Separating Substances

**Task:**

To plan an experiment to separate a mixture of iron filings, sand, marbles, salt. You will have 1 lesson to plan and 1 lesson to complete the experiment.

**Equipment Provided:**

* Mixture of iron filings, sand, marbles and salt
* Magnet
* Plastic bag
* Filter paper
* Spatula
* Evaporating basin
* Any classroom equipment (Bunsen Burners, beakers, filter funnels, water etc.)

Rule up a fresh page in your exercise book and start planning your experiment. Sections you need to include:

**AIM**: A short sentence describing briefly what you are trying to find out from the experiment. The purpose.

**EQUIPMENT:** Consider the separation techniques you will use and list the equipment needed for each.

**PROCEDURE**: Plan out a step-by-step method to separate the 4 substances. Which order will be most efficient to perform the steps? Will another person be able to follow your instructions, and repeat your experiment?

**OBSERVATIONS:**

Rule up a table with plenty of space to draw pictures and write a quick description after each separation technique has been implemented.

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| --- | --- | --- | --- |
| Separation Technique | Before Diagram | After Diagram | Description |
| e.g. Distillation, evaporation, filtration, floatation etc. |  |  |  |
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**QUESTIONS/ EVALUATION**:

1. Were you successful at separating all the substances? Why/Why not?
2. What was removed after applying each separation technique? Explain how each technique works.
3. Why did you choose to apply the separation techniques in the order you used?
4. If you were to repeat the experiment, what would you change? How would this improve your experiment?