



CHE 1020: Module 4 Practice quiz

4.1: Compounds follow the law

1. True or false: The properties of compounds are often quite similar to the properties of the elements that combine to form the compounds.
false
2. The fact that LiBr is 7.99 % lithium and 92.01 % bromine by mass regardless of its origin is an example of _____.
 - (a) law of definite proportions
 - (b) law of conservation of mass
 - (c) Dalton's atomic theory

4.2: Chemical formulas

3. Write the formula for each compound. Place parentheses around any polyatomic ions.
 - (a) magnesium phosphate
 - (b) calcium chlorate
 - (c) sodium hypochlorite pentahydrate
4. Write the molecular formulas for these molecular compounds.
 - (a) ethylene glycol (antifreeze): 6 hydrogen atoms, 2 carbon atoms, and 2 oxygen atoms
 - (b) acetic acid: 2 oxygen atoms, 2 carbon atoms, and 4 hydrogen atoms
5. Write the empirical formulas of these molecules if you can.
 - (a) theobromine (the caffeine-like molecule in chocolate), $C_7H_8N_4O_2$.
 - (b) nicotine (the addictive stimulant in tobacco), $C_{10}H_{14}O_2$

4.3: Formula mass of compounds

6. Calculate the molar mass (aka formula mass, or molecular weight) of aluminum carbonate, $Al_2(CO_3)_3$. Please show the math!



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7. Calculate the molar mass (aka formula mass, or molecular weight) of vitamin C (ascorbic acid), $\text{C}_6\text{H}_8\text{O}_6$. Please show the math!

4.4: Naming ionic, molecular and acid compounds

8. Are these compounds ionic, molecular or acids?

- (a) CO
- (b) HCl
- (c) Na_2O

9. Name each of these compounds.

- (a) CO
- (b) HCl
- (c) Na_2O

10. Have a look at this formula and answer the questions below: Fe_2O_3 .

- (a) Is this compound ionic, molecular or acid?
- (b) Name it!