

Example Year 7 Student Work – Science

The following gives some examples of the level of work covered in Science in Year 7 including details of how we expect students to set out their work and engage with feedback received. Students who follow these steps, review the knowledge and skills required according to the Core Concepts and responds to the individual feedback that they have been given in sufficient detail, will make the best progress.

Classwork and homework

All titles and dates underlined

Using a Bunsen Burner 14/9/12

Starter:

1. Ice cube = -6°C ✓
2. Candle = 190°C ✗
3. Beach = 30°C ✓
4. Boiling Water = 100°C ✓
5. BBQ = 500°C ✗

Work laid out neatly and clearly

Starter:

The aerosol diffused quicker than the Potassium permanganate crystals. ✓ I think this was so as gas moves quicker than a solid melting into liquid. ✓ As gas moves faster than liquid, the aerosol diffused quicker. ✓

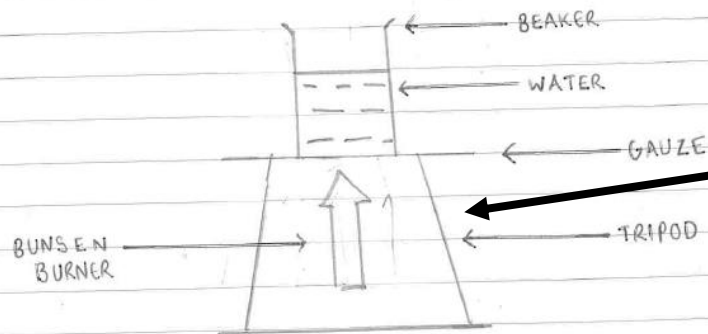
1. Melting is when a solid becomes a liquid. ✓ Boiling is when the liquid becomes gas. ✓ ^{heats up.}
2. a) Boiling ✗ b) half melted (melting) ✗ c) melted ✗ d) near boiling point ✗
_{gas solid liquid liquid}
3. Evaporation is a longer process than boiling. When boiled, most is still liquid.
Evaporation is particle by particle

The reason the materials having different melting points is that the bond between particles are different than each others therefore they require different energy to melt.

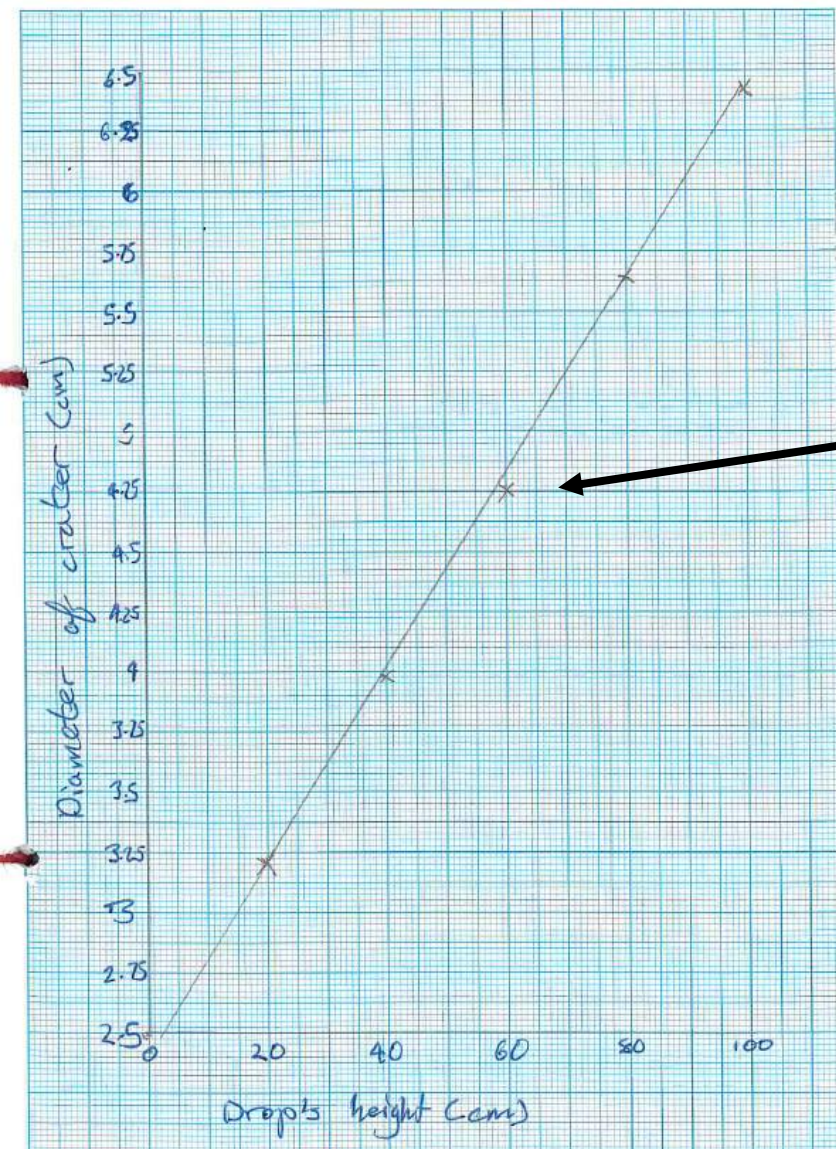
Detailed corrections made to all questions done in class, following full class discussion

