

## CHAPTER - 20

MOST MATTER EXISTS AS  
COMPOUNDS

COMPOUNDS HAVE DIFFERENT  
PROPERTIES THAN THE ELEMENTS  
THAT MAKE THEM

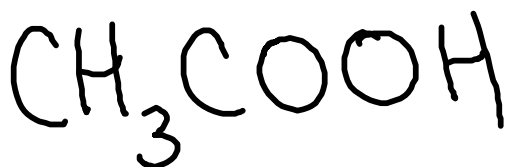
EX.

CHLORINE, SODIUM → SODIUM  
CHLORIDE



CHEMICAL FORMULA

SHOWS WHAT ATOMS  
HOW MANY IN A  
COMPOUND



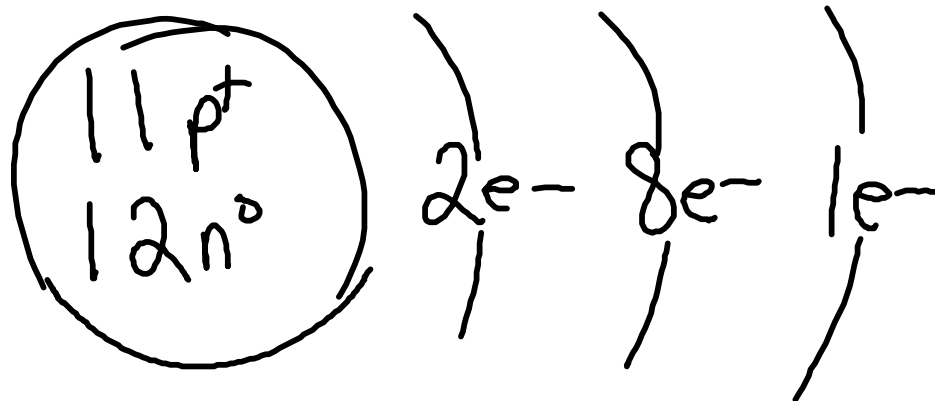
← SUPERSCRIPTS

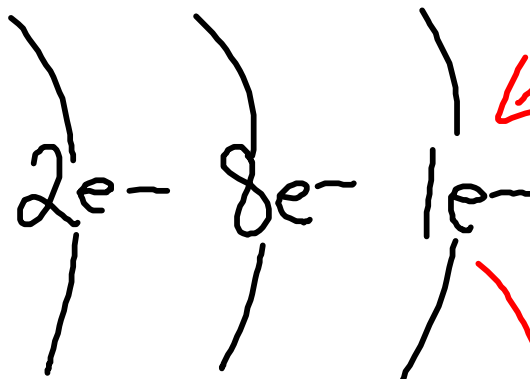
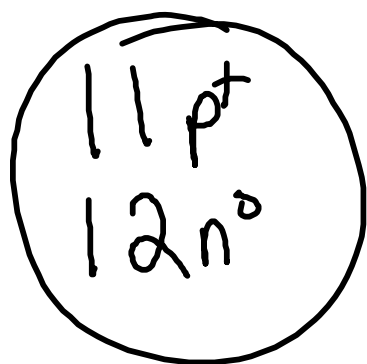
↑ SUBSCRIPTS (TELLS HOW MANY ATOMS)

\* COME AFTER ELEMENT

\* NO NUMBER = 1 ATOM

NAME	FORMULA	CONTAINS THESE ATOMS
ETHANOL	$C_2H_5OH$	CARBON, OXYGEN HYDROGEN
BATTERY ACID	$H_2SO_4$	HYDROGEN SULFUR OXYGEN
STOMACH ACID	<u>H</u> <u>Cl</u>	HYDROGEN CHLORINE
SAND	<u>Si</u> <u>O</u> <sub>2</sub>	SILICON OXYGEN

