# ELC Science

## 3.4.5 Component 4: Chemistry in our world, Outcome 10

Teacher Devised Assignment: Student writing frame

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Component** | **Skill Area A** | **Skill Area B** | **Skill Area C** | **Skill Area D** | **Skill Area E** | **Total mark** |
| **4** | **1/2/3** | **1/2/3** | **1/2/3** | **1/2/3** | **1/2/3** | **/15** |

Investigative activity: Which water sample would be the safest to use as drinking water?

**Information**

Water that is safe to drink has small amounts of dissolved substances and low levels of microbes.

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| --- |
| **What am I trying to find out?** |

**Skill Area A: Planning**

**Entry Level 1**

**Tick () which items of equipment you will need from the list below:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| kettle |  | beeswax polish |  | laboratory stand and clamp  P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-6 Clamp stand.jpg |  |
| P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-2 Beaker.jpg  beaker |  | P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-4 Thermometer.jpg  thermometer |  | butter |  |
| balance P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-2 Balance.jpg |  | marker pen |  | P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-3 Bunsen with small blue flame.jpg  Bunsen burner |  |
| candle wax |  | heating gauze |  | P:\Locate images by category\4 - Standard equipment\SI-3 Stop clock.jpg  stop watch |  |
| tripod |  | margarine |  | P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-1 Boiling tube.jpg  boiling tube |  |
| wooden splint |  | P:\Locate images by category\4 - Standard equipment\SI-5 Spatula.jpg  spatula |  | P:\1 - Find graphics by category - DO NOT USE (Under Construction)\Equipment\SI-4 Measuring cylinder.jpg  measuring cylinder |  |

**Any other equipment needed?**

|  |
| --- |
| **How will I set up the apparatus?**: Draw a simple diagram |

**Planning Skill Area A: Entry Level 2**

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| **What I’m going to do** (This can be bullet points or a flow chart)  ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………  ………………………………………………………………………………………………………………… |

To make it a **fair test**,  
  
I am going to keep these things **the same:**

……………………………………………………………………………

I am going toonly **change**

…………………………………………………………………………………………………………………

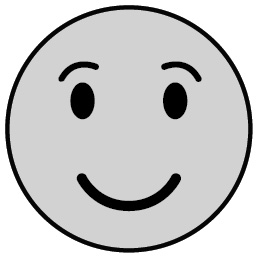
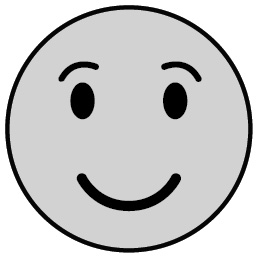
I am going to **measure**  …………………………………………… using …………………………

**Planning Skill Area A: Entry Level 3**

|  |
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| **What I think might happen**  I think the water safe to drink will be……. ……………………………………………….. because  ……………………………………………………………………............................................................  …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………  ………………………………………………………………………………………………………  …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….... |

**Doing**

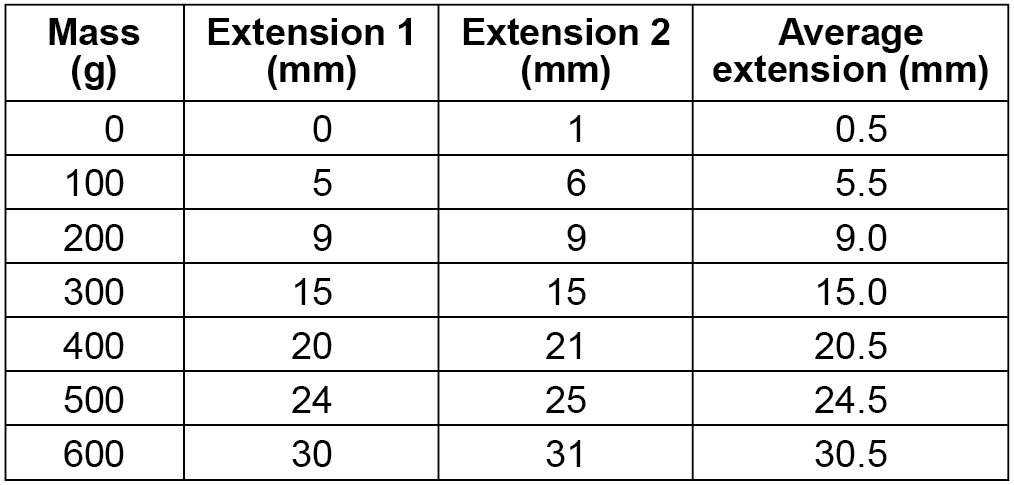
**Skill Area B: Entry level 1 and 2**

**Skill Area B – Level 3**

I have used the equipment in an organised and safe way to get my results

I worked safely

|  |
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| I can trust my results because …………………………………………………………....  ……………………………………………………………………………………………………………….…  ………………………………………………………………………………………………………………….………………………………………………………………………………………………………………….………………………………………………………………………………………………………………….  …………………………………………………………………………………………………………………. |



