

Properties of Ionic and Covalent Compounds

1. List four properties of ionic compounds:

- i. high melting/boiling point
- ii. usually solid at room temperature
- iii. good conductors (in solution)
- iv. soluble (will dissolve) in water

2. List four properties of covalent (molecular) compounds:

- i. low melting/boiling point
- ii. usually liquid or gases at room temperature
- iii. good conductors (in solution)
- iv. insoluble (will not dissolve) in water

3. Compare ionic and covalent compounds in the following properties:

- a. electrical conductivity of the compound in aqueous solution
ionic compounds will conduct, while covalent compounds will not
- b. electrical conductivity of the compound in liquid form
ionic compounds will conduct, while covalent compounds will not
- c. solubility in water
ionic compounds are generally soluble, while covalent compounds generally are not
- d. melting points
ionic compounds have high melting points, while covalent compounds have low

4. Briefly describe the naming convention of ionic compounds.

DO NOT need to use prefixes, the name of metal (or cation) stays that same, the name of nonmetal (anion) changes to ide (or just use the polyatomic name)

5. Briefly describe the naming convention of covalent compounds.

use **PREFIXES** to show how many atoms, change ending on second nonmetal to ide

6. Identify which categories of elements usually bond ionically, and explain why this is the case.

a **METAL** will give electrons to a **NONMETAL** (transfer electrons due to large difference in electronegativity)

7. Identify which categories of elements usually bond covalently, and explain why this is the case.

two **NONMETALS** share electrons (due to small difference in electronegativity)