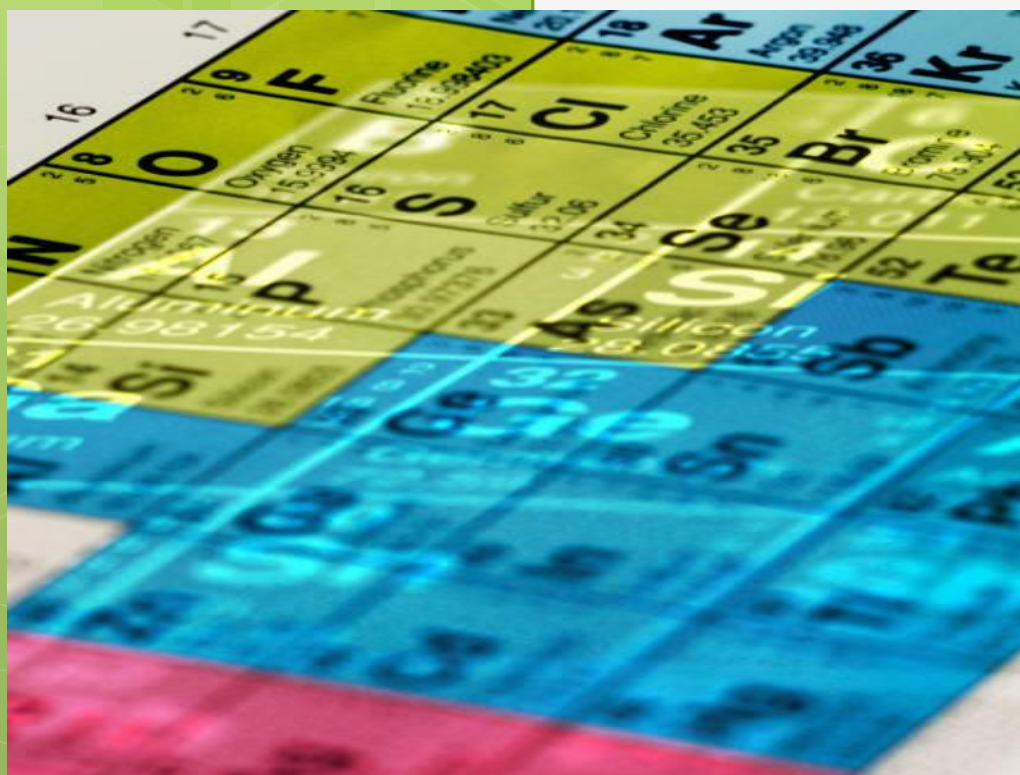


THE PERIODIC TABLE



SCIENTISTS INVOLVED IN THE PERIODIC TABLE DEVELOPMENT

- _____—English scientist who first arranged elements according to increasing **atomic mass** (developed no table or chart)
- Found similar element properties every 7 spaces apart; later became 8 spaces apart after adding noble gases (AKA _____)

- _____—Russian chemist who arranged the known 63 elements based on **increasing** _____ on his table; gaps in his table were elements that he predicted the properties of (Sc, Ga, Ge)
- _____—repeating according to a pattern
(Ex: days of the week)

- _____—added the _____ to Mendeleev's table
- _____—British scientists who determined the _____ of elements using X-rays; he is who our _____ is based on

Periodic law

- States that an

- As you go **across** _____)—start with _____ and end with

- Going **down** _____)---elements have _____ chemical and physical properties

<http://www.open.edu/openlearn/science-maths-technology/science/chemistry/alkali-metals>

<http://www.sciencegeek.net/Chemistry/chempdfs/PeriodicTrends.pdf>

Metals	Nonmetals	Metalloids
_____	not	Means "metal-like"
_____ _____ _____	brittle	Have at least 1 side of its element box_____
		_____ (8 total because ____ is a metal)
Have _____	dull	White/gray in color
Good _____	Good _____	AKA _____
High _____	Low_____	
_____ density	_____ density	
_____ melting pt./boiling pt.	_____melting pt./boiling pt.	

Metals

_____ electrons

Form
_____ charged

Found _____ of
the staircase line

React with _____
to form _____
gas

Nonmetals

_____ electrons

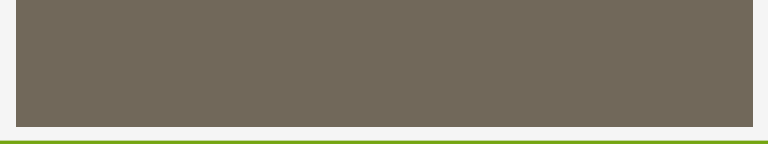
Form
_____ charged

Found _____ of
the staircase line

Do not

Family/Group Name	Characteristics
_____ (1A)	Most _____ family (Francium is most reactive); have ___ valence electron; ____ oxidation number
_____ (2A)	Have ____ valence electrons; ____ oxidation number
_____ Metals	AKA _____ groups; have _____ oxidation numbers
_____ family (3A)	Contains 1 _____ and 4 metals; ___ valence electrons ____ oxidation number
_____ family (4A)	Contains 1 nonmetal, 2 _____, & 2 metals; ___ valence electrons _____ oxidation numbers
_____ family (5A)	_____ valence electrons; ____ oxidation number
_____ family (6A)	_____ valence electrons; ____ oxidation number

_____ (7A)	Most _____ family (_____ is most reactive and has highest _____); _____ valence electrons _____ oxidation number; Name means “_____” in Greek
_____ Gases (8A)	AKA _____ gases; Do not react to form compounds due to _____ All have _____ valence electrons (Except He)
_____ Series	AKA _____ metals; belong in row 6 due to their atomic number (sometimes known as _____)
_____ Series	Belong in row 7 due to their atomic number (sometimes known as _____); Are radioactive



_____ Elements (_____ Elements)

- All “A” groups because their “A” column number represents

- _____ ---refers to how many valence electrons are lost or gained in order to bond

- Oxidation number pattern For “A” groups:

Atoms

Ions

Are electrically _____

Can have _____ or
_____ charge

Protons = _____

Have _____ or
_____ electrons

Can be _____ which
are

- 1.
- 2.
- 3.
4. are _____ than
the original atom

Can be _____ which are

- 1.
- 2.
- 3.
4. Are _____ than the
original atom

Practice Questions

- 1. Which is smaller: S^{-1} OR S^{-2}
- 2. Which is smaller: Sn^{+2} OR Sn^{+4}
- 3. Which is larger: Al OR Al^{+3}
- 4. Which is larger: N^{-3} OR N