

Card Back

Groups / Families

Columns with the "A" designation tell you the number of valence electrons of atoms in that column.

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Alkali Metals

- Have 1 valence electron
 - Form 1+ cations
- they LOSE 1 valence e- to form bonds
 - Are HIGHLY reactive with water

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Alkaline Earth Metals

- Have 2 valence electrons
 - Form 2+ cations
- they LOSE 2 valence e- to form bonds
 - Are reactive with water

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Periods

Tells you the # of the VALENCE shell for the elements contained within them.

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Halogens

- Have 7 valence electrons
 - Form 1- anions
- they GAIN 1 valence e- to form bonds
- highly reactive non-metals

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Noble Gases

- Have 8 valence electrons except He has 2
- UNREACTIVE / Do NOT generally form ions
 - FULL valence shells

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Transition Metals

- Generically have 2 valence electrons but many will make multiple charges.
 - All but one, Hg-Mercury, are solids
 - Also known as the “d” block

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Inner Transition Metals

1. Lanthanides (Rare Earth)-Soft rare metals
2. Actinides-mostly radioactive
 - Also known as the "f" block

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Periodic Trends

(Remember one corner and you're good!)

Fr-Francium

- ↑ LARGEST Atomic Radius [AR]
- ↓ LOWEST Ionization Energy [IE]
- ↓ LOWEST Electronegativity [EN]

F-Fluorine

- ↓ LOWEST Atomic Radius [AR]
- ↑ LARGEST Ionization Energy [IE]
- ↑ LARGEST Electronegativity [EN]

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Metals

- * left side of pd table
- * ductile & malleable
- * Have luster -shiny (not shinny!!)
- * Good Conductors
- * Mostly solids
- * **LOSE** (not loose!!) electrons to form bonds
(**form CATIONS**)

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Nonmetals

- * right side of pd. table
- * Brittle
- * Dull
- * Poor Conductors
- * Mostly gases
- * **GAIN** electrons to form bonds
(form **ANIONS**)

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Semi-Metals/Metalloids

- * Share properties of both metal and non-metals
- * Found on the line b/w metal and non-metals
(except Aluminum, Al!!!)