Review Notes
Academic

Representative Elts		
Metals (M)	Metalloids	Non-Metals (NM)
	Both Properties of M and NM	
Na, K, Cu	Si, Ge	Cl, N, O
Lustrous		Non-lustrous - Dull
Malleable	Zigzag line Semi- Conductors	Good insulators
Ductile		Brittle
Good conductors Heat/ electricity		Poor conductors Heat/ electricity
Solid at RT except____		Example: Coal Gases
3 or fewer outer e-		5 or more outer e-
Tend to lose outer e-		Tend to gain e-
Form + Ions		Form - Ions

Octet Rule:

- Atoms will gain, lose or share electrons in order to become stable
- Atoms will gain , lose or share to obtain an electron configuration like the noble gas
- **Ions** – electrically charged particles; formed by gaining or losing electrons (anions or cations)
- ~~**Homework: plot the graphs**~~

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Modern P.T.

*Based on Z number (# of protons) (Book section 5-2)

Periodic Law states: Physical & chemical properties of elements are a periodic (cyclical) function of their atomic numbers, **Z**

1. Based on e- configurations
2. **Periods** across the **PT n= 1-7**
3. **Representative Group** or Family **IA-VIIA**

IA	Alkali M	ns^1
IIA	Alkaline Earth M	ns^2
IIIA	Aluminum Family	ns^2np^1
IVA	Carbon Family	ns^2np^2
VA	Nitrogen Gamily	ns^2np^3
VIIA	Oxygen Family (chalcogen)	ns^2np^4
VIIA	Halogen	ns^2np^5
VIIIA	Noble Gases	ns^2np^6

4. **Transition M (B Elements)**

   Fill d orbitals:

   Transition Metals have 1e- or 2e- is which are **s**, they all have similar properties

   Ex:_____ _____

5. **Inner Transition Elements** (1900's)

   4f & 5f all have similar prop.

   4f Lanthanides: Rare earth

   5f Actinides: All radioactive

   Th, Pa, U, Np found in nature, the others are man-made in lab

Homework; Periodic table with colors and labels