Atoms and ELements

1. Name the following atoms from their symbols:
   a. O Oxygen
   b. F Fluorine
   c. Li Lithium
   d. C Carbon
   e. K Potassium
   f. Au Gold
   g. Hg Mercury
   h. Pb Lead
   i. U Uranium
   j. I Iodine.

2. Give the symbols for the following atoms:
   a. Helium He
   b. Nitrogen N
   c. Plutonium Pu
   d. Cobalt Co
   e. Sodium Na
   f. Chlorine Cl
   g. Dysprosium Dy
   h. Neon Ne
   i. Silver Ag
   j. Phosphorus P

3. Are the following atoms metals or non-metals?
   a. Lithium Metal
   b. Carbon Non-metal
   c. Nitrogen Non-metal
   d. Copper Metal
   e. Uranium Metal
   f. Xenon Non-metal
   g. Neon Non-metal
   h. Tungsten Metal
   i. Lead Metal
   j. Iodine Metal

Molecules, Compounds and Chemical Formulae

1. Are the following materials elements or compounds? Remember, elements are made of only one type of atom. You should know where to look for a list of those...
   a. Oxygen Element
   b. Water Compound
   c. Wood Compound
   d. Air Mixture of elements and compounds (a trick one!)
   e. Iron Element
   f. Steel Compound
   g. Ice Compound
   h. Stone Compound
   i. Lead Element
   j. Copper Element
   k. Gold Element
   l. Bronze Compound (an alloy)

Remember – if it is not on the Periodic Table it can not be an element.

2. Which atoms, and how many of each are found in these compounds?
   a. C_3H_8 3 Carbon 8 Hydrogen
   b. H_2O_2 2 Hydrogen 2 Oxygen
   c. $CuCl_2$ 1 Copper 2 Chlorine
   d. XeF_6 1 Xenon 6 Fluorine
   e. Fe_2O_3 2 Iron 3 Oxygen
   f. $BaCO_3$ 1 Barium 1 Carbon 3 Oxygen
   g. PCl_3 1 Phosphorus 3 Chlorine
   h. $C_2H_4O_2$ 2 Carbon 4 Hydrogen 2 Oxygen
   i. $C_6H_{12}O_6$ 6 Carbon 12 Hydrogen 6 Oxygen
   j. $C_2H_7N_2$ 2 Carbon 7 Hydrogen 2 Nitrogen

Advanced Compounds and Formulae

(Only for the very brave).

1. Which atoms, and how many of each are found in these compounds?
   a. $Mg(OH)_2$ 1 Magnesium 2 Oxygen 2 Hydrogen
   b. $(NH_4)_2O$ 2 Nitrogen 8 Hydrogen 1 Oxygen
   c. $Ba_3(PO_4)_2$ 3 Barium 2 Phosphorus 8 Oxygen
   d. $Al_2(Cr_2O_7)_3$ 2 Aluminium 6 Chromium 21 Oxygen
   e. $Ca(MnO_4)_2$ 1 Calcium 2 Manganese 8 Oxygen.