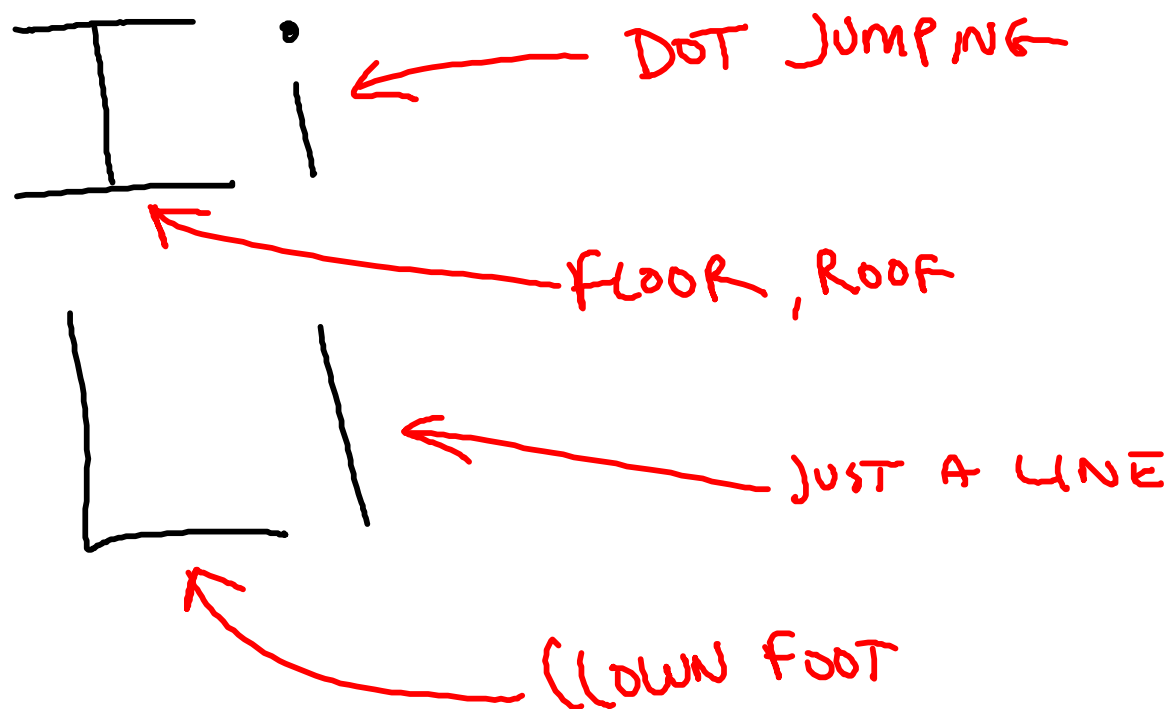




ADD  
1e-

LOSE 1e-

8 IS MAGIC #  
FOR CHEMICALLY  
STABLE



NOT  
GOOD

Xx

Yy

Oo

Aa

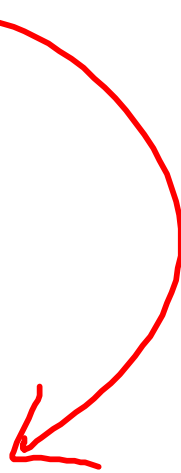
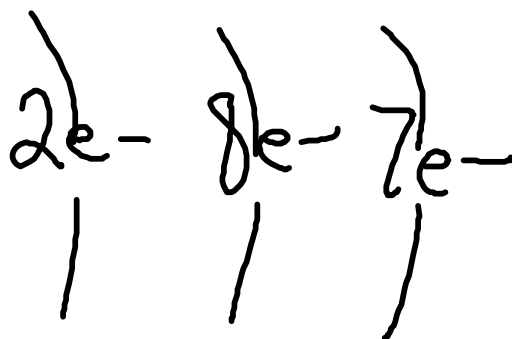
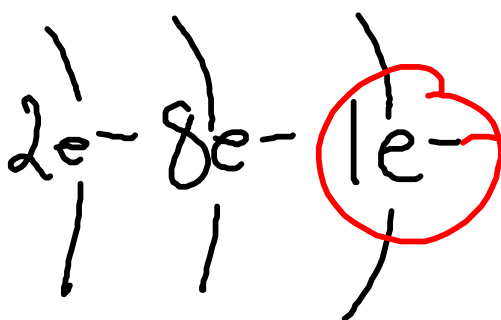
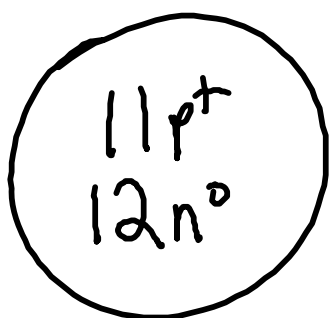
aa

