Year 6

(Entry into Year 7)

2 Hour Revision Course

Chemistry

NORD
ANGLIA
EDUCATION

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Lesson 1: Separating Mixtures (1 hour)

Compounds like salt and sugar will dissolve in water. If you put a teaspoon of sugar into water and stirred it, the sugar crystal would eventually disappear. They are still in the water, they have just **dissolved**.

If you put sand into water, it will not dissolve. Sand is not soluble in water, not matter how much you stir the water.

Sand can be separated from water by **filtering**. You can pour a sand and water mixture through a funnel lined with filter paper. The water will pass through and the sand will remain in the filter paper. The funnel must be placed over a beaker to catch the water.

To separate a sugar and water solution, you must evaporate the water. The solution is placed into an evaporating dish and left for a few days. The sugar will be in the bottom of the dish and the water will have evaporated. If you want to keep the water from the mixture, you use a method called **distillation**. The solution is heated and the steam that is given off is collected and cooled back into water.

Suggest how you can separate a mixture of rice and water.

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In Dubai there isn't much rainfall, so we must use saltwater to use for washing, cooking, and drinking. Which method mentioned above do you think is used to remove the salt form the seawater?

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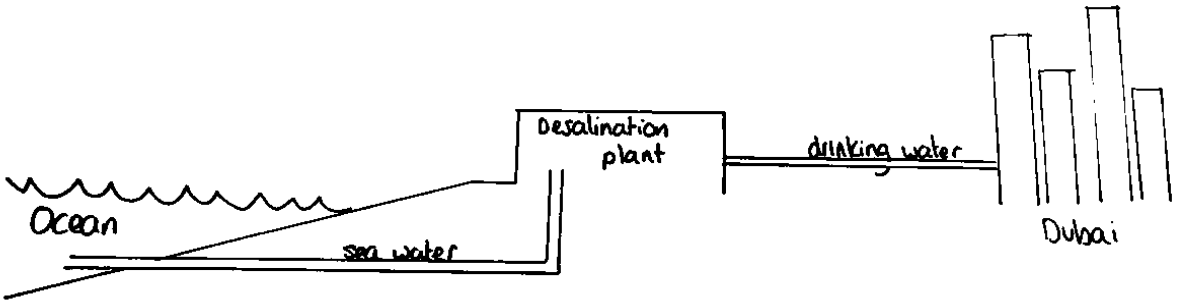

This method is very expensive because the water needs to be heated. The plant in Jebel Ali uses gas to heat the seawater. In this context, what does gas mean? Where does it come from?

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Iron is magnetic and salt is not. How would you separate a mixture of dry salt and iron filings?

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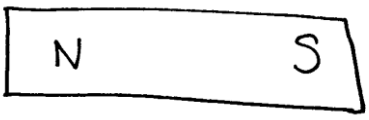

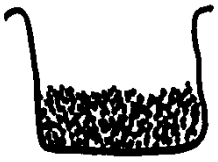

Mixture of salt and iron filings.

How would you separate a mixture of saltwater, sand, and iron filings? The aim is to end up with a beaker of each at the end.

Think about which methods you should include and which order they should come in:

- Filtration
- Evaporation
- Distillation
- Magnets

Lesson 2: Types of reaction (1 hour)

Some chemical changes can be reversed and are called **reversible** reactions. For example, if you had salt to water you can separate them again by either evaporation or distillation. Similarly, a mixture of sand and salt can be separated.

Changes that cannot be undone are called **irreversible** reactions. An example of this is baking a cake. You cannot take a cake and separate out the sugar, eggs and flour.

Sort the reactions below into either reversible or irreversible by placing them into the correct column in the table.

- Mixing oil and water
- Burning wood
- Cooking an egg
- Melting chocolate
- Respiration

Reversible	**Irreversible**

Add two of your own to each column. For the reversible reactions, describe the method you would use to reverse the process.

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