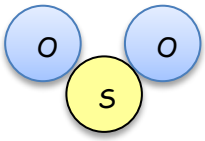
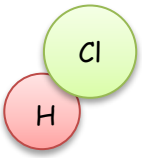
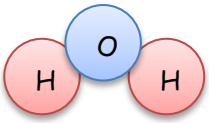
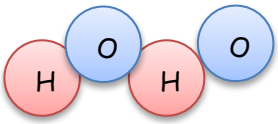
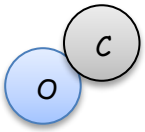
Name: _____
Date: _____

Chemical Formulae

1. Match the formula with the diagram

H_2O	
SO_2	
CO	
HCl	
H_2O_2	

2. Draw these molecules

C =	Cl =	H =	N =	Na =	O =		
Cl_2		NaCl		NO_2			
O_3		Na_2O		NH_3			

CHALLENGE :

3. Write the electronic configurations and valency of the following elements.

Potassium ……..

Chlorine……..

Oxygen……

Sulphur……

Nitrogen……..

Phosphorus……..

4. Complete Figure 4.1 by introducing the term valencies (combining power) of the atoms .

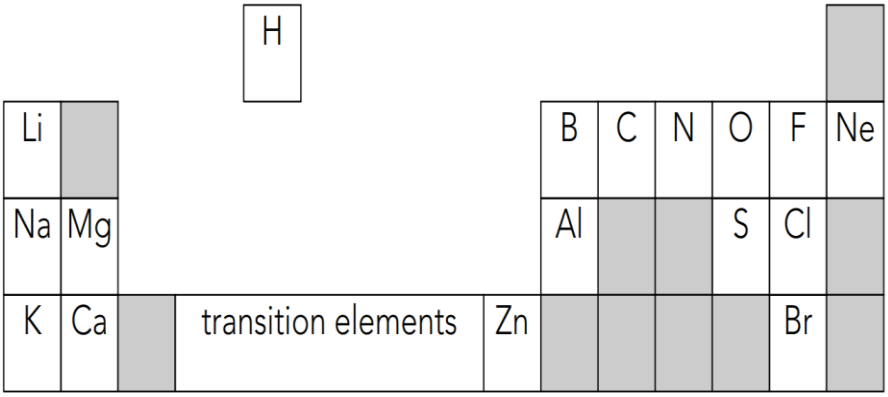


Figure 4.1: A section of the Periodic Table.

b Which atoms in Figure 4.1 lose electrons when they form ions?

……..

c Which atoms in Figure 4.1 gain electrons when they form ions?

……..

d Name two atoms in Figure 4.1 that share electrons when they form compounds.

……..

5. How many atoms of the different elements are there in the formulae of the following compounds?

a Nitric acid, HNO_3 .....

b Copper nitrate, $Cu(NO_3)_2$ .....

c Ammonium sulfate, $(NH_4)_2SO_4$ .....

d Potassium manganate(VII), $KMnO_4$ .....

6.Naming compounds that contain 2 elements:

NOTE : While naming compounds which contain two elements, simply keep the name of the metal the same and change the ending of the **non-metal to -ide**

Metal	Non-metal	Compound
iron	**sulphur**	
magnesium	**Iodine**	
sodium		**sodium chloride**
	oxygen	**Sodium oxide**
		aluminium bromide

Naming compounds that contain 3 or more elements:

When naming compounds which contain three or more elements (and one of them is oxygen), then the ending of the compound **becomes -ate** .

Element 1	Element 2	Element 3	Compound
copper	**sulphur**	**oxygen**	
iron			**iron nitrate**
			Sodium Carbonate

7. What are the formulae of the following compounds?

a ammonia .....

b methane .....

c hydrogen peroxide .....

d nitric acid .....

e sulfuric acid .....

8. Write the formulae of the following compounds by balancing (or crossing over) the valencies. Use the position of the element in the Periodic Table to help you remember its valency.

a a compound of H and S .....

b a compound of B and O .....

c a compound of C and S .....

d the simplest compound of N and H .....