i

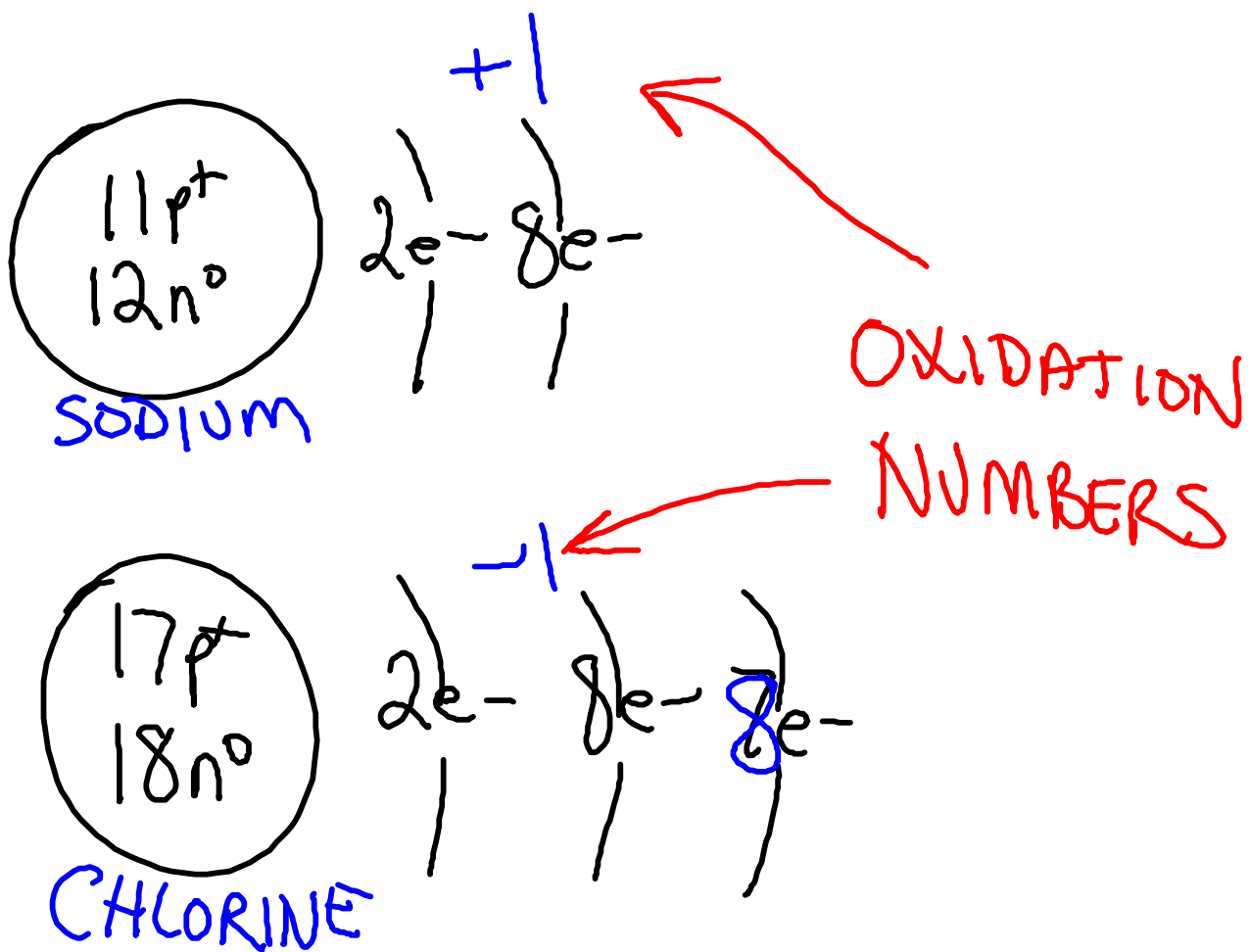
Nn

Nn

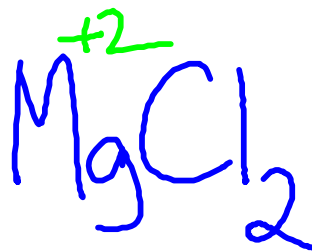
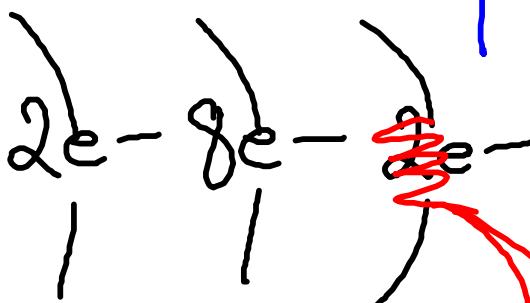
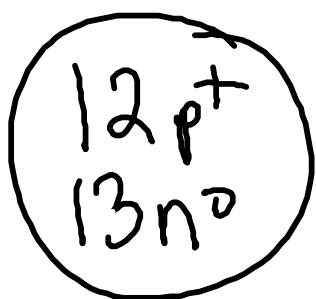
Cc



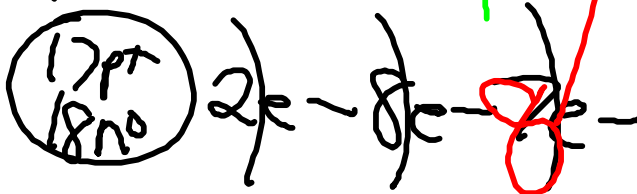
