

### Lewis Dot and Valence Number Worksheet

Give the Lewis Dot structure and Valence Number for each element

Element	Lewis Dot	Valence	Element	Lewis Dot	Valence
Lithium	Li <sup>•</sup>	+1	Bromine	•• •Br• ••	-1
Magnesium			Chlorine		
Potassium			Oxygen		
Calcium			Sulfur		
Beryllium			Nitrogen		
Aluminum			Fluorine		
Barium			Iodine		

## Ionic & Covalent Bonding

Complete the table:

Chemical Formula	1 <sup>st</sup> element	2 <sup>nd</sup> element	Ionic or covalent bond?
CO <sub>2</sub>			
NaCl			
MgO <sub>2</sub>			
N <sub>2</sub> O <sub>4</sub>			
N <sub>2</sub> F <sub>4</sub>			
Al <sub>2</sub> S <sub>3</sub>			
SF <sub>6</sub>			
H <sub>2</sub> O			
CaO			
PtO <sub>2</sub>			

Using the BOHR Diagram and Lewis Dot models, demonstrate how H<sub>2</sub>O bonds.

Using the BOHR Diagram and Lewis Dot models, demonstrate how LiCl bonds.

Bond	Type of Elements	Ionic or Covalent
H bonding with H	non + non	C
Ca bonding with N	m + non	I
H bonding with S		
Ca bonding with O		
Na bonding with F		
K bonding with Cl		
Li bonding with F		
Mg bonding with Cl		
S bonding with O		
Ca bonding with S		
K bonding with S		
Cl bonding with Cl		
H bonding with O		
Ca bonding with F		
C bonding with Cl		
P bonding with B		
Mg bonding with I		
Fr bonding with F		
B bonding with As		
In bonding with N		
Li bonding with Br		

## Chemical Bonding Worksheet

Ionic Bond - between a Metal & Non-metal (M + NM)

Covalent Bond - between a Non-metal & Non-metal (NM + NM)

Compound	Element 1	Element 2	Bond Type
NO <sub>2</sub>	N = non-metal	O = non-metal	Covalent
NaCl	Na = <b>metal</b>	Cl = non-metal	<b>Ionic</b>
SO <sub>2</sub>			
PO <sub>4</sub>			
MgBr <sub>2</sub>			
CaO			
H <sub>2</sub> O			
K <sub>2</sub> O			
O <sub>2</sub>			
CuCl <sub>2</sub>			
NO <sub>2</sub>			
TiO <sub>2</sub>			
HF			
Rb <sub>2</sub> S			
Fe <sub>2</sub> O <sub>3</sub>			
C <sub>6</sub> H <sub>12</sub> O <sub>22</sub>			

## Classify the compounds as Ionic or Covalent

1.  $\text{CaCl}_2$  \_\_\_\_\_

2.  $\text{CO}_2$  \_\_\_\_\_

3.  $\text{H}_2\text{O}$  \_\_\_\_\_

4.  $\text{BaCl}_2$  \_\_\_\_\_

5.  $\text{O}_2$  \_\_\_\_\_

6.  $\text{NaF}$  \_\_\_\_\_

7.  $\text{NaS}$  \_\_\_\_\_

8.  $\text{S}_8$  \_\_\_\_\_

9.  $\text{SO}_3$  \_\_\_\_\_

10.  $\text{LiBr}$  \_\_\_\_\_

11.  $\text{MgO}$  \_\_\_\_\_

12.  $\text{C}_2\text{H}_5\text{OH}$  \_\_\_\_\_

13.  $\text{N}_2$  \_\_\_\_\_

14.  $\text{NaI}$  \_\_\_\_\_

15.  $\text{NO}_2$  \_\_\_\_\_

16.  $\text{Al}_2\text{O}_3$  \_\_\_\_\_

17.  $\text{FeCl}_3$  \_\_\_\_\_

18.  $\text{P}_2\text{O}_5$  \_\_\_\_\_

19.  $\text{N}_2\text{O}_2$  \_\_\_\_\_

20.  $\text{H}_2$  \_\_\_\_\_

21.  $\text{K}_2\text{O}$  \_\_\_\_\_

22.  $\text{KI}$  \_\_\_\_\_

23.  $\text{P}_4$  \_\_\_\_\_

24.  $\text{CH}_4$  \_\_\_\_\_