A purple crystal on a table

Description automatically generatedA rock with crystals on it

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What are these??

Turn this card over to discover more…

Warning – Objects are heavy and sharp

These are Quartz Crystals!

## Take the magnifying glass to look at the clear and colourful shards!

Remember, a crystal has a regular, repeating structure.

## What do you think might make these crystals have the purple and milky-white colours? What other colours have you seen crystals have?

These quartz crystals have impurities in them. Different impure molecules make the quartz have different colours!

Crystal formation can take anywhere between seconds to millennia in nature.

## What makes some crystals have brighter/deeper colours than others?

The more impurities that the crystal has of a specific molecule (iron, for example), the deeper the colour of the whole crystal.

## How do these big crystals grow?

Quartz is formed when magna cools in the Earth’s crust where silicon and oxygen (silicon dioxide) becomes really hot and then takes a crystalline structure as it cools.

The slower the silicon dioxide cools, the bigger the crystals become!

## Can I make my own crystals like these?

Yes! There are lots of different ways to make similar, smaller crystals at home. Take a look at our crystallisation of a magic crystal tree that is currently growing, or take part in The Nucleation Game to race against the clock!

# 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!

A qr code with a few black squares

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Research at the University of Birmingham is investigating the crystal growth of materials known as ‘metal-organic frameworks’, which are similar to the quartz we have. 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.

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