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10/3/23

Separation of a Mixture- Lab Write-up

Research Question:

How can I separate a mixture (sand, iron fillings, rocks, and salt) into its original parts?

Introduction:

There are many ways to separate a compound from a mixture. You can evaporate mixtures, sieve larger mixtures, use a filter to separate water from minerals, or/and use a magnet to take out magnetic items from non-magnetic items, etc.

Procedure (what we did):

First, take the rocks our of the sand, iron filling, rock, and salt mixture. After the rocks were taken out, take out the iron filling by using the magnet. Then, pour water into a beaker. Pour the sand and salt mixture into the water, stir until the salt is dissolved. When the salt is dissolved, put the coffee filter over the beaker and pour into the pan. The sand should stay inside the beaker and the salt water should now be in the pan. Put the pan on a hot plate and wait for the water to evaporate, after the water is all evaporated you should see all the salt that is left in the pan.

Observation:

The first thing we did was take out the rocks with tweezers, that went by pretty fast. After all the rocks were out, we used the magnet to take out all the iron fillings. When the magnet was full, we put the magnet back in the mixture to make sure we got all the fillings out and we did. We separated the sand and salt by dissolving the salt, then poured out the salt water using a filter to make sure the sand did not get into the new pan. It took a little bit for all the water to drain through the filter. We took the pan and put it on the hot plate. It took a long time for the water to boil. The water finally got boiling and we watched it boil for a bit, but the time ran out. We were not able to finish out experiment because the water had not been all evaporated. We got to see another groups' work; the pan was all white from the salt being left behind after the water was evaporated.

Conclusion:

In this experiment, we were able to see all the different ways depending what mixtures you have to separate. You are able to evaporate to separate salt from water, use a filter to separate water from sand, use a magnet to collect magnetic items from non-metal items, and use hand tools like tweezers to

separate larger items. By separating one item at a time, by the way it needed to be separated, we were able get to the final result of the salt being alone.

Vocabulary:

No vocabulary for this experiment.