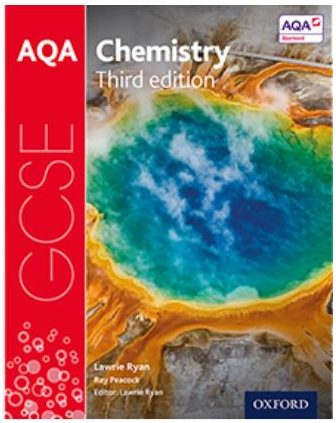
Extended Homework Task

Chemistry C3 Structure and bonding

Aiming for Grade 6

Name ……

Please hand in a completed printed version at the end of the topic



The online text book access to support this homework can be accessed through your Kerboodle account at www.kerboodle.com.

The username is your first initial and sir name (no gap).

If you have not accessed the book before the password will be the same as your username. If you have logged on before you will have changed the password to your own choice.

Click onto the science 9-1 tile and then onto the digital book.

Resources to support this homework can be found in the online student book

- **Structure and bonding pages 36 to 61**

Aims

This activity will give you practice in describing the main types of bonding and structures that are found in different materials: simple covalent, giant covalent, giant ionic lattice, and metallic. You will also look at what happens when different materials are melted and boiled.

Learning outcome

After completing this activity, you should be able to:

- Produce a fact sheet on the main types of bonding and structures that are found in different materials, which also explains how these materials change during melting and boiling.

Task

You will need to complete the following questions and use your answers in your fact sheet. You may like to copy the completed table onto your fact sheet – you can then add extra information and images.

1 Complete the following table.

	Type of structure			
	Simple covalent	**Giant covalent**	**Ionic**	**Metallic**
What type of bonds is present? *(4 marks)*				
How are these bonds made? *(4 marks)*				
Can it conduct electricity? *(4 marks)*				
Is it soluble in water? *(4 marks)*				
Does it have high or low melting and boiling points? *(4 marks)*				
What combination of elements forms this structure (e.g., metals/non-metals)? *(4 marks)*				

2 Suggest the formula and draw a dot and cross diagram for the bonding in the following molecules.

a Sodium chloride (sodium = Na, chlorine = Cl) *(2 marks)*

b. Hydrogen chloride (hydrogen = H, chlorine = Cl) *(2 marks)*

Extension:

3 Write a mini story, imagining you are a chemical substance. Choose which type of bonding you contain and then describe what happens to you as you are heated up past your melting point and then past your boiling point.. *(4 marks)*

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....