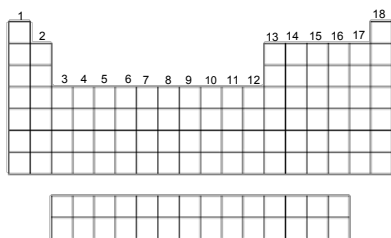


The Periodic Table

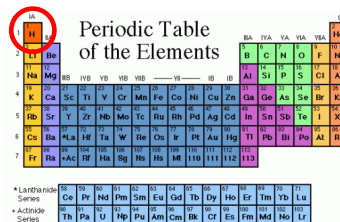
- Rows: periods (talk about more later)
- Columns: groups/families
 - * elements in the same group/family have similar properties
 - * main group elements are 1-2,13-18



Sep 16-8:22 AM

Hydrogen:

- group by itself
- has properties unlike any other element due to its small size
- bonds uniquely (has its own type of bonding, more later)

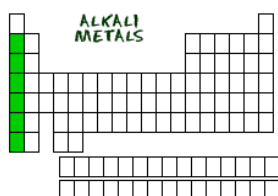


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Alkali Metals

group #1

- EXTREMELY reactive
- because they are so reactive, they usually exist as compounds
- common compounds alkali metals:
 - * Na, in NaCl
 - * Li used in batteries

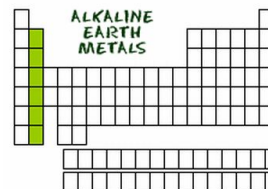


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Alkaline Earth Metals

group #2

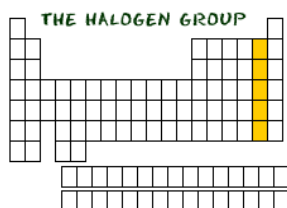
- highly reactive (not as much as alkali metals)
- common alkaline earth metals:
 - * Ca and Mg: important minerals in the body



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Halogens

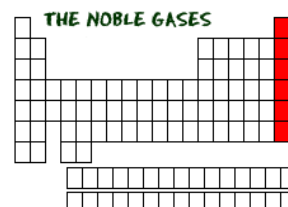
- EXTREMELY reactive
- so reactive they are usually part of compounds
- compounds made with fluorine are added to toothpaste and drinking water to prevent tooth decay



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Noble Gases

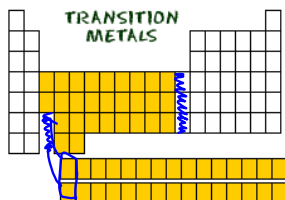
- EXTREMELY UNreactive
- used in lasers, variety of light bulbs and neon signs



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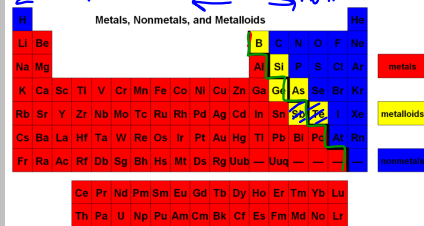
Transition Metals

- groups 3-12
- inner transition metals are below the periodic table
- transition metals are widely used
- * copper
- * titanium
- * gold and silver



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Metals and Non Metals:



Metals: good conductors of heat and electricity, luster, malleable, ductile
 Nonmetals: poor conductors, brittle
 Metalloids: contain properties of both metals and nonmetals

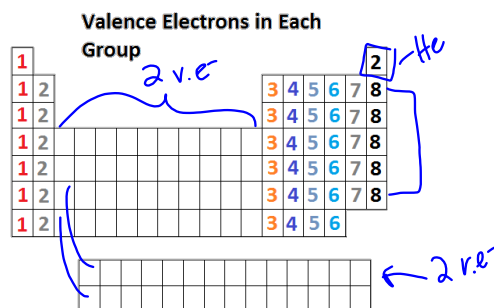
Sep 19-8:14 AM

Valence Electrons

- electrons in the outermost shell of an atom
- responsible for an element's chemical properties
- elements in the same group on the periodic table have the same number of valence electrons

Sep 16-9:48 AM

Valence Electrons



Sep 16-9:48 AM

Lewis (*Electron*) Dot Structures

-- visually represents the number of valence electrons that each element has

RULES:

- * cannot have more than 8 (the most valence an atom can have)
- * each side must have a dot before any side can have 2
- * number of dots is equal to the number of valence electrons

example: Dot Structure for Cl.



Sep 16-9:55 AM

Lewis Dot Structure Practice:

K ·



· Fe ·

Sep 19-7:25 AM