

# Newsletter

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

## Happy New Year from everyone at Discover Materials

We hope that you had a nice, well-deserved break and are looking forward to the Spring Term.

During the break we released a series of short videos entitled 'The 12 Materials of Christmas' – the playlist can be found on our YouTube channel (see link below).

In this term's newsletter we flag up some of our activities that can be linked to two upcoming awareness days and a bit of info about some upcoming events and flag up one of the great free resources we can offer.

**Link to 12 Materials of Christmas videos:** <https://www.youtube.com/playlist?list=PLyI3ubsSP6pW56kl9x0YtQ5EOMLXPuv2U>

## Awareness weeks in the Autumn Term

### 1) International Day of Women & Girls in Science, 11<sup>th</sup> February

A great chance to celebrate women and girls in STEM.

Check out the profiles (and stories) of some of our fantastic female ambassadors on our Discover Materials Ambassadors Profile page.

We feature inspirational female Materials Science and Engineering (MSE) graduates

in posters we have had designed and in two open access journal articles about careers in MSE published in the 'School Science Review'.

- **Discover Materials Ambassador Profiles**  
<https://discovermaterials.co.uk/discover-materials-ambassadors/>
- **Careers in MSE Posters**  
<https://discovermaterials.co.uk/resource/careers-in-materials-science-and-engineering-posters/>
- **Articles in School Science Review**  
<https://discovermaterials.co.uk/news/news-open-access-article-in-school-science-review/>

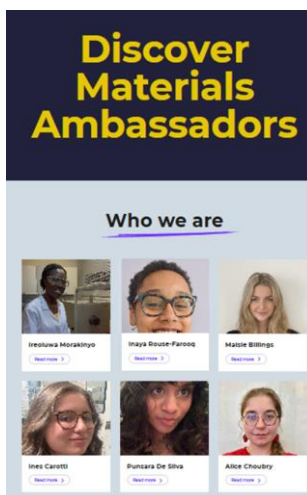
### 2) British Science Week 6<sup>th</sup> – 15<sup>th</sup> March

<https://www.britishecienceweek.org>

This year's theme is 'Curiosity – What's your question?' so it could be a great opportunity for your pupils to ask questions about what things are made of and how we can manage materials (sustainability).

Here are a few resources we have that may be of use:

- **Materials Scavenger Hunt** (Primary school)  
<https://discovermaterials.co.uk/resource/materials-scavenger-hunt/>
- **Will it recycle?** (Primary and Secondary school)  
<https://discovermaterials.co.uk/resource/will-it-recycle/>
- **IOM3 Discovery Box** (Primary and Secondary school)  
<https://discovermaterials.co.uk/resource/iom3-discovery-box/>



## Materials Science in the News

### CZT- A "revolution" in medical imaging

Cadmium zinc telluride (CZT) is a semiconductor used in detectors in medical scanners to produce 3D images of a patient's lungs by detecting photons and gamma rays with incredible precision.

Find out more: <https://www.bbc.co.uk/news/articles/c24l223d9n7o>

## Discover Materials Ambassadors

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

*This term's featured ambassador is...*

**Durga Tilak**, PhD student at University of Sheffield.

Durga uses simulations to study new material methods to reduce eddy current losses in permanent magnets used in the motors of electric vehicles (EVs).

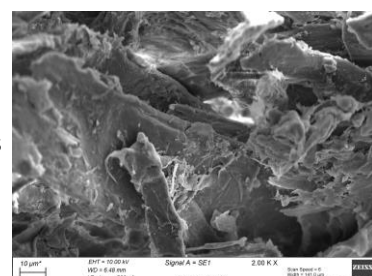


- Check out how Durga got into materials science and what she does:  
<https://discovermaterials.co.uk/discover-materials-ambassadors/durga-tilak/>
- Check out the video that Durga made about materials that convert motion to electricity for our **12 Materials of Christmas** video series:  
<https://youtube.com/shorts/wE5e2ViYZ2Y?feature=share>

## What is it?

Here is an image taken using an electron microscope - but what is it of?

Thanks to Dominika Gastol and Tom Collins (University of Birmingham) for the image.



# Resources for Schools

## This issue's featured resource: IOM3 Discovery Box

This was last issue's featured resource, but it fits so well with this year's British Science Week's theme we thought we would feature it again 😊

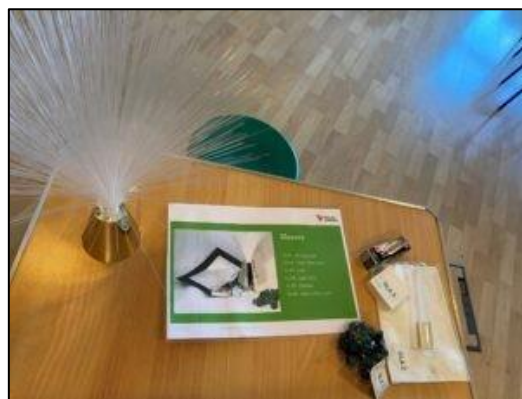
These boxes are stocked full of amazing materials with different activities for both **Primary** schools and **Secondary** schools and the Institute of materials, Minerals and Mining (IOM3) have kindly supplied each of our partner universities with a box that one of our ambassadors can bring to your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



Link to this resource:

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



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, artificial arteries, silicon wafers and smart materials.

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>



## Careers page

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

### A to Z of Materials

The A to Z of Materials are a collection of short articles written by our ambassadors about a range of materials, applications and ways of studying materials. The landing page for the A to Z of Materials can be found here:

<https://discovermaterials.co.uk/a-to-z-of-materials-science/>

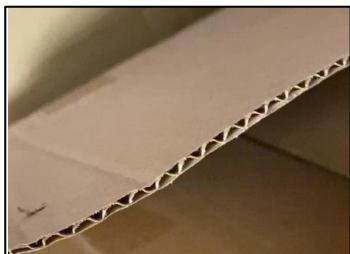


It is in its early days and we are still adding to the list of articles so if there is any that you (or your pupils) would like written please let us know via the **Contact Us** form: <https://discovermaterials.co.uk/contact/>

## What is it?

### Corrugated cardboard

Corrugated cardboard is made from pulped wood and was the subject of our first video of the #12MaterialsofChristmas.



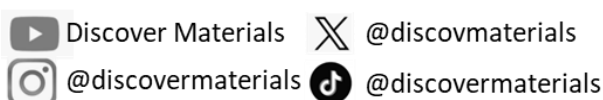
Check out the video via the following link: <https://youtube.com/shorts/71O1CIU0Ulg?feature=share>

## Upcoming Events...

- **ASE Conference** at Uni of Nottingham on 8<sup>th</sup> – 10<sup>th</sup> Jan
- **Worcester STEAMFest** at The Hive, Saturday 24<sup>th</sup> January
- **Festival of Tomorrow** in Swindon, 20<sup>th</sup> and 21<sup>st</sup> February
- **West Midlands Manufacturing Festival** at National Metalforming Centre (West Bromwich), 26<sup>th</sup> February
- Over the upcoming term applications will open for year 10 pupils to attend the free, 3-day **Magic of Materials Summer School** (6<sup>th</sup> - 8<sup>th</sup> July). Please let us know if you want any further information. <https://discovermaterials.co.uk/news/magic-of-materials-summer-school/>

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

## DISCOVER MATERIALS



[www.discovermaterials.co.uk](http://www.discovermaterials.co.uk)