Time (seconds)	Temp. (°C) ¹⁰⁰ / _{cm³}	Temp. (°C) ²⁰⁰ / _{cm³}
0	23 ⁺⁷	17
30	30 ⁺⁹	24
60	41 ⁺⁸	29
90	49 ⁺¹¹	30
120	63 ⁺⁵	34
150	68 ⁺¹	38
180	73	43

Tables laid out neatly, using pencil and a ruler and with units in the headings of the table



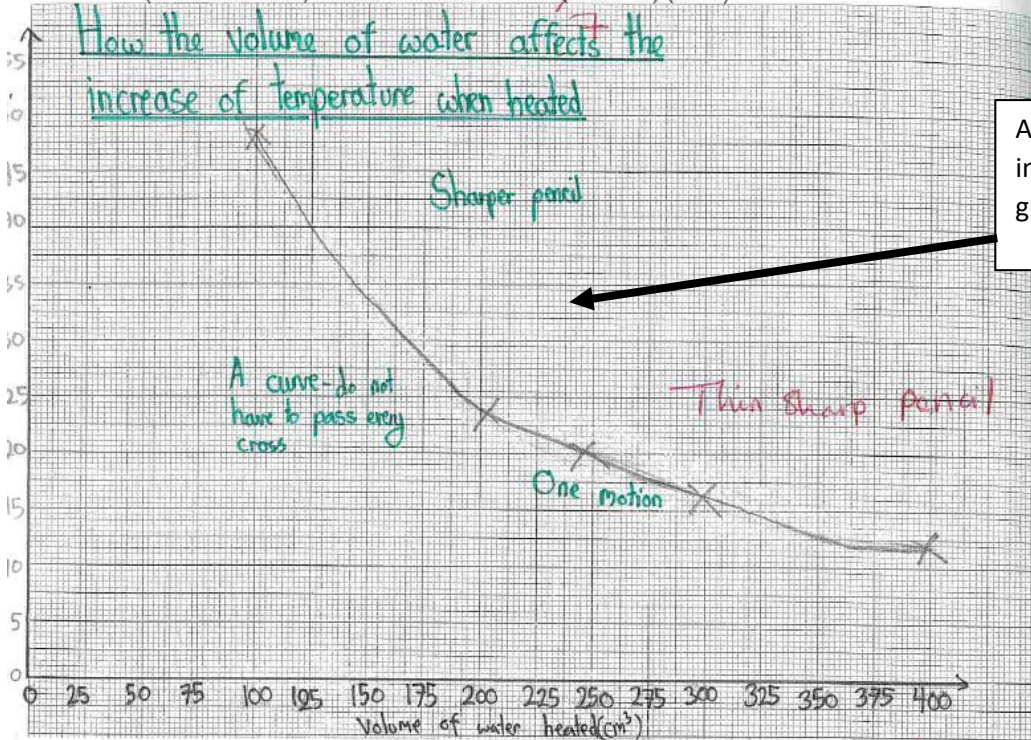
Scientific diagrams drawn in 2D using a ruler as neatly as possible and fully labelled.



All graphs have axes with scales that ensure **plotted points** take up more than half the graph paper in both directions. Axes are labelled with units. Scales go up in regular intervals. Points are plotted with a small 'x' using pencil and line of best fit (curve or straight line) is drawn through as many points as possible.

Teacher assessed work

8. Plot a graph of temperature rise (vertical axis) against the volume of water heated (horizontal axis). Draw a line of best fit. (8 marks) (CC3)



As with classwork, all improvements should be done in green pen.

9. Write the conclusion that Alex and Arun could reach from these results. (2 marks) (CC3)

In conclusion, As the volume of water increased, the temperature rise decreased as it took longer to heat a larger volume of water. Therefore, smaller volume of water would have a higher temperature than a larger volume.
 The graph As the volume of water increased, the gaps of temperature decreased each time, therefore creating a curve which the gradient of it decreased.

Students will also engage with feedback sheet and set themselves a target related to the Core Concepts to engage with. Students will also complete follow up questions based on their target.

INTRODUCTION TO SCIENCE SKILL CHECK	
NAME	SKILL
Variables (CC3):	
<ul style="list-style-type: none"> Identify the independent, dependent and control variables for an experiment 	3, 2, 1, 0
Definitions (CC1):	
<ul style="list-style-type: none"> All 3 definitions correct Identified why goggles are important 	3, 2, 1, 0 2, 1, 0
Tabulating Results (CC3):	
<ul style="list-style-type: none"> Headings to columns or rows Temperature rise included in the results table Units included with headings 	2, 1, 0 1, 0 2, 1, 0
Constructing graph (CC3):	
<ul style="list-style-type: none"> Axes right way round (independent horizontal, dependent vertical) Labelled axes Units for both axes given Large scales and easy to use scales Points plotted correctly Smooth best fit drawn 	1, 0 1, 0 1, 0 1, 0 2, 1, 0 2, 1, 0
Reaching a conclusion (CC3):	
<ul style="list-style-type: none"> Pattern shown by graph described fully using the variables 	2, 1, 0
Area for Development	
CC3 → identifying control variable & conclusion	CC3 16/18 CC1 3/3
Development Question	5/5

Strong: CC1
Weak: CC3