

How do these magnetic tiles relate to crystals??

Turn over to discover more…

These are magnetic tiles that look like the inside of a crystal!

## Take some pieces and see if you can make your own crystal-like structure!

Remember, a crystal has a regular, repeating structure.

## Try to replicate some of our examples.

These 2D and 3D structures show the ordered nature of crystals and the well-defined connections they can make with other pieces.

Instead of bonds between molecules, these tiles connect using small magnets.

## What happens if you use the same pieces but connect them in different ways?

The same pieces connected in different ways are known as ‘polymorphs’, which are really important to understand, for example in crystals of drug molecules.

# Did you know?

There are crystals all around us, from metals and rocks to plastics and plants, even your teeth and bones and parts of insects are made from crystals!

The pieces of this crystal are about 109 × (a thousand million times) larger than the atoms and molecules that make up crystals around us, such as table salt, sugar and quartz.

A qr code with a few black squares

Description automatically generated

Research at the University of Birmingham is investigating the crystal growth of materials known as ‘metal-organic frameworks’, which are a bit like the Giant Crystal. Scan the QR code to find out more!

Metal-organic frameworks are crystals that contain lots of empty space, in which gases or other small molecules can be trapped, stored and released.

## Can you make a crystal from magnetic tiles that has spaces inside it?

This activity has been supported by a CCDC Engagement Grant.

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