

Name _____ Period _____ Date _____

the Periodic Table Review Sheet

element - *a substance that can not be broken down into other substances by chemical or physical means*

atom - *the smallest particles of an element*

atomic number - *the number of protons in the nucleus of an atom*

How is this shown on a periodic table? *the number at the top of the element box*

The number of protons and the number of electrons are equal in an atom making the atom neutral.

atomic mass - *the average mass of one atom of an element*

How is this shown on a periodic table? *the number at the bottom of the element box*

valence electron - *the electrons that are farthest away from the nucleus of an atom and can form chemical bonds*

How is this shown on a periodic table? *the group number*

What is the maximum number of electrons in the 1st energy level? *2*
the 2nd? *8* the 3rd? *8*

How are the number of energy levels shown on a periodic table?
the period number

chemical bond - *force that holds atoms together*

Why do substances react (chemically bond)?

To have atoms with an outermost energy level filled with electrons. This is done by gaining, losing or sharing electrons.

What determines if an atom will lose, gain or share electrons?

electrons take the easiest path to filling an energy level

few electrons = loses

many valence electrons = gains

same number of valence electrons = share

full energy level = stable; does not gain, lose or share electrons

Who published the first periodic table of elements? *Mendeleev*

He arranged his elements on the periodic table according to what physical property? *increasing atomic mass*

Vertical columns of the periodic table are called *group*.

There are *18* groups in the periodic table.

The elements in a *group* have similar *properties*.

Groups are given a family name based on *the first element in the column*.

Horizontal rows of the periodic table are called *periods*.

There are *7* periods on the periodic table.

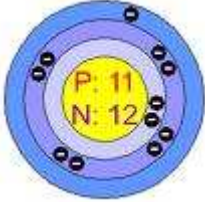
An element's *physical and chemical properties* can be predicted from its location in the periodic table.

Why is Group 18 called the Noble Family? *they are all odorless, colorless gases that are generally unreactive*

metal - *an element that is hard, shiny, a good conductor of heat and electricity, can be hammered into thin sheets or pulled into thin strands*

nonmetal - *an element that lacks most of the properties of metals*

metalloid - *an element that has some of the characteristics of both metals and nonmetals*

Element Symbol and Name	Bohr Model	Group	Period	# of valence electrons	# of energy levels	metal, nonmetal, metalloid
Na Sodium		1	3	1	3	metal

Be able to locate metals, nonmetals and metalloids on the periodic table of elements.