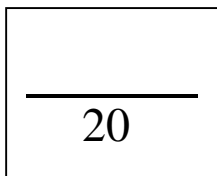


# Activity # 11



Name \_\_\_\_\_

Date \_\_\_\_\_

Date due \_\_\_\_\_

## Assignment on Ionic and Covalent Compounds

**NOTE:** This assignment is based on material given in your notes as well as pages 205-209 in the Science Probe textbook.

1. In an *ionic compound*, electrons are \_\_\_\_\_ from one atom to the other. The element that lost electron(s) becomes a (+/-) \_\_\_\_\_ ion and the element that gains electron(s) becomes a (+/-) \_\_\_\_\_ ion. The two oppositely charged ions now (attract/repel) \_\_\_\_\_ each other.
  2. In a *covalent* compound, one atom \_\_\_\_\_ electrons with another atom.
  3. Show the Bohr model for a *molecule* of H<sub>2</sub>.
  4. Show the Bohr model for a molecule of F<sub>2</sub>.
  5. Elements which consist of molecules made up of *two* atoms are called \_\_\_\_atomic elements.
  6. Give the formulas for molecules of the seven diatomic elements. The first one is H<sub>2</sub>.
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7. Draw the Bohr model for a molecule of **water**.
8. Draw the Bohr model for a molecule of methane (CH<sub>4</sub>).
9. **Ionic compounds** are made up of a \_\_\_\_\_ and a \_\_\_\_\_.
10. **Covalent compounds** are made up of two or more \_\_\_\_\_.
11. In naming **covalent compounds**, the prefixes which tell how many atoms of an element are in the formula are as follows. The first one is done as an example

Number of Atoms in Formula	Prefix
1	mono
2	
3	
4	
5	
6	

12. Write the correct formulas for the following compounds:
- a) silicon tetrafluoride .....
- b) phosphorus trioxide .....
- c) nitrogen pentachloride .....
- d) sulphur hexafluoride .....
- e) nitrogen monoxide .....
- f) selenium dioxide .....
- g) diphosphorus trisulphide .....

13. Write the correct names for the following compounds:

- a)  $\text{PF}_5$  ..... \_\_\_\_\_
- b)  $\text{SO}_2$  ..... \_\_\_\_\_
- c)  $\text{BrF}_6$  ..... \_\_\_\_\_
- d)  $\text{CO}_2$ ..... \_\_\_\_\_
- e)  $\text{N}_2\text{O}$  ..... \_\_\_\_\_
- f)  $\text{N}_2\text{O}_4$  ..... \_\_\_\_\_
- g)  $\text{NI}_3$  ..... \_\_\_\_\_
- h)  $\text{CCl}_4$  ..... \_\_\_\_\_
- i)  $\text{SF}_5$  ..... \_\_\_\_\_
- j)  $\text{P}_2\text{O}_3$  ..... \_\_\_\_\_
- k)  $\text{BI}_3$  ..... \_\_\_\_\_
- l)  $\text{PCl}_5$  ..... \_\_\_\_\_
- m)  $\text{NO}$  ..... \_\_\_\_\_
- n)  $\text{SCl}_6$  ..... \_\_\_\_\_

14. Write the correct name for each of the following compounds (NOTE: Some are ionic, and some are covalent)

- a)  $\text{KNO}_3$  ..... \_\_\_\_\_
- b)  $\text{Fe}_2(\text{CO}_3)_3$  ..... \_\_\_\_\_
- c)  $\text{CF}_4$  ..... \_\_\_\_\_
- d)  $\text{BCl}_3$ ..... \_\_\_\_\_
- e)  $\text{LiCl}$  ..... \_\_\_\_\_
- f)  $\text{XeF}_6$  ..... \_\_\_\_\_

- g)  $\text{Ca}_3(\text{PO}_4)_2$  ..... \_\_\_\_\_
- h)  $\text{NF}_3$  ..... \_\_\_\_\_
- i)  $\text{H}_2\text{SO}_4$  ..... \_\_\_\_\_ acid
- j)  $\text{SeBr}_5$  ..... \_\_\_\_\_
- k)  $\text{SO}_3$  ..... \_\_\_\_\_
- l)  $\text{HNO}_3$  ..... \_\_\_\_\_ acid
- m)  $\text{Fe}(\text{NO}_3)_3$  ..... \_\_\_\_\_
- n)  $\text{TeCl}_6$  ..... \_\_\_\_\_
- o)  $\text{CH}_3\text{COOH}$  ..... \_\_\_\_\_ acid
- p)  $\text{N}_2\text{Br}_4$  ..... \_\_\_\_\_
- q)  $\text{Co}(\text{NO}_3)_2$  ..... \_\_\_\_\_
- r)  $\text{HCl}$  ..... \_\_\_\_\_ acid
- s)  $\text{Cl}_4$  ..... \_\_\_\_\_
- t)  $\text{Y}_2(\text{CrO}_4)_3$  ..... \_\_\_\_\_
- u)  $\text{HgCl}_2$  ..... \_\_\_\_\_
- v)  $\text{Ni}(\text{OH})_3$  ..... \_\_\_\_\_
- w)  $\text{H}_3\text{PO}_4$  ..... \_\_\_\_\_ acid
- x)  $\text{OBr}_2$  ..... \_\_\_\_\_
- y)  $\text{In}(\text{NO}_3)_3$  ..... \_\_\_\_\_
- z)  $\text{MoPO}_4$  ..... \_\_\_\_\_
- $\alpha$ )  $\text{Cu}_2\text{SO}_3$  ..... \_\_\_\_\_
- $\beta$ )  $\text{Os}(\text{OH})_4$  ..... \_\_\_\_\_

15. Write the correct formulas for the following compounds. (NOTE: Some are ionic, and some are covalent)

- a) selenium difluoride .....
- b) silicon tetraiodide.....
- c) copper (II) hydroxide .....
- d) sulphuric acid.....
- e) arsenic trichloride.....
- f) molybdenum (III) carbonate.....
- g) acetic acid.....
- h) diphosphorus pentoxide .....
- i) carbon disulphide .....
- j) selenium hexabromide .....
- k) hydrochloric acid.....
- l) rubidium dihydrogen phosphate.....
- m) rhenium (VII) chloride .....
- n) iodine pentafluoride .....
- o) xenon hexafluoride.....
- p) disulphur dichloride .....
- q) vanadium (IV) sulphate.....
- r) calcium hydrogen sulphate.....
- s) platinum (II) bicarbonate.....
- t) phosphoric acid .....
- u) mercury (I) dichromate.....
- v) iron (III) oxalate .....