**Task 9 – Separation Practical Marking Key**

|  |  |
| --- | --- |
| **Description** | **Marks** |
| I mark per property identified. Max 2 marks per substance  Iron Filings   * Lustrous, hard, does not dissolve in water, more dense than water etc   Coconut Oil   * Liquid, floats on top of water – less dense than water, Does not mix with water, etc   Flaked Coconut   * Solid, floats on water, less dense than water, etc   Magnesium Chloride   * Solid white crystal, dissolves in water, etc | 1-8 |
| **Total** | **8** |

***Materials***

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Includes all equipment needed | 1 |
| Uses scientific names for equipment | 1 |
| **Total** | **2** |

***Method***

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Uses clear, numbered steps | 1 |
| Uses correct language (i.e., no ‘I’, ‘me’, ‘we’) | 1 |
| Method would successfully separate mixture | 1 |
| Uses scientific vocabulary for separation techniques or equipment | 1 |
| Provides enough detail that method could be easily replicated | 1 |
| **Total** | **5** |

***In the space below, outline all the safety precautions relevant to this practical.***

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Refers to Bunsen burner/hot plate | 1 |
| Refers to use of glassware | 1 |
| Refers to PPE – lab coats, gloves, etc | 1 |
| **Total** | **3** |

***Conducting the lab***

You are being marked on conducting your experiment appropriately and collecting your data accurately.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Wears PPE throughout lab | 1 |
| Uses equipment carefully | 1 |
| **Total** | **2** |

***Table***

Record your data, along with the data you’ve been given by the police, in a labelled table below

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Writes title for table | 1 |
| Table is ruled neatly | 1 |
| Table format is logical | 1 |
| Units included | 1 |
| **Total** | **4** |

1. Where did the murder occur? Use your data to justify your decision.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Correctly identifies where the murder occurred (Janet’s home) | 1 |
| Refers to their raw data | 1 |
| Relates their raw data to the data collected from Janet’s lungs | 1 |
| **Total** | **3** |

1. State one way that you could improve this experiment and explain why it would make the data more reliable.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| States a suggestion to improve the experiment | 1 |
| Explains why suggestion would actually improve the validity/reliability of the experiment | 1 |
| **Total** | **2** |

1. Describe why the magnesium salt and the water made a solution, but the water and the coconut would make a heterogeneous mixture.

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any two of the following:   * States that salt is soluble in water, or that it dissolves in water * States that flaked coconut is insoluble in water, or that it does not dissolve in water * Explains a mixture is two or more substances mixed together * Explains a solution is a homogenous mixture, or the product of a solute dissolving in a solvent | 1-2 |
| **Total** | **2** |

1. What is decanting, and how does it relate to the physical properties of the substances it can be used on?

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Describes decantation | 1 |
| Relates to the density of substances | 1 |
| **Total** | **2** |

1. What is distillation, and how does it relate to the physical properties of the substances it is used on?

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Describes distillation | 1 |
| Relates to the boiling points of substances | 1 |
| **Total** | **2** |