

Newsletter

Brought to you by **Dr Chris Hamlett**, Discover Materials National Outreach Officer.

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Welcome to the summer term and to our second newsletter.

British Science Week may have come and gone but to celebrate its theme of *Time* we have made a short video that looks at Materials and Time which will be released on 17th May (with some activities for your pupils to try out during the half-term break).

As the days are getting longer we are gearing up for loads of awesome outreach events including the Big Bang Fair (check out the Events section).

Materials Science in the News

<https://discovermaterials.co.uk/news/>

E-waste 'drawers of doom' growing, say campaigners

This story from the BBC highlights the valuable materials in unused tech that may be gathering dust in your drawers and cupboards at home.

<https://www.bbc.co.uk/news/science-environment-68673420>

Three sixth form students from the In2STEAM programme worked with us to produce a video exploring the materials in a mobile phone. You can check it out here:

<https://www.youtube.com/watch?v=0PgecsHyy7M>

Awareness weeks in the Summer Term

Info from www.awarenessdays.com

National Gardening Week 2024 (29th April – 5th May)

As part of *National Gardening Week* you could investigate how water droplets behave on different leaves. Some leaves, such as pea and nasturtium, repel water in a similar way to a lotus leaf (see the link below for a short video). Do all leaves behave this way?

<https://www.youtube.com/watch?v=uAbHN3rFzbQ>

Sun Awareness Week 2024 (6th – 12th May)

We all know it is a good idea to wear sunscreen to protect us from the sun's UV rays. Mission Starlight is a great investigation from the Royal Society of Chemistry that looks at the UV-absorbing properties of different materials.

<https://edu.rsc.org/resources/mission-starlight/2073.article>

Featured Ambassador

Discover Materials Ambassadors are early career Materials Scientists.

<https://discovermaterials.co.uk/discover-materials-ambassadors/>

Lizzie Mushangwe

PhD student, Oxford University

Lizzie researches materials for nuclear fusion reactors.

Check out her profile below and her video about solar energy...



Check out Lizzie's profile

<https://discovermaterials.co.uk/lizzie-mushangwe/>

Lizzie's video about solar energy

<https://www.youtube.com/watch?v=noaBzA4f9kc&t=6s>

What is it?

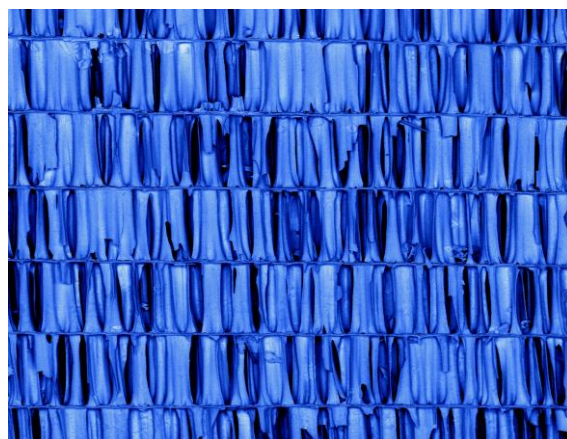


Image by Mark Coleman

For Secondary Schools

This section highlights useful resources and careers information on our website to help guide **11-18 year olds** develop their interests in Materials Science and Engineering and discover pathways to careers in the field.

This month's featured **resource**:

Lithium-ion (Li-ion) batteries

<https://discovermaterials.co.uk/resource/lithium-ion-li-ion-batteries/>

Curriculum Link(s):*

- Chemical changes (**Chemistry, KS4**)
- Chemical and allied industries (**Chemistry, KS4**)
- Redox (**Chemistry, KS5**)

Resource

This resource gives a great overview of Li-ion batteries from how they work and how they are made to how they are recycled.



Careers page

This month's featured **careers** resource:

We ran several **panel sessions** with early career MSE graduates covering topics such as sustainability, recycling, to how they discovered MSE and their career path so far.

They give an insight into some of the wide range of career paths taken by those in MSE. A list of the participants, and their position (at time of recording) can be found via the link below:



<https://discovermaterials.co.uk/resource/careers-in-materials-science-and-engineering/>

For Primary Schools and Families

This section highlights activities and information for primary school teachers and families to help inspire **unders-12s** about what things are made from.

This month's featured **activity**:

Materials Scavenger Hunt

<https://discovermaterials.co.uk/resource/materials-scavenger-hunt/>

Curriculum Link(s):*

Key stage 1

Distinguish between an object and the material from which it is made.



Key Stage 2

Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.

Activity

Pupils investigate the density and magnetic properties of metal and plastic bottle tops and glass marbles.

They then use these to work out how to separate a mixture of all three types of material.

Upcoming Events...

- **Cheltenham Science Festival** (4th and 6th June)
A careers panel session for 14 – 16-year-olds and a workshop for 11–14-year-olds.
- **Big Bang**, NEC Birmingham (19th – 21st June)
Hands on activities for 9–13-year-olds to experience different areas of MSE.
- **Sci Fest, Wolverhampton** (28th and 29th June)
A workshop for school and family groups
- **For more events see the Events visit:**
<https://discovermaterials.co.uk/events/>

What is it?

Answer - A cuttlefish bone as seen under a scanning electron microscope (SEM). Find out more in this video:

<https://youtu.be/aat85E4Aw2g?si=Aho-uSeRzbeB0QWn>