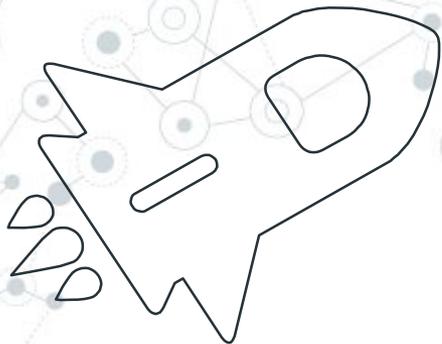


Periodic Table Coloring Stations

Background

What are we learning today?

The Periodic Table is a list of all the known elements that is organized in a specific way. Across each row or period, the number of electron orbitals remains the same. Down each column or group (family), elements share the same number of valence electrons, the outer electrons available for bonding. Because elements in the same group share the same number of electrons available for bonding, elements in the same group share similar properties. Let's explore how elements are similar to their neighbors on the periodic table, and how they are different!



Group 1.

Alkali Metals

These elements are **extremely reactive metals**. They hold one electron in their outer orbital, causing them to most easily bond to Group 17. Because of their extremely reactive nature, they are never found in nature in their pure form. They are shiny and soft enough to be cut with a knife.

The exception—Hydrogen: This element belongs to Group 1, but is somewhat of the black sheep of the family since it does not share the same properties as its family members. It is a very reactive, colorless, and odorless gas. *Do NOT color Hydrogen on your Periodic Table

Group 2.

Alkaline Earth Metals

These elements are **reactive**, but not as much as Group 1. They are also silver in color, but are harder.



Groups 3-12

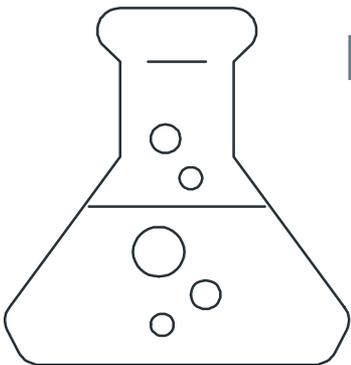
Transition Metals

These elements are all metals.
Varied reactivity and properties



Group 17 Halogens

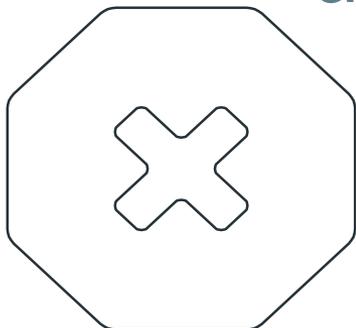
These elements are nonmetals. Like Group 1 they are **very reactive**, but are poor conductors of heat and electricity. (This makes sense because they are NOT metals. They easily form salts with metals. (Ex: NaCl is table salt.)



Group 18

Noble (Inert) Gases

These elements are nonmetals. They are unique because they are **completely non-reactive**, colorless, and odorless gases. They can be found in the Earth's atmosphere in small amounts.



Metalloids

(Semi-metals)

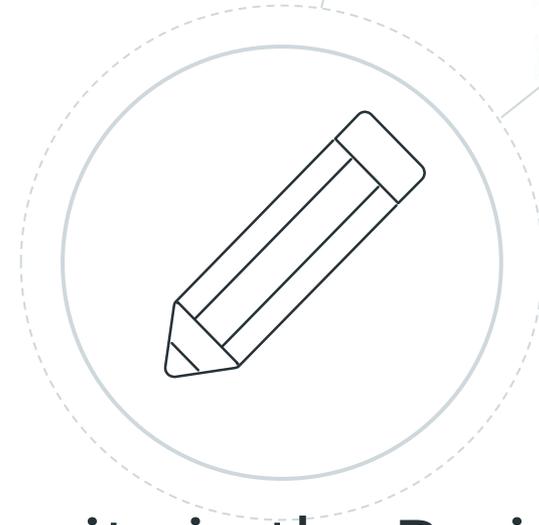
Elements with properties of BOTH **metals** and **nonmetals**.

Separates metals from nonmetals.



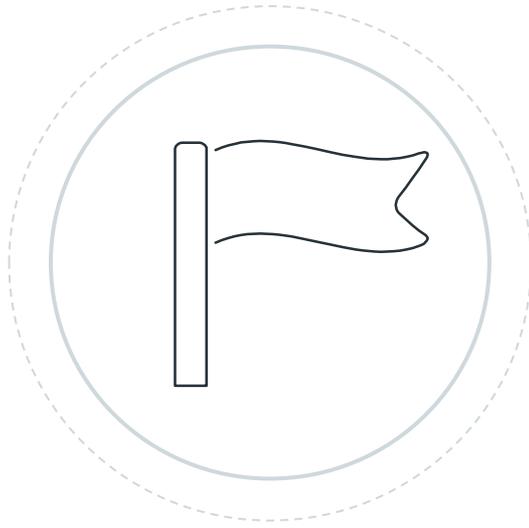
B, Si, Ge,
As, Se, Sb,
Te, Po, At

Period Numbers



1. Going DOWN the rows, write in the Period Numbers in the boxes..
2. Highlight the word “Period Numbers”
3. With the same color, highlight the Period Numbers

Group & Valence e-Numbers



1. Going ACROSS the PT, fill in the Group numbers in the boxes.
2. Highlight the word “Group Number”
3. With the same color, highlight the Group numbers
4. Next, highlight “Valence e-number,” with a different color.
5. Highlight each Valence e-number.