

# Jumpstart #

**Take out your periodic table.**

**Work on these questions quietly by yourself. When you finish then check your answers with your neighbor.**

- 1) Write 3 sentences about why the periodic table is set up how it is.
- 2) Identify each element as an alkali metal, alkaline earth metal, transition metal, halogen, or noble gas
  - a) Lithium      b) Krypton      c) Cobalt      d) Barium      e) Chlorine
- 3) Give 1 example of elements for each category that are NOT used in #2
  - a) noble gases      c) halogens      e) alkali metals
  - b) alkaline earth metals      d) transition metal

# Structure of the Periodic Table

Periodic Table of Elements																			
1A	1	H	2	He	0														
	1																		
	2	3	4																
		Li	Be																
	3	11	12																
		Na	Mg																
	4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
		K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
	5	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
		Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
	6	55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
		Cs	Ba	*La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
	7	87	88	89	104	105	106	107	108	109	110								
		Fr	Ra	+Ac	Rf	Ha	106	107	108	109	110								

\* Lanthanide Series

+ Actinide Series

58 <b>Ce</b>	59 <b>Pr</b>	60 <b>Nd</b>	61 <b>Pm</b>	62 <b>Sm</b>	63 <b>Eu</b>	64 <b>Gd</b>	65 <b>Tb</b>	66 <b>Dy</b>	67 <b>Ho</b>	68 <b>Er</b>	69 <b>Tm</b>	70 <b>Yb</b>	71 <b>Lu</b>
90 <b>Th</b>	91 <b>Pa</b>	92 <b>U</b>	93 <b>Np</b>	94 <b>Pu</b>	95 <b>Am</b>	96 <b>Cm</b>	97 <b>Bk</b>	98 <b>Cf</b>	99 <b>Es</b>	100 <b>Fm</b>	101 <b>Md</b>	102 <b>No</b>	103 <b>Lr</b>

# Reactivity

**Has to do with electron  
configuration**

# Reactivity

# Most Reactive

Already have a full  
Closest to a full Octet  
shell! Don't want to  
\_ Full Valence Shell  
lose it!

Least  
Reactive  
Most  
-INERT  
Reactive

# Periodic Table of Elements

# Periodic Table of Elements

The periodic table is organized into groups (columns) and periods (rows). The groups are labeled at the top: IA, IIA, IIIA, IVA, VA, VIA, VIIA, and 0. The elements are color-coded by groups: IA (yellow), IIA (orange), IIIA (green), IVA (light green), VA (blue), VIA (light blue), VIIA (pink), and 0 (purple). The elements are arranged in a grid, with the noble gases (group 0) on the far right. A green arrow points to Fluorine (F) in group VIIA, period 2.

	IA	IIA											IIIA	IVA	VA	VIA	VIIA	0
1	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg	IIIB	IVB	VB	VIB	VII B	VII		IB	IB	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba	57 *La	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	89 +Ac	104 Rf	105 Ha	106	107	108	109	110								

**Elements in the same group  
have similar behaviors**

Because they have the same number  
of valence electrons!!!

# Reactivity in Groups

- **Metals** – more reactive as you go **DOWN**
  - Easier to lose electrons because valence electrons are further away from nucleus
- **Non-metals** – more reactive as you go **UP**
  - Smaller the atom the more it wants an electron to gain

Brainiac Video

Disposal of Sodium