduct electricity or heat and is usually a gas at room temperature. Nonmetals are brittle, have high ionization energies and high electronegativity values. Nonmetals tend to gain electrons to form anions. Nonmetals are found on the right side of the boron staircase.

Metalloid – an element that has some properties of a metal and some properties of a nonmetal. The metalloids are found on the boron staircase, there are 6 metalloids: B, Si, Ge, As, Sb, Te

Inert– elements and/or compounds that when put together are unable to react chemically. The noble gases (group 18) elements are inert because of a full valence shell.

Alkali Metals – Group 1 metals on the periodic table that contain 1 valence electron and lose their valence electrons the most easily, making them the most reactive metals.

Alkaline Earth Metals– Group 2 metals on the periodic table that contain 2 valence electrons and are the second most reactive metals.

Name: _____

Periodic Table Vocabulary

Transition Metals – Group 3-12 on the periodic table. They have varying valence electrons and do not follow the normal trends of the other metals. They form brightly colored compounds and ions in solution.

Halogens – Group 17 nonmetals on the periodic table that contain 7 valence electrons. They only need to gain 1 valence electron to have a stable octet. They gain valence electrons the most readily, making them the most reactive nonmetals.

Noble Gases – Group 18 elements on the periodic table that contain 8 valence electrons (He has 2) and a full valence shell making them very stable and inert. All other atoms change their valence configurations to attain a full octet like the noble gases.

Atomic Radius – The distance between the nucleus of an atom and it's outermost energy level (valence shell).

Electronegativity – The attraction a nucleus has for electrons in a chemical bond.

First Ionization Energy – The energy required to remove an electron from the outermost energy level (valence electron)

Nuclear Charge – The charge of an atoms nucleus resulting from its' number of protons.

Nuclear Shielding – A shielding effect that multiple principle energy levels has on a nucleus blocking it's attraction for the valence electrons.