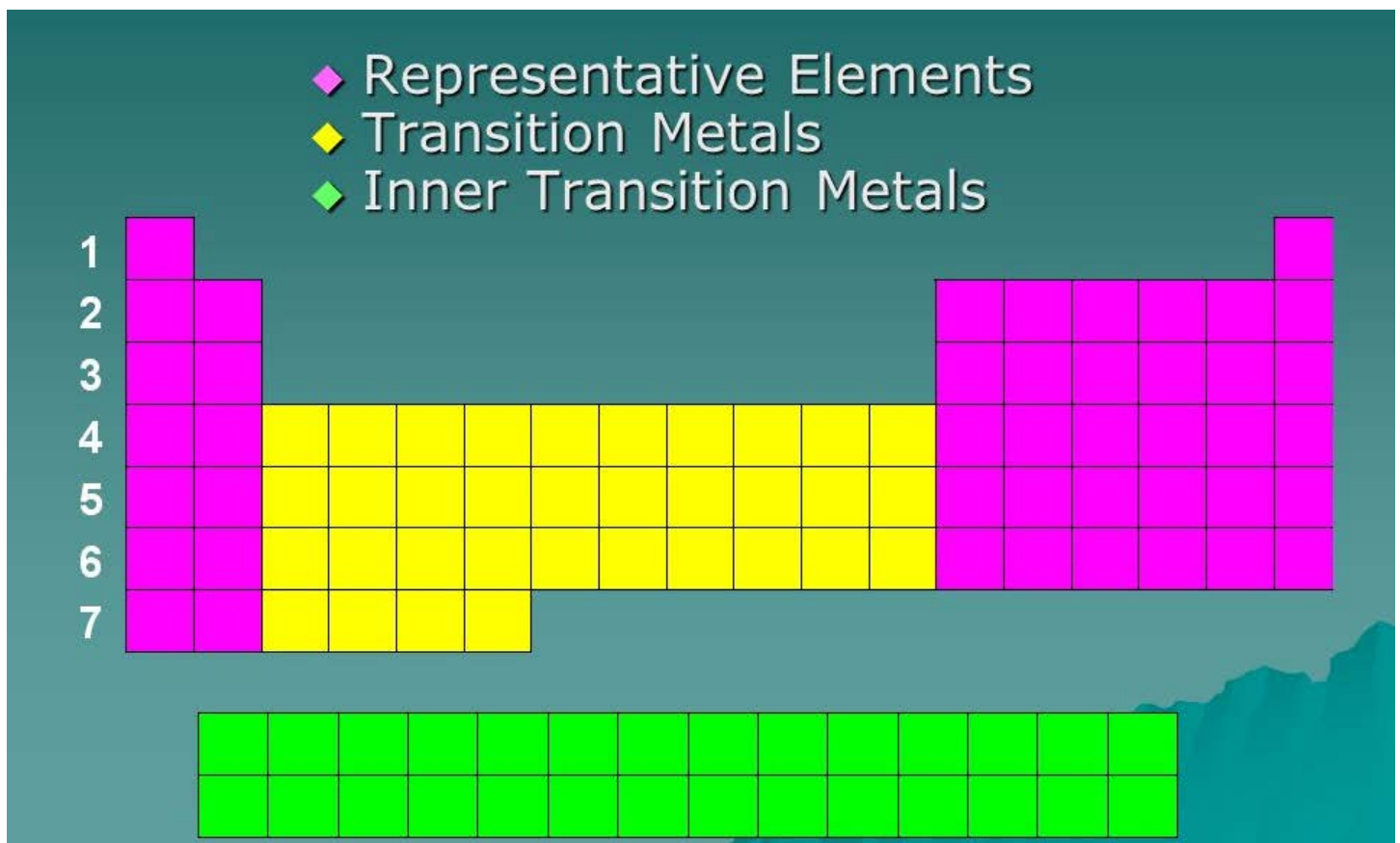
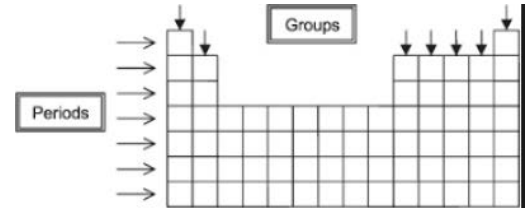


Organization of Periodic Table

- Increasing atomic number (from left to right)
- Groups = columns = vertical (up and down)
 - Also called families
 - Elements in same group/family have similar properties
 - A Groups = Representative/Main Group
 - B Groups = Transition
- Periods = rows = horizontal (left to right)
 - Tells you how many shells/energy levels



Alkali Metals (Group 1/1A)

- hydrogen (H) is NOT in the family
- most **reactive** metal family
- one electron in their outer shell
- when you put some of these pure elements in water (H_2O), they can cause huge explosions
- soft enough to be cut with a dull knife

Alkaline Earth Metals (Group 2/2A)

- second most **reactive** metal family
- called **alkaline** because they are likely to form solutions with a pH greater than 7 ("basic" or "alkaline" solutions).
- two electrons in their outer shell

Transition Metals (Group 3-12/B)

- Called **transition** because good examples of advanced shell and orbital ideas.
 - They have a lot of electrons and distribute them in different ways.
 - point in the periodic table where you can place more than 8 electrons in a shell
 - Most elements can only use electrons from their outer shell to bond with other elements.
 - Transition metals can use the two outermost shells to bond with other elements.

Halogens (Group 17/7A)

- Halogen comes from halide, which means "salt former"
 - When these elements react they form salts
- seven electrons in their outer shell
- most reactive nonmetal family

Noble Gases (Group 18/8A)

- happy atoms have full shells (Bohr)
 - full outer shells with eight electrons
 - Helium (He) with a shell that is full with only two electrons
 - don't need to react with other elements