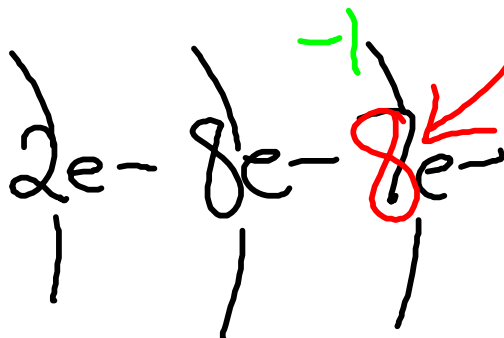




MAGNESIUM



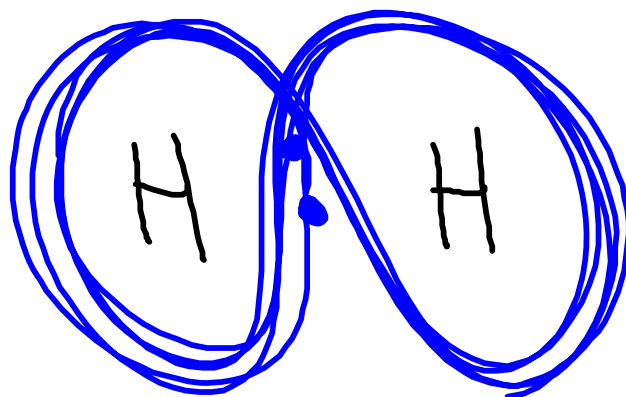
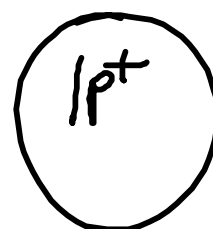
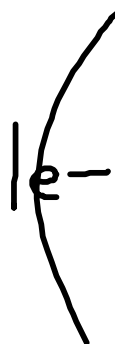
CHLORINE



