

Chapter 5 Practice

5.1 Lewis Symbols and the Octet Rule

1. Draw Lewis symbols for the following atoms:

Mg

Ca

Al

Sb

Br

Kr

2. Draw Lewis symbols for the following ions:

Na⁺

Mg²⁺

Ca²⁺

Br⁻

O²⁻

S²⁻

5.2 Ions

3. Name the following monatomic ions:

K⁺

Zn²⁺

Fe²⁺

Fe³⁺

Br⁻

O²⁻

4. Name the following polyatomic ions:

NO₃⁻

NO₂⁻

NH₄⁺

SO₄²⁻

ClO₄⁻

5.3 Ionic Bonds and Compounds

5. Name these ionic compounds:

ZnBr₂

FeCl₂

FeCl₃

PbSO₄

PbBr₄

Al₂(CO₃)₃

(NH₄)₂S

CuNO₃

6. Write formulas for these ionic compounds:

magnesium sulfide

copper(II) chloride

sodium phosphate

ammonium carbonate

silver nitrate

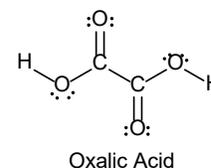
lead(IV) nitrite

5.4 Covalent Bonding

7. Name the following covalent compounds:



8. Write the empirical formula and the molecular formula for the covalent compound shown:



5.5 Distinguishing Ionic and Covalent Compounds

9. Identify each compound as ionic or covalent. Name each compound.



5.6 Aqueous Solutions: How Ionic and Covalent Compounds Differ

10. Indicate whether the following compounds are likely to dissociate in an aqueous solution. How can you tell?



5.7 Acids—An Introduction

11. Write the ions that each acid would form in aqueous solution:



12. Name each of these acids:

