Date:_____ Name:_____

Lab Partner:____(optional)_____

Blk:_____

Chemistry 11
Separating Matter Lab

Objective:

To devise a detailed scheme to separate a mechanical mixture that contains approximately:

3.00 g Plastic beads, 5.00 g Coarse 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, it is a requirement that the mass of the recovered solids be recorded.

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. Plastic beads

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 two separate pie charts that show the "before" and "after" the percent composition (individual masses÷ sum of masses) 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.

Percent Yield = mass recovered ÷ 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 where present/or created 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 and an explanation for why you reached these values. No lab report is complete without a connection between the lab and everyday life!