Name

Formulae of compounds

We know that something is held together with covalent bonds because it contains (delete one):

Metals and non-metals **or** non-metals only

A covalent bond is… (fill in the blank space)

Methane is a compound of hydrogen and carbon. It contains non metals so it is held together with _____ bonds. It only contains one carbon atom. What is its formula?

Carbon is in group 4 so has 4 outer electrons

It wants to share _____ more outer electrons to complete its shell (8)

Hydrogen has only _____ outer electron

It wants _____ more outer electron (2)

Therefore we can let each one of the outer carbon electrons be shared with one hydrogen. This way the hydrogens will have two out electrons, and the carbon will have 8. Draw the structure of methane, and write down its formula (the formula simply tells you what is in it).

Name

Hydrogen sulphide is a compound of sulphur and hydrogen. It only contains one sulphur atom. Using the procedure outlined above, and in the book on page 31, draw the structure of hydrogen sulphide and work out its structure.

Silane is the simplest compound of silicon and hydrogen. Work out the formula of silane by drawing a dot-and-cross diagram of it.

Name

Silicon dioxide is a compound of silicon and oxygen. It only contains one silicon atom. Work out its formula by drawing a dot-and-cross diagram of it.

Look at page 32

Make a list of the ions formed by group 1 metals

Make a list of the ions formed by group 2 metals

Make a list of the ions formed by group 3 metals

Make a list of the ions formed by group 6 non-metals

Make a list of the ions formed by group 7 non-metals

Make a list of the less common positive ions

Make a list of the less common negative ions

Read page 33 and complete the following

		Negative ion				
		Br^-	OH^-	NO_3^-	O^{2-}	SO_4^{2-}
Positive ion	Li^+					
	NH_4^+					
	Pb^{2+}					
	Al^{3+}					

If you have time, read the rest of chapter 4.