

Formation of Compounds

CHAPTER 4

Interpreting Data and Lab Skills

Use with text pages 119 – 151

Analyzing Data

Listed below are some imaginary data for a series of compounds. Based on what you have learned in this chapter, predict whether each compound is probably ionic (I) or covalent (C). If the information given might apply to either kind of compound, write a question mark (?).

1. I Has a melting point of 1650°C.
2. M Is a gas at room temperature.
3. I When melted, conducts an electric current well.
4. ? Is found in Earth's crust.
5. I Is highly soluble in water.
6. ? Is a white solid at -100°C.
7. M Has a boiling point of 13.2°C.
8. I Is composed of a metal and a nonmetal.
9. M When dissolved in water, does not conduct an electric current.
10. I Is a hard, rough crystal.

	Ionic Compounds	Molecular Compounds
Type of bonds	ionic	covalent
What happens to e- in bonds?	give/take	shared
Relative melting point	high	low
Relative boiling point	high	low
Conduct electricity?	yes - when melted or dissolved conduct electricity when energy can move around	No
State of matter at room temperature	solids	metals gas, liquid Some are solid

What happens to the electrons in metals? valence e^- are shared between all atoms
 How does this contribute to the conductivity of metals?
 e^- are free to move around. Conduct electricity when atoms like e^- move around