Spring Term 1
Year 7 Matter
Extended Homework Assignment
Extension Activities

OLD BUCKENHAM HIGH SCHOOL

Achieving excellence together

Name: _____

Teacher: _____

Instructions

Please complete all sections as an Extension activity

You will need to complete sections as you work through the topic

A printed copy should be handed into your teacher.

Matter

These tasks are designed to help you fully demonstrate your extending understanding of particle theory. You need to work independently and use science key words along with good spelling and punctuation. You may do the tasks in any order, but all need to be completed fully.

Look at the table below of melting and boiling points of substances.

Substance	Melting point (°C)	Boiling point (°C)
gallium	30	2205
ethanol	–114	78
oxygen	–218	–183
water	0	100

Choose a temperature and predict what state all the substances will be in at that temperature.

For example, "At 0°C, water will be in the solid state, oxygen will be in the …".

Task 2

1 Sand is a solid, yet it can be poured into a container and will fill the bottom of it. Explain why sand is a solid even though it behaves in this way.

2 A student in another class states that "evaporation and boiling are the same thing". Write a paragraph of at least 50 words to explain why the student is wrong.

Task 3

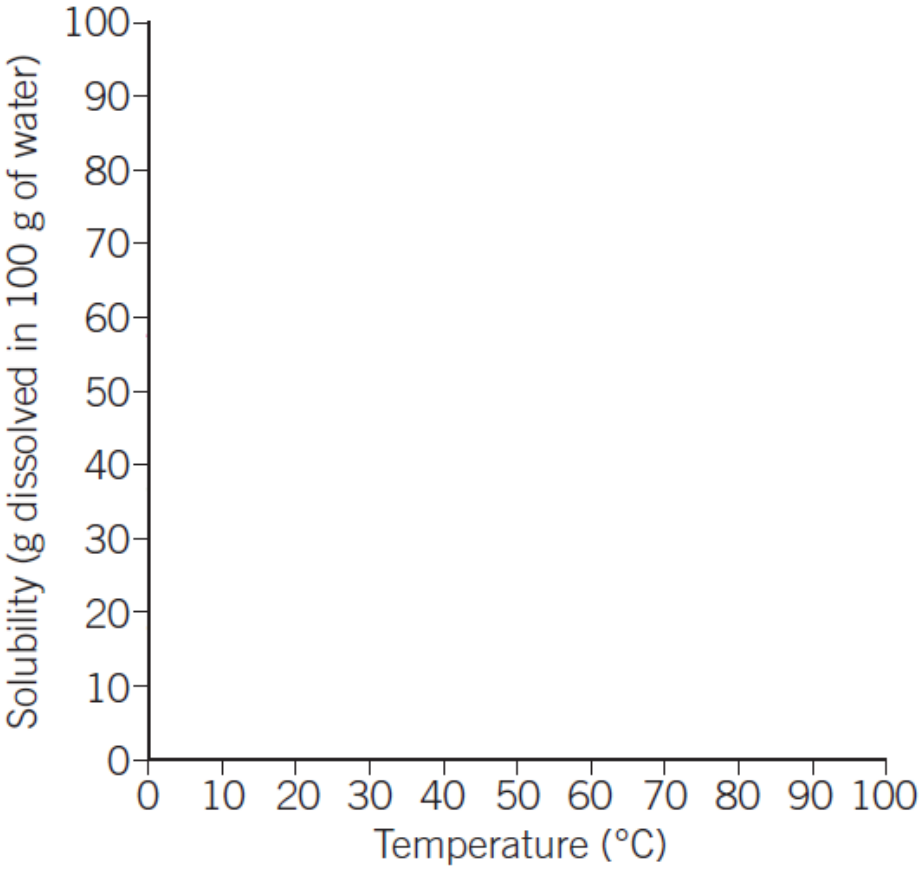
What would happen if you put a sealed, empty plastic bottle into a freezer? Draw particle diagrams to support your answer.

Task 4

On the axes below, sketch lines to represent three different substances (that have difference solubility values) dissolving at different temperatures.

Describe what is happening to each substance, making sure you explain how the solubility changes with increasing temperature.

Note: You do not need to use data about real substances – you can make up what happens to your three substances.



Task 5

1 You have been given a mixture of water, ink, and sand. Explain how you would separate and keep the three substances.

You also need to explain how you could determine if the water you obtain is pure.

2 Three bottles of ink could have been used to make the mixture in question 1. Explain, using diagrams of any practical techniques you may use, how you could confirm which bottle of ink was used to make the mixture in question 1.