**Skill Area C: Recording data (my observations)**

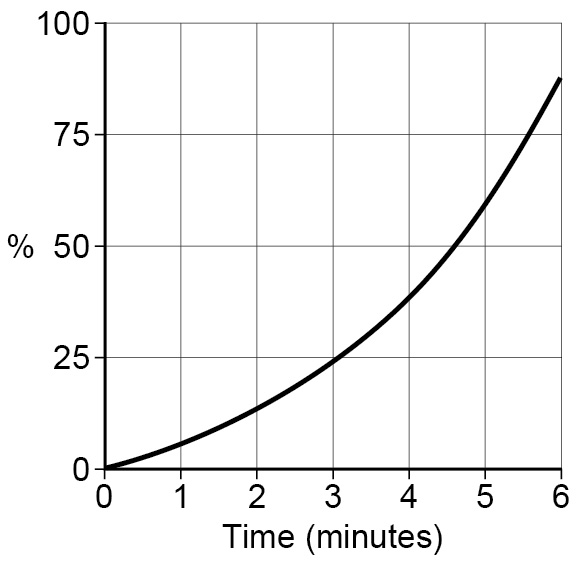
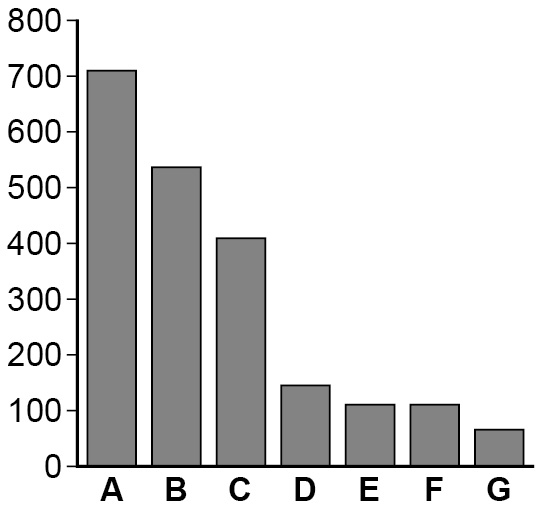
**Entry levels 1, 2 and 3**

|  |
| --- |
| **My results:**  Think carefully about your **variables** and **units** (What you are measuring?) |

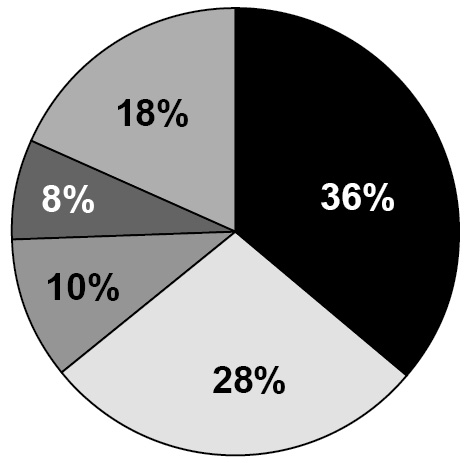
**Skill Area D: Processing and presenting data**

Showing patterns in my results

**Entry levels 1, 2 and 3**

****I am going to use a: **bar chart **

**line graph to show the results I collected**

****

**pie chart**

**other**

Show or attach your processed data here:

**Skill Area E: Interpreting and Evaluating**

**Levels 1, 2 and 3**

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| --- |
| **Conclusion:** My evidence tells me that the water that is safest to drink is:…………………..………………………………………………………………………..  …………………………………………………………………………………………………………………..  …………………………………………………………………………………………………………….….…  ………………………………………………………………………………………………………………..…  **My evidence shows this because** (Describe any patterns or trends in your results) ……………………………………………………………………………………………………..…  ………………………………………………………………………………………………………..…………  ………………………………………………………………………………………………………………..…  …………………………………………………………………………………………………………………..  ………………………………………………………………………………………………..…………………  ………………………………………………………………………………………………………..…………  …………………………………………………………………………………………………………..………  ………………………………………………………………………………………………………..…………  …………………………………………………………………………………………………………..……… |

**Skill Area E – Level 3 only Evaluating**

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| **How does my evidence match my prediction?**  …………………………………………………………………………………………………………………..  ……………………………………………………………………………………………………….………….  …………………………………………………………………………………………………………………..  …………………………………………………………………………………………………………………..  **Could I make my evidence even better?** Explain how you could improve what you did.  …………………………………………………………………………………………………………………..  …………………………………………………………………………………………………………………..  …………………………………………………………………………………………………………………..  …………………………………………………………………………………………………………………..  ………………………………………………………………………………………………………………….. |