

Saline or Sahara: An investigation of separating mixtures

Vial # _____ Name _____

Question: How do you go about separating a mixture of salt and sand so you can determine the percentage of sand in the mixture?

Materials: Sample containing a mixture of salt and sand, common laboratory equipment

Procedure: In this laboratory exercise you will analyze a mixture of salt and sand to determine the percentage of sand in the mixture. You will be given a vial of the mixture and will be expected to make your determination solely on the basis of the one sample (strongly recommended to perform multiple trials from the one sample). Think about variables that could influence your results. Keep accurate and complete records in your lab writeup, for you will be called upon to defend the accuracy of your results. Think about the data you will need to have in order to realize the purpose of the experiment and how you will go about gathering that data. You will need to cite your data to defend your final answer, so keep good notes! Good luck!

Summing up:

1. Outline the procedures you followed in separating the salt and the sand. Be specific!
2. Prepare a list of places in which error could have entered into your methods. Be as detailed as possible, and indicate in what ways your errors may have influenced your numbers.
3. Show your calculations for determining the percentage of **SAND** in your mixture. Be sure to include units on all of your numbers.
4. How could you determine the percentage of **SALT** in your sample? Show your calculations here.
5. If you were granted the ability to go back in time and redo your experiment, what **two** specific things would you do differently? How would those things better assure you have more reliable data? Remember that you are answering this without knowing if you are correct in your original answer! And no, “more time & better equipment” aren’t cutting it!