

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Due Date: \_\_\_\_\_

# Atoms and Molecules Homework

1. Describe the difference between atoms, molecules and compounds.

2. Use your knowledge of subscripts and coefficients to complete the table below:

Name	Formula	Number of Atoms in the Substance.
Calcium carbonate	$\text{CaCO}_3$	
Magnesium hydroxide	$\text{Mg(OH)}_2$	
Acetic acid	$2\text{C}_2\text{H}_4\text{O}_2$	
Calcium chloride	$\text{CaCl}_2$	
Sulfuric acid	$\text{H}_2\text{SO}_4$	
Sodium phosphate	$2\text{Na}_3\text{PO}_4$	
Aluminium hydroxide	$\text{Al(OH)}_3$	
Ammonium sulfate	$4(\text{NH}_4)_2\text{SO}_4$	

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**3. For each of the following compounds, outline the number of named atoms.**

- a. The number of chlorine atoms in paradichlorobenzene (moth crystals)  $4\text{C}_6\text{H}_4\text{Cl}_2$ .
  
- b. The number of carbon atoms in Aspirin (pain relief)  $2\text{C}_9\text{H}_8\text{O}_4$ .
  
- c. The number of nitrogen atoms in trinitrotoluene (explosive)  $\text{C}_7\text{H}_5(\text{NO}_2)_3$ .
  
- d. The number of hydrogen atoms in cellulose (plant tissue)  $3\text{C}_6\text{H}_7\text{O}_2(\text{OH})_3$ .
  
- e. The number of hydrogen atoms in calcium dihydrogen phosphate (fertilizer)  
 $2\text{Ca}(\text{H}_2\text{PO}_4)_2$ .
  
- f. The number of oxygen atoms in lanthanum carbonate (kidney medicine)  $3\text{La}_2(\text{CO}_3)_3$ .