

Interpreting Chemical Formulas

(refer to Investigation 6-A, pp. 195-197)

Part 1: Formulas for Molecular Compounds

1. Read Part 1 in the text (pg. 195) and complete the table.

Name of Compound	Formula of Molecule	Elements Present	How Many Atoms of Each?	Total # of Atoms in Compound
	H ₂ O			
carbon monoxide				
carbon dioxide				
	C ₃ H ₈			
	C ₆ H ₁₂ O ₆			
sulphuric acid	H ₂ SO ₄			

Part 2: Formulas for Non-Molecular Compounds

1. Read Part 2 in the text (pg. 195) and complete the following questions.

- How many sodium atoms are present in the model? _____
- How many chloride atoms are present in the model? _____
- The model has 1 Na atom for every _____ Cl atom.
- The model has 1 Cl atom for every _____ Na atom.
- The ratio of Na to Cl is _____ (ie. 1:4)
- NaCl is a common type of "salt". Write the chemical formula for these other salts:
 - * potassium chloride _____
 - * lithium chloride _____

Part 3: Formulas for Molecular Elements

1. Read Part 3 in the text (pg. 196) and complete the table.

Name of Gas	Compound or Element?	Made of Molecules?	Formula	Number of Atoms per Molecule
water vapour	compound			
carbon dioxide				
oxygen				
nitrogen				
sulfur dioxide				

2. What does the term "diatomic" mean? _____
 What 3 diatomic molecules are discussed in the text. _____, _____,

Part 4: Building Model Molecules

- Read Part 4 in the text (pg. 196).
- Build one model at a time and complete the tables below. Do this for molecule (a) - (f). Refer to the following information to help you build the models:
 - 1 stick = 1 single bond
 - 2 springs = 1 double bond
 - hydrogen forms 1 bond
 - carbon forms 4 bonds
 - nitrogen forms 3 bonds
 - oxygen forms 2 bonds

According to Text	Hydrogen	Oxygen	Carbon	Nitrogen
Colour of Atom				

According to Model Kit	Hydrogen	Oxygen	Carbon	Nitrogen
Colour of Atom				

Which molecules had only single bonds?
Which molecules had a double bond?