

Date: _____

Name: _____

Lab Partner: _____

Blk: _____

Chemistry 11
Separating Matter Lab

Objective:

To devise a detailed scheme to separate a mixture of three solids: 3.00 g Sand, 5.00 g Salt and 5.00 g Iron Fillings.

Materials:

You will need to come up with a list of all the materials necessary for separating the above solids

Procedure: (must be in a flow chart format)

Write out a detailed procedure for the separation techniques that you will use to separate the three solids:

1. Iron
2. Salt
3. Sand

Data and Observations:

You must create your own data table to record the before and after mass values for each component in the mixture.

Analysis:

1. Produce a pie chart showing the percent composition of the mixture, be sure to label the "wedges".
2. Using the mass values of each solid that you "recovered" calculate the Percent Yield of each solid.

$$\text{Percent Yield} = \text{mass recovered} \div \text{mass used}$$

3. Suppose a lab group reports a percent yield of 115% sand, is it really possible to collect more sand than was originally present? What is a possible explanation for such a high yield?
4. Suppose a lab group reports a percent yield of 90% salt, what is a possible explanation for the missing product?

Discussion:

1. Identify the following type of mixtures that were present in this lab:

a. heterogeneous

b. homogeneous

2. Explain how you used the different physical properties of the materials involved to separate the three solids.

Sources of Error:

List only the equipment you used to record quantitative data for

Conclusion:

Be sure to include your calculated Percent Yields for each solid