

**Matter Homework #1**Read the MATTER BASICS. Use it to help you answer these.

1. Define these terms in your own words, use examples to expand your definitions.  
Element, mixture, substance, homogeneous, heterogeneous, matter, compound.
2. What elements are Hg + W? Why are these symbols used & not “M” or “T”?
3. List three substances that you have experienced in at least 2 physical states. Try for at least one that you have experienced in all three states of matter.

4. Fill in this table	Chemical Symbol	Is this an element, compound, or mixture?	What phase would this be at room temp. 298 K
gold			
gasoline	$C_8H_{18}$		
carbon dioxide			
argon			
Raisin Bran cereal	x		
mercury			
carbon			
aluminum			
bromine			
iron			
salty water	$NaCl_{(AQ)}$		
sodium chloride			
helium			

**Matter HW #2** Read the MATTER BASICS. Use it to help you answer these.

Memorize this chart, you will not be able to move ahead in chem unless you understand all of the vocabulary and remember how these properties exist.

## Important Properties of the States of Matter

Property	SOLIDS	LIQUIDS	GASES
volume	Definite	Definite	Indefinite
shape	Definite	Indefinite	Indefinite
compressibility	Very Little	Very Little	Easily
heat expansion	Slightly	Slightly	Greatly

1. Determine the phase of each of these substances at 25°C (Use table S).

substance formula	phase at 25°C
Co	
H <sub>2</sub> O	
Mg	
He	
Br <sub>2</sub>	
CO <sub>2</sub>	
Ag	
Xe	
Hg	
NH <sub>3</sub>	

2. List SYMBOLS (some have more than one correct answer)

which of the 9 substances at left has...	symbols
Which has the highest BP	
Which are most easily compressed?	
Which expand the most when heated?	
Which are least likely to be compressed?	
Which might fit into the bottom of any container you put it in?	
Which could fill any container you put it in?	
Which would hold it's shape all the time?	

3. How many atoms are in each of these compounds?

H <sub>2</sub> SO <sub>4</sub>	MgSO <sub>3</sub>	Al(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub>	C <sub>5</sub> H <sub>10</sub> O <sub>5</sub>
CH <sub>4</sub>	C <sub>10</sub> H <sub>22</sub>	KCl	NaBr
CF <sub>4</sub>	H <sub>3</sub> PO <sub>4</sub>	NaOH	MgO
Sn(MnO <sub>4</sub> ) <sub>2</sub>	(NH <sub>4</sub> ) <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	Ba(OH) <sub>2</sub>