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| **YEAR 7 SEPARATING SUBSTANCES EXPERIMENT**  **(Quantitative)** |
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| **Making the mixture:**  Fold a filter paper so it has a central crease. Weigh it and record the mass. Put it out flat on the balance. Re-zero the balance. Add 2.0 grams of Copper sulphate. Pour it into the container you have been provided.  Put the same filter paper on the balance. Re-zero. Add 1.0g of iron filings. Pour into the container.  Put the same filter paper on the balance. Re-zero. Add 4.0 g of sand. Pour into the container. Shake the container to mix thoroughly. |

**The Task:**

In this activity you will be separating the individual fractions from a mixture of sand, copper sulphate and iron filings. It is not an investigation where you are trying to identify the effect of an independent variable on a dependant variable. For this reason, some people call this more an activity than an experiment. However, we will apply the Scientific method to this activity as though it was an experiment.

**Observations**:

What do you know about each of the substances in the mixture? Beside each name, list some properties you know.

Iron: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sand: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Copper Sulphate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Question**:

How do we separate and reclaim each of the substances in the mixture?

**Hypothesis**:

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**Method (experiment/test)**

In the space below, describe (write a paragraph rather than a series of numbered steps) the key steps you would need to do to separate the mixture AND reclaim each of the substances. Be brief.

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Equipment you will need (list): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Results:**

Once the class has decided on a common method to use, your teacher will draw a table for you to place in this space.

**Analysis:**

Table 2: Summary of separation results.

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| **SUBSTANCE** | **Mass initially present (g)** | **Mass recovered**  **(g)** | **Percent recovered**  **(%)** |
| Sand | 4 |  |  |
| Iron | 2 |  |  |
| Copper Sulphate | 2 |  |  |

Identifying Trends, Patterns, Relationships.

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Identifying Error – amount and source.

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**Conclusions:**

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