**Writing Prompt for Chemistry I**

**Unit #1: Introduction to Chemistry, Measurement, Lab Safety, and Techniques**

You will write an in-depth explanation of how to separate a mixture that is composed of five components. You will use the information below about the components in the mixture and the laboratory instruments available to construct your explanation. Use the CER framework to answer this question. Be sure to address:

* laboratory safety
* appropriate scientific vocabulary
* the method by which you will separate each component
* supporting rationale for each separation technique (That is, why will the method you choose separate a particular component?)
* whether each separation technique uses a chemical or physical change

**Components in Mixture**

|  |  |
| --- | --- |
| **Component** | **Additional Information** |
| iron filings | magnetic |
| sand |  |
| sodium chloride (table salt) |  |
| water | 25 mL, boiling point = 100 °C |
| alcohol | 10 mL, boiling point = 78 °C |

**Laboratory Instruments**

|  |
| --- |
| magnet |
| funnel |
| filter paper |
| heat source (hot plate or Bunsen burner) |
| distillation apparatus with thermometer (see figure below)  Simple distillation |
| stir rod |
| beakers and flasks |

**Reasoning**

My second technique would separate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because…

**Reasoning**

My first technique would separate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because…

**Reasoning**

My fourth technique would separate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because…

**Reasoning**

My third technique would separate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because…

**Evidence**

My fourth technique is used to…

**Evidence**

My third technique is used to…

**Evidence**

My second technique is used to…

**Evidence**

My first technique is used to…

**Claim**

In order to separate this mixture, I would use these four techniques…