



Name:

Class:

## Student worksheet

### 2.4 Mixtures can be separated according to their size and mass

Pages 36–37 and 179–180

## Separating mixtures

### PART 1 – SEPARATION BY FILTRATION

1 Below are two different filters, a HEPA filter and a colander.



a Describe at least two features both filters have in common.

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b Describe how these two filters are different.

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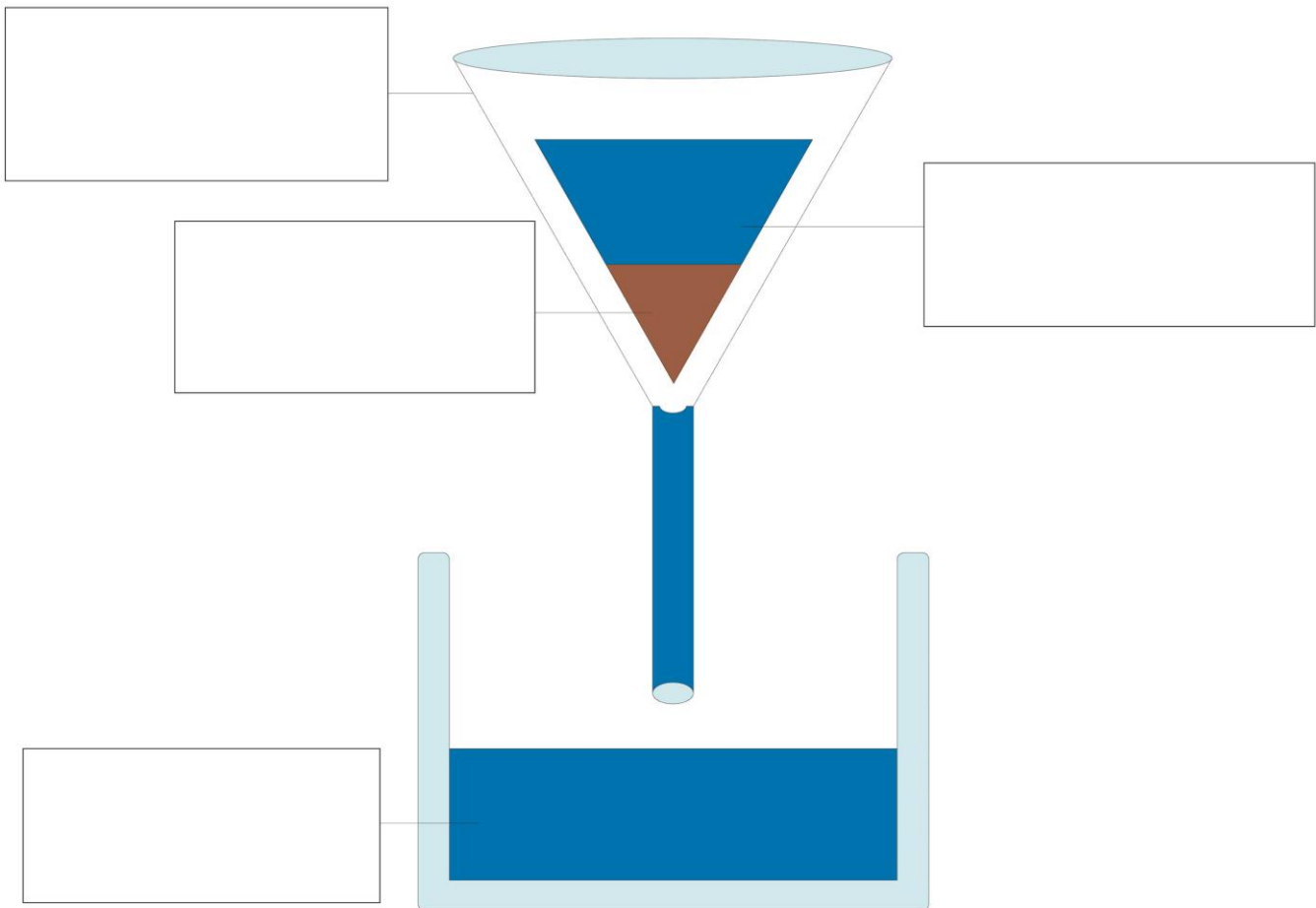
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2 Label the diagram using the following words: funnel, filter paper, residue, filtrate



a Name three mixtures that could be separated using this method

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b Identify at least five different filters that are present in your home.

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## PART 2 – A SPIN ON SEPARATION

3 A test tube of blood is spun in a centrifuge to separate it into its components.

a How is the blood separated in the centrifuge?

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b Why does blood separate in the centrifuge in this way?

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4 If you have ever been camping you may have made 'billy tea'. The tea leaves and water are put into the billy, which is placed on the fire. Once the water has boiled, the billy is picked up and swung around in a large circle.

a Why do you think the billy is swung around in a large circle?

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b What method of separation would be used to pour the drinkable tea out of the billy but leaving the tea leaves behind?

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## EXTEND YOUR UNDERSTANDING

5 Find out how centrifuges are used in the production of dairy products such as cream.

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