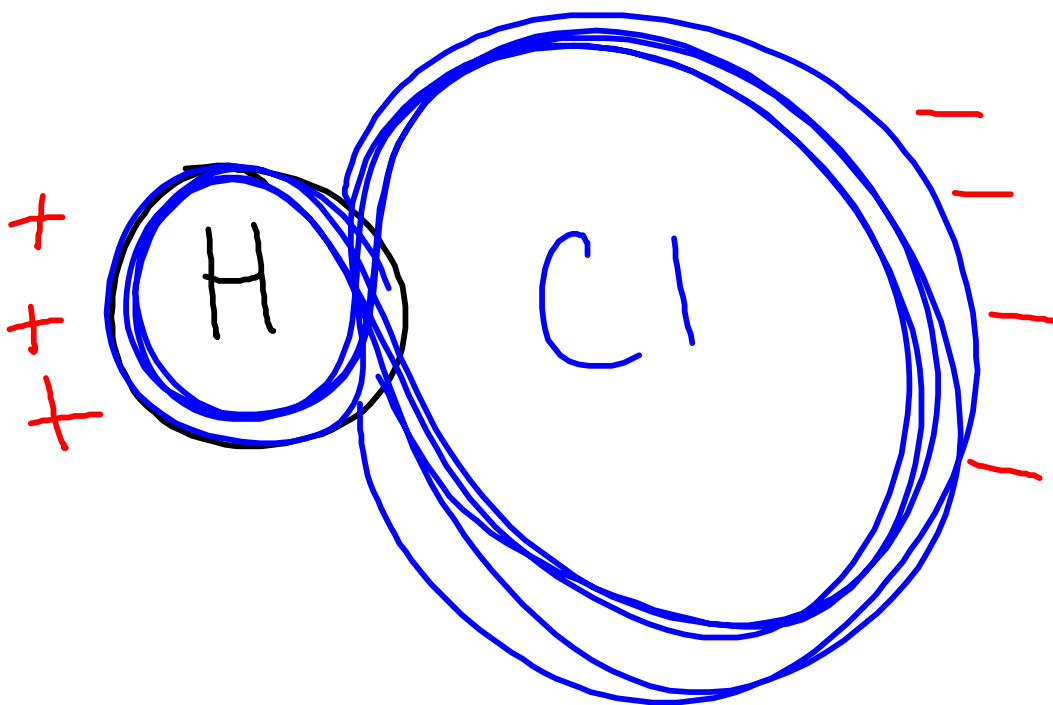
HYDROGEN



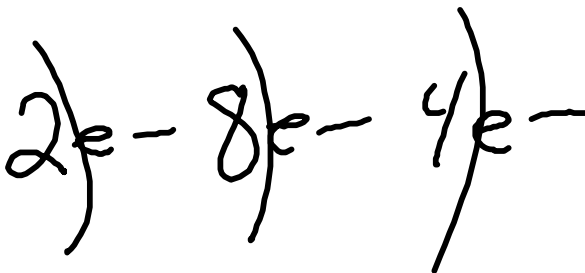
HYDROGEN



IONIC BONDING	COVALENT BONDING
INVOLVES <sup>GAIN OR LOSE</sup> <u>TRANSFER</u> OF ELECTRONS	INVOLVES <u>SHARING</u> OF ELECTRONS
BOND BETWEEN <u>IONS</u>	BOND BETWEEN <u>ATOMS</u>
<u>WEAK</u> BOND	<u>STRONG</u> BOND
FORMS A <u>COMPOUND</u>	FORMS A <u>MOLECULE</u>
MOST ARE <u>SOLIDS</u>	USUALLY <u>LIQUID OR GAS</u>



