

Newsletter

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

It's summer time and our final newsletter of the academic year.

Welcome to our fifth Discover Materials Newsletter. This newsletter highlights some resources concerning sustainability by linking some of our resources to the upcoming 'Plastic Free Awareness Week' and a nice resource, developed by one of our ambassadors, that can help with in-class discussions surrounding the sustainability of everyday objects and gadgets.

Materials Science in the News

The wonder material which could hold the key to near-limitless energy

Tokamak Energy (a company based in Oxfordshire) is researching whether the superconducting materials, barium copper oxide (REBCO), could hold the key to make nuclear fusion a reality to deliver near limitless, carbon zero energy.

Full story (Sky News):

<https://news.sky.com/story/the-wonder-material-which-could-hold-the-key-to-near-limitless-energy-13290834>

Awareness weeks in the Summer Term

Info from www.awarenessdays.com

Plastic Free July (1st – 31st July)

<https://education.rebootthefuture.org/calendar/plastic-free-july/2025-07-01/>

You could download our **CoCoBioMater Bag** booklet which guides investigation of the circular economy of plastic and has a guide to make your very own bioplastics:

<https://discovermaterials.co.uk/news/cocobiomater-bag/>



There are a few plastic related short videos that we made as part of our Twelve Materials of Christmas 2024 series (such as tortoiseshell plastic).

<https://youtube.com/shorts/-JtqCFOltKs?feature=share>

Discover Materials Ambassadors

Discover Materials Ambassadors are Materials Scientists keen to inspire the next generation

Anna Dickinson-Lomas

PhD student, University of Birmingham

Anna is a second year PhD student and is researching ways to treat magnetics top make them more recyclable.



Check out some of the experiments she does in the lab:

<https://youtube.com/shorts/h3vf-cUjhM0?si=WUqegWcxr1q-2w29>

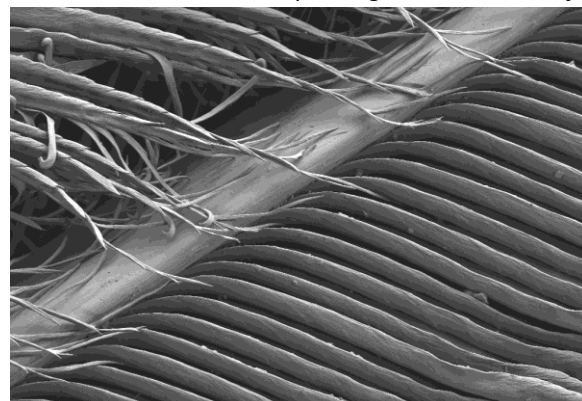
Check out Anna's page about meteorites: <https://discovermaterials.co.uk/resource/whats-in-a-name-meteoroids-meteors-meteorites/>

Check out Anna's profile page to learn why she loves materials science:

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

What is it?

This is an electron microscope image, but what is it of?



60 μm

Find out overleaf...

For Secondary Schools

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

This month's featured **resource: Will it recycle?**

This resource prompts pupils think about the sustainability of everyday objects.

The link below provides a blank template to use, a guide on how to run the activity and even a completed template as an example.



Link to this resource:

<https://discovermaterials.co.uk/resource/will-it-recycle/>

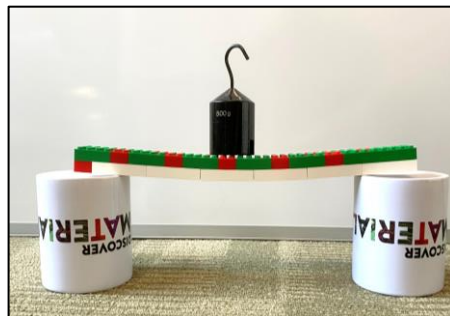
For Primary Schools and Families

This section highlights activities and information for primary school teachers and families to help inspire **0-11 year olds** about what things are made from.

This month's featured activity: **Break a beam**

- Make a beam and test how much weight it can support
- Make it again and see if you can make a stronger beam

This hands-on resource will introduce your pupils to mechanical testing and how to learn from it to design a stronger structure.



Link for this resource:

<https://discovermaterials.co.uk/resource/break-a-beam/>

Careers page

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

Open Days

University open days are a great way for your students to find out more about what university courses offer.



With many universities offering open days in June we have collated links to our partner university's open days – they may be of interest to some of your students:

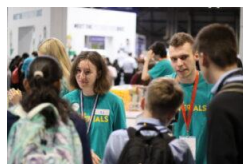
<https://discovermaterials.co.uk/open-days-at-discover-materials-partner-universities/>

Upcoming Events...

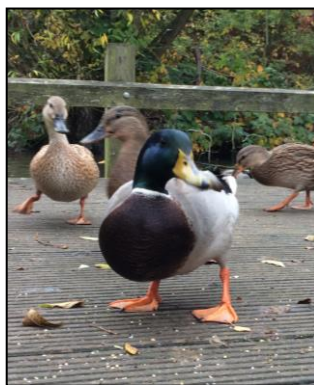
- We will be at **Cheltenham Science Festival** running our Mysterious Materials Workshop for 11 – 14 year olds
- Our stand at the **Big Bang Fair** (NEC, Birmingham) will have a range of hands-on activities for 9 - 13 year olds to explore the world of materials science

For more info on these, and other events, visit our Events page:

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



What is it?



A duck feather

Ducks stay clean and dry by a combination of the morphology (roughness) of their feathers and that they smear an oily substance onto their feather from the preen

gland (uropygial gland) located at the base of their tail.



Learn more about the duck feather, and other amazing surfaces in Nature, in the following video (at about 12:08).

<https://www.youtube.com/watch?v=Dy2kFuDABjk&t=861s>

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