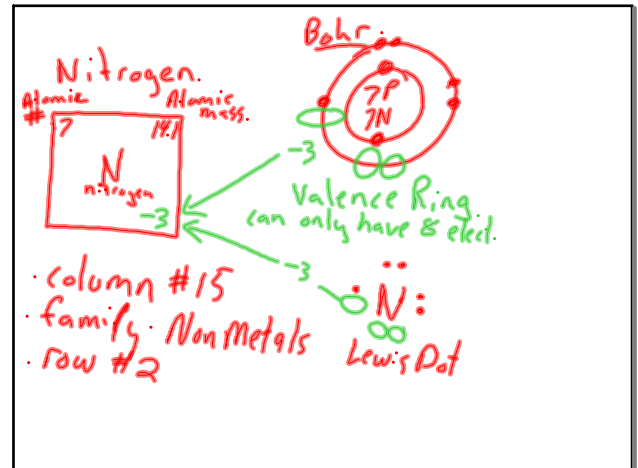


## The Periodic Table

Sep 8-10:00 AM



Sep 20-12:49 PM

Periodic table of the elements

Legend:  
 alkali metals (orange), alkaline earth metals (yellow), transition metals (purple), other metals (pink), other nonmetals (light blue), halogens (green), noble gases (light green), rare earth elements (21, 39, 57-71) (light blue), lanthanide elements (57-71 only) (light blue), actinide elements (dark blue).

Handwritten notes:  
 - color  
 - texture  
 - taste  
 - smell  
 - size  
 - shape  
 - heat  
 - Bubbles  
 - reacts with  
 - color changes  
 - new substances are formed.  
 - gas  
 - light

\* Numbering system adopted by the International Union of Pure and Applied Chemistry (IUPAC).  
 \*\* Numbering system widely used, especially in the U.S., from the mid-20th century.  
 \*\*\* Discoveries of elements 112-116 are claimed but not confirmed. Element names and symbols in parentheses are temporarily assigned by IUPAC.  
 © 2006 Encyclopædia Britannica, Inc.

Sep 8-10:00 AM

- Elements are arranged to help us to explain and predict physical and chemical properties.

color  
 texture  
 taste  
 smell  
 size  
 shape  
 heat  
 Bubbles  
 reacts with  
 color changes  
 new substances are formed.  
 gas  
 light

Sep 8-10:00 AM

- Period – elements in the same row; rows are numbered from top to bottom
- Family – elements in the same column; these elements have similar properties

→ determine how they react with other elements  
 Physical & chemical

Sep 8-10:00 AM

### Elemental Families:

- tend to have similar chemical and physical properties

column #1  
 Test Skill  
 Alkali Metals – shiny, silvery metals, compounds soluble in water

column #2  
 Alkaline Earth Metals – shiny, silvery metal, compounds insoluble in water

Transition Metals – center columns

column #17  
 Halogens – non-metals, react readily with alkali metals

Noble Gases – nonreactive – #18

Sep 8-10:00 AM

## Elemental Families

- Tend to have similar physical and chemical properties.
- Found in same vertical column.
- Alkali Metals – shiny, silvery metals, compounds soluble in water
- Alkaline Earth Metals – shiny, silvery metal, compounds insoluble in water
- Transition Metals – center columns
- Halogens – nonmetals, react readily with alkali metals
- Noble Gases – nonreactive

Sep 8-10:00 AM

## Alkali Metals

- The elements that occupy the far left column of the periodic table are called Alkali Metals.
- Called Group 1 elements
- These elements are extremely reactive. ★

Sep 8-10:00 AM

## Alkali Earth Metals

- Found in group 2.
- Form compounds that are often insoluble in water.

Sep 8-10:00 AM

## Halogens

- Halogens occupy the 17<sup>th</sup> column of the periodic table. (F, Cl, Br, I, At)
- These elements are the most reactive non-metals.
- All halogens are poisonous elements that react readily with sodium and other alkali metals.

Sep 8-10:00 AM

## Metalloids

- Metalloids are elements that possess both metallic and nonmetallic properties.
- They are found in different groups on the far right side of the periodic table.
- Examples: Silicon, boron, germanium, arsenic, selenium, antimony, tellurium, polonium, and astatine are all metalloids.

Sep 8-10:00 AM

## Noble Gases

- Noble Gases are the elements that occupy the far right column of the periodic table. (He, Ne, Ar, Kr, Xe, Rn)
- Also Called inert gases because Noble gases generally do not form compounds.
- All gases at room temperature.
- Full outside valence Ring.

Sep 8-10:00 AM

## Properties of Metals and Non Metals

test?

### Metals

- Shiny
- Malleable
- Conductors
- Most of them react with acid
- Mostly solids

### Non Metals

- Dull
- Brittle
- Mostly insulators
- Do not react with acid
- Solids, liquids and gases at room temperature.

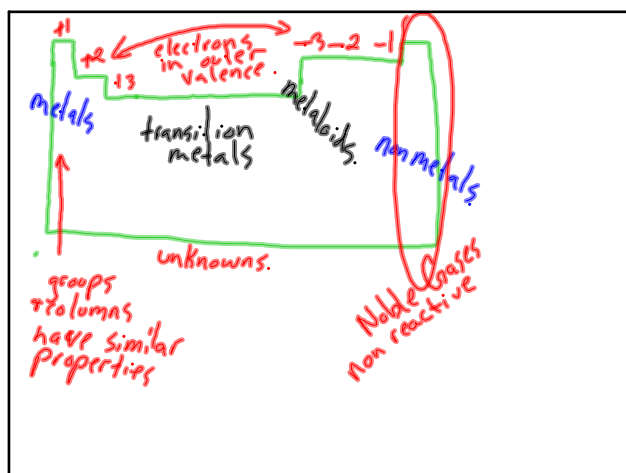
study this chart!

Sep 8-10:00 AM

## Periodic Table Activity

- Name elements:
- 1-30, 35, 47, 50, 53, 56, 79, 80, 82
- Label the following families:
- Noble Gases
- Halogens
- Alkali Metals
- Alkaline Earth Metals
- Transition Metals

Sep 8-10:00 AM



Sep 20-1:10 PM