POLAR MOLECULE

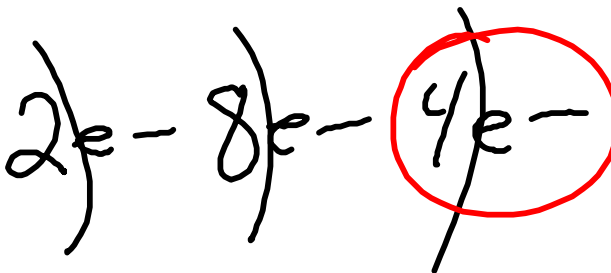


DOT DIAGRAM

① WRITE SYMBOL

② # OUTER ELECTRONS





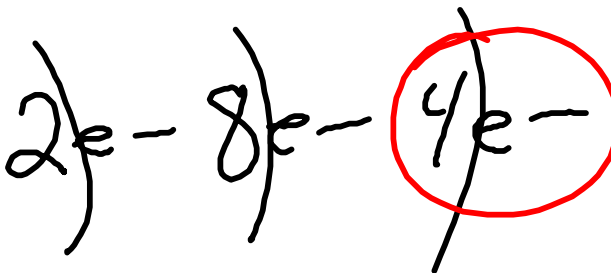
DOT DIAGRAM

① WRITE SYMBOL

② # OUTER ELECTRONS

4 dots

Si

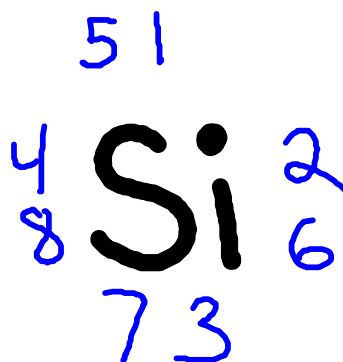


DOT DIAGRAM

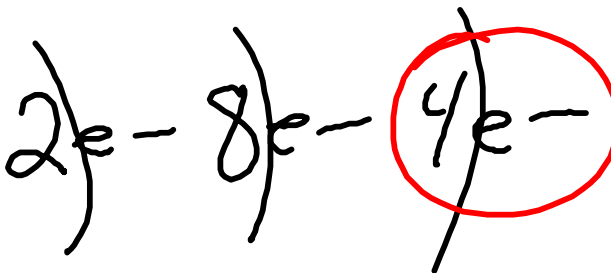
① WRITE SYMBOL

② # OUTER ELECTRONS

4 dots





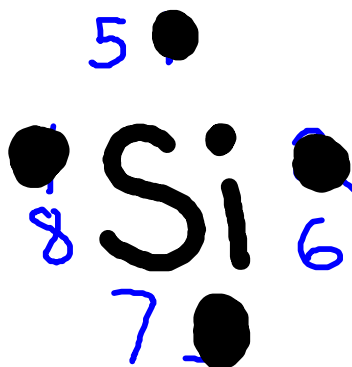


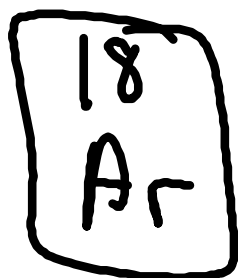
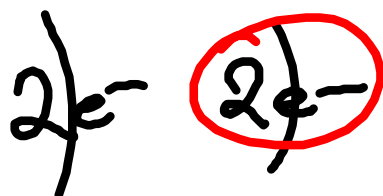
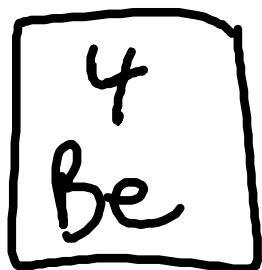
### DOT DIAGRAM

