

CHEMISTRY LAB: ELECTRON DOT DIAGRAMS FOR COVALENT COMPOUNDS

WHAT TO TURN IN:	Data Table	Questions #1-4
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Objectives

- To review element names and symbols
- To practice writing electron dot diagrams for covalent compounds
- To compare and contrast ionic-bond and covalent-bond compounds
- To relate electron dot diagrams to formation of compounds

Materials

- Colored pencils or markers
- White paper
- Ruler
- Lab sheet

Procedure

- 1) Create a data table with ten rows and six columns as shown below.
 - Turn the paper sideways for more room.
 - Use a ruler.
 - The rows must be large enough to write and draw. You may use more paper if you need the room.

1	2	3	4	5	6
Compound Formula	Element #1 Dot Diagram	Element #1 Name	Element #2 Dot Diagram	Element #2 Name	Compound Dot Diagram
1					
2					
3					
4					
5					
etc...					

- 2) The steps to writing the electron dot diagram of a binary molecular compound:
 - Write the compound formula.
 - Name the compound.
 - Write the names of the individual elements. *Ions do not form here!*
 - Write the dot diagrams of each element. *Ions do not form here!*
 - Write the formula's dot diagram by sharing the electrons.

ENTRIES FOR DATA TABLE

1) BF_3

2) IBr

3) CH_4

4) H_2

5) OF_2

6) PCl_3

7) Br_2

8) NH_3

9) H_2O

10) CO_2

Questions

- 1) Why are all 10 of these compounds *binary molecular* compounds?
- 2) Compare and contrast *molecule* and *formula unit*.
- 3) Which bond is stronger, ionic or covalent? Why?
- 4) How is the electron dot diagram of an ionic compound different from the dot diagram of a molecular (covalent) compound?