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Chemistry Class

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Separation of a Mixture

Research Question:

How can I separate a mixture into its original parts?

Introduction:

There are many different methods of separating mixtures. There's mechanical separation, separation done mechanically by someone, magnetism, drawing out magnetic objects from a mixture, and filtration.

Procedure:

First, we used magnetism to extract the iron fillings from the mixture. Secondly, we used mechanical separation to take out the rocks. Thirdly, we took the mixture and put it in water. We then stirred it using the spatula. Next, we used a coffee filter to separate the water from the sand, and poured the water into a pan. Finally, we took the pan of water and put it on a heating plate and let the water evaporate.

Results:

The magnetism worked well, and the iron fillings stuck to the magnet like short gray dreadlocks. Similarly, extracting the rocks was pretty easy because of the bright greens, oranges and purples that they come in. When we stirred the remaining mixture in the water, the salt dissolved into the water. We then separated the salt water from the sand, leaving only salt and water in the mixture. When we boiled the salt water, the water evaporated, leaving the salt behind in the pan.

Conclusion:

The magnetism worked because the iron fillings were magnetic, while everything in the mixture wasn't. The only way to separate the salt from the sand was to dissolve the salt in water, because the sand would not dissolve like the salt would. Then we used filtration to separate the salt water from the sand, because the sand particles were too big to fit through the filter, while the water, being a liquid, seeped right through. The salt was just broken down into very small pieces, and didn't actually become water, so when we evaporated the water, the salt couldn't evaporate with it, so it stayed on the bottom

and sides of the heated pan. In the end, the way to separate a mixture is to use a combination of methods, including magnetism, mechanical separation, evaporating, dissolving, and filtering.

Results pictures:

Salt

