

Newsletter

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

Welcome back to a new school year...

This newsletter highlights recycling and sustainability both with a link to a news story looking at whether aluminium could replace plastic for packaging cosmetics and resources from our website related to Recycling Awareness.

We had a very productive Summer term and were present at lots of outreach events (such as the **Big Bang Fair** <https://youtu.be/8G-0mFITzFQ?si=ZExglHuFbFiYuTRz>), ran teacher CPD sessions and helped deliver the **Magic of Materials Summer School** (a 3-day residential for year 10 pupils). We hosted sixth form students through the **In2STEM** scheme who made a video about 3D printing (<https://youtu.be/Zwgu6LHFWfg?si=lQ1dOwgcZjbc17ue>).

Materials Science in the News

Could aluminium replace plastic for packaging more than just fizzy drinks?

<https://www.bbc.co.uk/news/articles/ce3nw5vznzgp0>

The following article on the BBC website looks at whether aluminium could replace packaging for product such as cosmetics.

We made a related video with sixth form students about the lifecycle of aluminium:
<https://youtu.be/YS2gM6Pii54?si=wUWK4gZAuc5vgF-7>

Awareness weeks in the Autumn Term (from www.awarenessdays.com)

1) Recycle Week – September 22nd – 28th

For Recycle Week why not investigate how different materials properties can be used to separate commonly recycled materials (**Separating Materials**) or which investigate which materials are recyclable (**Recycling Scavenger Hunt**).

Your pupils could also use our **'Will it Recycle?'** activity to investigate the recyclability of different products.

- **Separating Materials:**
<https://discovermaterials.co.uk/resource/separating-materials/>
- **Recycling Scavenger Hunt:**
<https://discovermaterials.co.uk/resource/recycling-scavenger-hunt/>
- **'Will it Recycle?':**
<https://discovermaterials.co.uk/resource/will-it-recycle/>

2) World Animal Day – October 4th

Check out our video we made with ZooLab (<https://www.zoolabuk.com/>) about how animals inspire some amazing materials:

<https://youtu.be/zCXyhVxZrsc?si=mKOembZnw0oGy3lR>

Discover Materials Ambassadors

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

This term's featured ambassador is...

Phoebe May,

PhD student at Swansea University.

Phoebe studies metal additive manufacturing (3D printing of metals) and finds out how the structure of 3D printed metals relates to their properties.



Check out how Phoebe got into materials science and what she does:

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

Check out an article that Phoebe wrote about nickel - <https://discovermaterials.co.uk/resource/nickel-from-nature-to-necessity-in-superalloys/>

What is it?

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



Image courtesy of Pete Davis (AIM Core Facility at Swansea University)

Find out overleaf...

Resources for Schools

This month's featured resource: IOM3 Discovery Box

These boxes are stocked full of amazing materials and there are different activities for both **Primary** schools and **Secondary** schools and the Institute of materials, Minerals and Mining (IOM3) have kindly supplied each of our partner universities with a box that one of our ambassadors can bring to your school **for free**.

The box contains a range of samples to run a **Materials Treasure Hunt** in which different objects are hidden around the classroom and the children work in groups to find a set of objects made from a given family of materials, such as glass.



The box also contains an **amazing handling collection** which includes ores (such as bauxite) all the way through to amazing finished produces such as hip replacement joints and artificial arteries.

To book a session (and an ambassador) for free please contact us via our website.

To find out more about how IOM3 support teachers please follow this link: <https://www.iom3.org/careers-learning/schools-outreach.html>



Link to this resource:

<https://discovermaterials.co.uk/resource/iom3-discovery-box/>

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 the **ASE Teacher Conference at University of Nottingham on January 8th – 10th**.
- We will also be at Swansea Science Festival (25th and 26th October) and at Otley Science Festival nr Leeds (15th November).
- British Science Week 6th – 15th March 2026
The theme will be 'Curiosity... what's your question?' – Please get in touch if you want ideas (or even see if one of our ambassadors can visit your school **for free**)

For more info on these, and other events, visit our Events page: <https://discovermaterials.co.uk/events/>

What is it?

It is a pin head on which the word 'Discover Materials' was written using a technique called focused ion beam (FIB) milling.

To zoom in from the pin head to the writing watch the video below:

<https://www.youtube.com/watch?v=O06YaX-YDsI&list=Plyl3ubsSP6pXOj5upPIQ40XUvecW3Z&index=2>



Learn more about the AIM Centre here:

<https://www.swansea.ac.uk/science-and-engineering/research/materials-manufacturing/aim/>

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