

NAME: \_\_\_\_\_

Date: \_\_\_\_\_

## Worksheet 5 Forming Compounds (Nelson p.178)

1. **COMPLETING SENTENCES:** Choose the correct word or term for each statement. Write your answer in the spaces below.

- a) The outer orbit of a metal has (fewer or more) \_\_\_\_\_ than 4 electrons.
- b) Metals (lose or gain) \_\_\_\_\_ electrons.
- c) The outer orbit of a non-metal has (fewer or more) \_\_\_\_\_ than 4 electrons.
- d) Non-metals (lose or gain) \_\_\_\_\_ electrons.
- e) Most elements are (metals or non-metals) \_\_\_\_\_.

2. What **types of elements** combine to form **ionic compounds**?

\_\_\_\_\_

3. What **types of elements** combine to form **molecular compounds**?

\_\_\_\_\_

4. Identify the **types of atoms** in each compound. Then state whether each compound is **ionic or molecular**. Use the periodic table to help you.

Chemical Formula	Types Metal (M) or Non-metal (NM)	Ionic or Molecular Compounds
MgBr <sub>2</sub>	metal + non-metal	Ionic compound
PH <sub>3</sub>		
P <sub>4</sub> O <sub>10</sub>		
CaF <sub>2</sub>		
O <sub>2</sub> F <sub>2</sub>		
C <sub>8</sub> H <sub>18</sub>		
Ca <sub>3</sub> P <sub>2</sub>		
H <sub>2</sub> O		
Na <sub>3</sub> N		
CCl <sub>4</sub>		
CO		
BeCl <sub>2</sub>		

5. **MATCHING:** Match each term in Column A with its description in Column B. Write the **correct letter** in the space provided.

**Column A**

- \_\_\_\_\_ 1. metals  
 \_\_\_\_\_ 2. two or eight  
 \_\_\_\_\_ 3. sodium and chloride  
 \_\_\_\_\_ 4. hydrogen or oxygen  
 \_\_\_\_\_ 5. non-metals

**Column B**

- a) combine to form water  
 b) combine to form salt  
 c) number of electrons in a complete outer orbit  
 d) gain electrons  
 e) lose electrons

6. Complete the chart below. The first was done for you.

Elements of Group	Metal or Non-metal?	Lose or Gain Electrons?	How many Electrons?
1	Metal (except H)	Lose	1
2			
13			
15 (N, P)			
16 (O, S, Se)			
17			
18			

7. **TRUE OR FALSE:** Write “**T**” if the sentence is TRUE. Write “**F**” if the sentence is FALSE.

- a) All atoms form compounds. \_\_\_\_\_
- b) Atoms lose or gain electrons from inner orbit. \_\_\_\_\_
- c) Only outer orbits gain or lose electrons with other atoms. \_\_\_\_\_
- d) Atoms with more than 4 outer electrons are metals. \_\_\_\_\_
- e) Atoms with more than 4 outer electrons are non-metals. \_\_\_\_\_