① WRITE SYMBOL

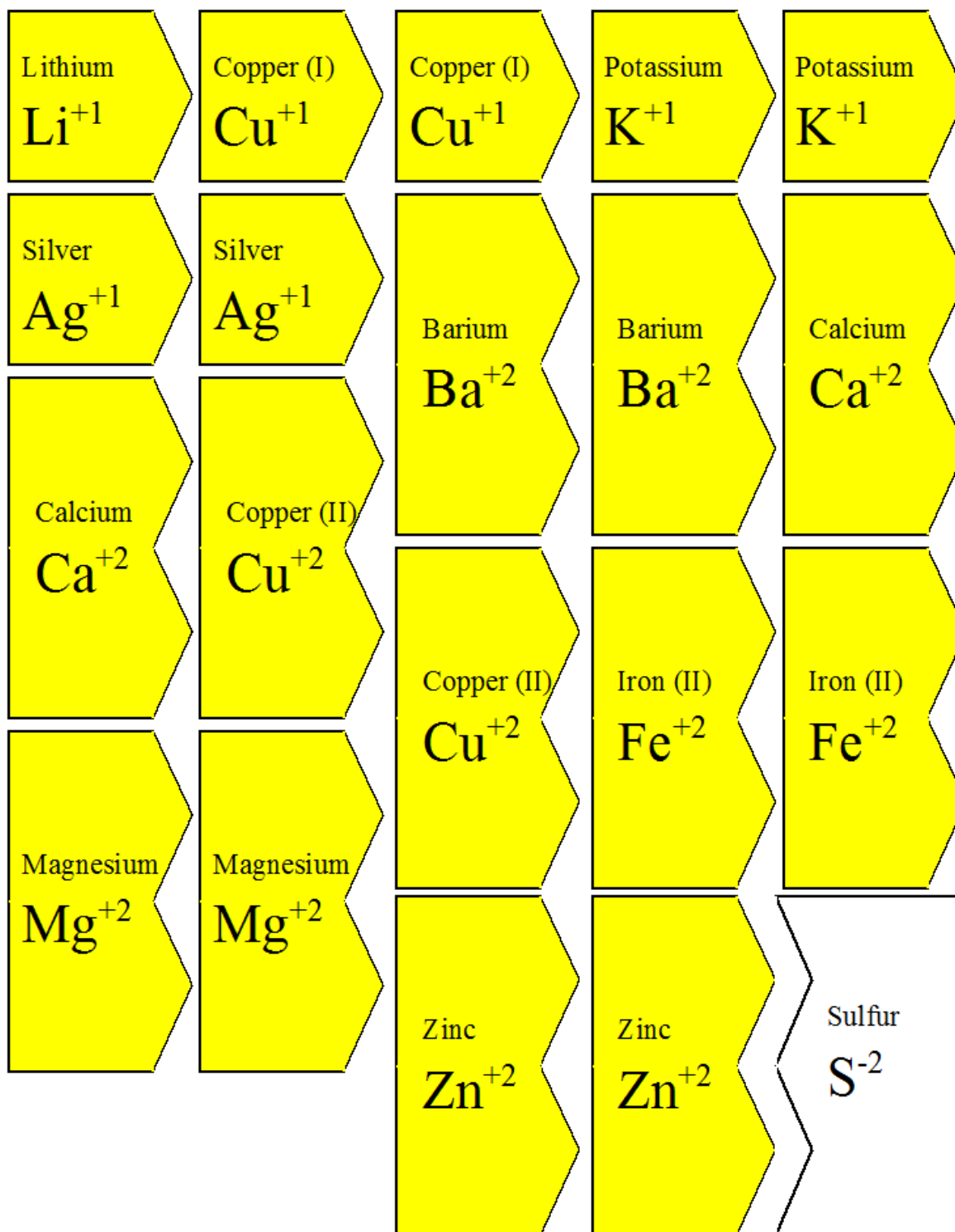
② # OUTER ELECTRONS

4 dots





Hydrogen $H^{+1}$	Sodium $Na^{+1}$	Lithium $Li^{+1}$	Copper (I) $Cu^{+1}$	Potassium $K^{+1}$
Silver $Ag^{+1}$	Barium $Ba^{+2}$	Calcium $Ca^{+2}$	Copper (II) $Cu^{+2}$	Iron (II) $Fe^{+2}$
Magnesium $Mg^{+2}$	Zinc $Zn^{+2}$	Aluminum $Al^{+3}$	Chromium $Cr^{+3}$	Iron (III) $Fe^{+3}$
Aluminum $Al^{+3}$	Hydrogen $H^{+1}$	Sodium $Na^{+1}$	Sodium $Na^{+1}$	Lithium $Li^{+1}$
	Hydrogen $H^{+1}$			



Chromium $\text{Cr}^{+3}$	Chromium $\text{Cr}^{+3}$	Iron (III) $\text{Fe}^{+3}$	Iron (III) $\text{Fe}^{+3}$	Chlorine $\text{Cl}^{-1}$
				Chlorine $\text{Cl}^{-1}$
				Fluorine $\text{F}^{-1}$
Bromine $\text{Br}^{-1}$	Bromine $\text{Br}^{-1}$	Bromine $\text{Br}^{-1}$	Chlorine $\text{Cl}^{-1}$	Fluorine $\text{F}^{-1}$
Fluorine $\text{F}^{-1}$	Iodine $\text{I}^{-1}$	Iodine $\text{I}^{-1}$	Iodine $\text{I}^{-1}$	Oxygen $\text{O}^{-2}$
Oxygen $\text{O}^{-2}$	Oxygen $\text{O}^{-2}$	Sulfur $\text{S}^{-2}$	Sulfur $\text{S}^{-2}$	