**Background:**

When two or more pure substances that do not react chemically are blended, the result is a mixture in which each of the component substances retains its identity and fundamental properties. The separation of the components of mixtures is a problem frequently encountered in chemistry. The basis of the separation is the fact that each component has a different set of properties.

**Purpose:**

In this experiment you will receive a mixture sample containing the following components: sand, ammonium chloride, sodium chloride and iron filings. Your task is to separate the mixture and calculate the percent composition, by mass of each component in the mixture. In order to do this you will need to research the properties of each component and based on these properties propose a procedure for the separation to be approved by the teacher. Three of the components must be recovered and turn in at the end of lab.

**Report & Notebook should include:**

Title

Purpose

Table of Properties (molecular formula, weight, appearance, melting point, boiling point, density, soluble in water?)

Procedures (an idea… grouping procedures by separation)

Observations (Before… during…)

Data Table

Calculations

Discussion/Conclusions

Reflection

References