

**Science - Year 5**

Properties and changes of materials – Block 5PCM

# **Changing Materials Education Pack**

Session 2  
**Resource Pack**

## Guidance for completing investigation

### Equipment:

- Mixtures to separate:
  - Salty water
  - Flour, rice and pasta
  - Filter coffee in water
  - Iron & brass paper clips
- Sieves
- Filters
- Magnets
- Hairdryer/candles
- Water

### Investigation prompt questions:

#### Sieving

- *Think about the three solids - how many sieves and grades of sieve might you need?*
- *What order will you sieve the mixture in?*

#### Using magnets

- *How will a magnet separate two materials that are both metallic?*
- *Which metals attracted to magnets?*

#### Filtering

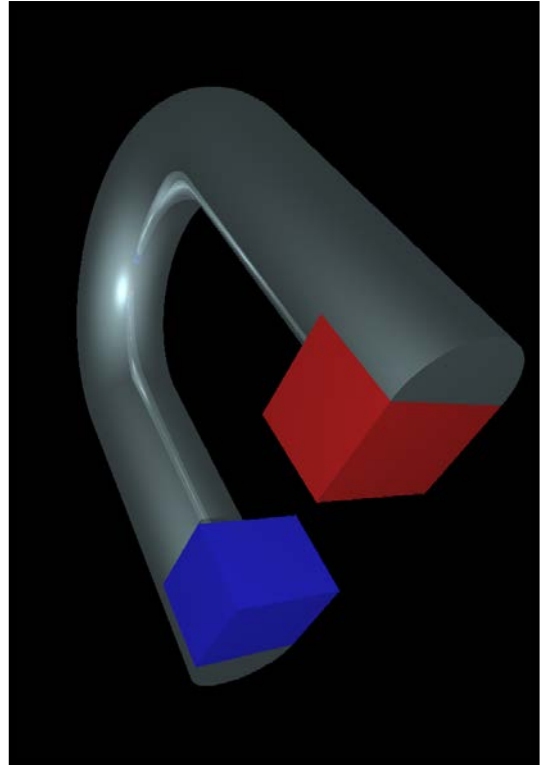
- How many different types of filter could you use? (e.g. cotton wool, piece of muslin, filter paper)
- Which filter works the best (which water is the clearest?)?
- If this was muddy water, would it now be safe to drink (if it is clear?)? Will tiny microscopic bacteria in the water have been removed by the filter, or are they too small?

#### Evaporation

- Can you set up an investigation to find out which of the following liquids are pure and which have material dissolved in them (sugar water, tap water, sea water, puddle water, coloured inks, distilled water, mineral water)?
- Where could you leave liquids (it will need to be a warm place!) to create the best conditions for evaporation without using a hairdryer or candle?

*What other mixtures/solutions do you think you could separate using one of these methods?*

## Separation equipment images



## Guidance for education pack

In this initial section of your education pack, make sure that you include:

1. Clear enquiry questions
2. Clear instructions for the investigation
3. A diagram demonstrating how the investigation is set up
4. Guidance on ensuring the test is 'fair'
5. Possible further investigation suggestions
6. Include some key learning outcomes (see examples below)

Try and design your layout to complement the current Science Kitchen resource (see QR code below) - bear in mind that it needs to be printed off as well as make a great webpage.



[http://www.sciencemuseum.org.uk/~media/Educators/Educators\\_downloads/kitchen\\_science.pdf](http://www.sciencemuseum.org.uk/~media/Educators/Educators_downloads/kitchen_science.pdf)

Sample key learning outcomes:

- *Investigators will carry out fair tests*
- *Investigators will identify solids that dissolve in water to make a solution*
- *Investigators will spot 'soluble' patterns when the temperature of water is varied*

## Guidance for Pinterest boards and QR codes (*pupil focus*)

### How to add to your Pinterest board:

*Your teacher will have created a Pinterest log on (make sure that you are logged in) and board for your gp (or you can create your own board). You will need to 'pin' your webpage containing your investigation to this board. Keep an eye out for other websites or images that you might want to add to your Pinterest board.*

### To save a Pin using the browser button (*if your teacher has installed the Pinterest browser button*)

- Click the browser button (the P) on your browser's toolbar
- Find your favourite image and click Save
- Add or edit the description
- Pick the board you want to save to

### To save a Pin without using the browser button:

- Click + at the top right corner of Pinterest and choose Add from a website
- Type in the website URL
- Click Find Images
- Find your favourite image and click Save
- Add or edit the description
- Pick the board you want to save to

Add, edit or delete, Pinterest

<https://help.pinterest.com/en/articles/add-edit-or-delete-pin#Web>

### QR codes:

Visit this website and add in your Pinterest board weblink for the QR code to link to:

<http://www.mobile-barcodes.com/qr-code-generator/>

Follow the instructions to generate your QR code to add to your education pack (users can then link to your Pinterest page)