

Kernowite

A new mineral called Kernowite was discovered at the end of 2020 by geologists at the Natural History Museum in London. About 100 new minerals are discovered every year but it's fairly rare to find one in the UK. This one was found from a sample at the Natural History Museum in London which had been in the museum for more than 100 years!



*Kernowite
Image credit: Trustees of the Natural History
Museum, London*

What is a mineral?

A mineral is a solid substance which has a fixed chemical makeup and internal structure. These cannot be made by humans or other animals but must occur naturally. Rocks are made up of lots of different minerals joined together.

What is a crystal?

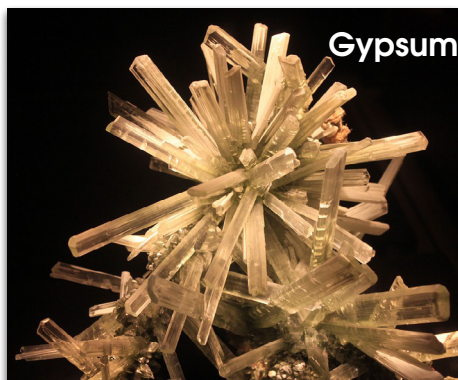
Crystals form when a mineral grows so that all the atoms or molecules (the very small particles which make up everything) inside the mineral all line up next to each other in a repeating pattern. This often means that the crystals need to grow very slowly. Here are a few examples!



Amethyst



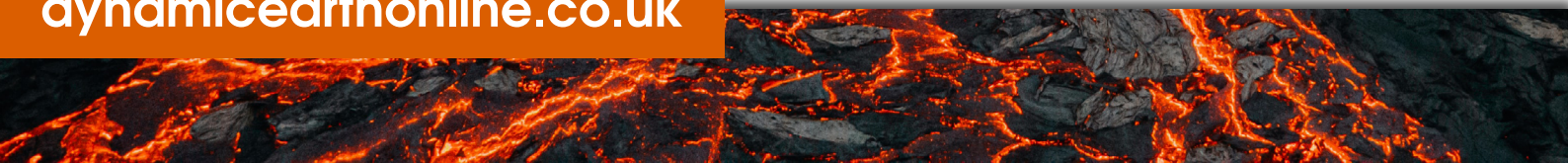
Pyrite
(also known as Fool's Gold)



Gypsum



Quartz



Make your own edible crystals!

We eat lots of minerals in our food- salt being the most common one. Most of the salt we eat in the UK is rock salt this means it is a mineral and dug up in mines!

Salt isn't very tasty on its own so we are going to make our crystals out of sugar instead, but



Halite



A salt mine

Image credit: Compass Minerals

they will grow in a very similar way and you will see some brilliant crystal structures forming before you get to eat them!

What you need:

- A wooden skewer (or wooden chopstick)
- A clothes peg
- 1 cup of water
- 2 cups of sugar
- Food colouring (optional)
- Food flavouring/ extract (optional)
- A tall narrow jar or glass (must be glass not plastic)



What to do:

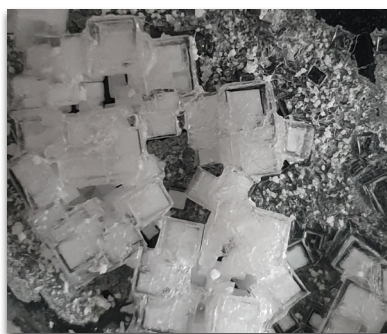
1. Wet the wooden skewer and roll in sugar until it is fully coated, then set aside to dry.
2. With the help of an adult put the water and sugar in a pan and boil.
3. As the mixture boils stir with a wooden spoon until the sugar has all dissolved, then switch off the heat.
4. Add the food colouring and flavouring if using and mix well.



5. Let the mixture cool **completely** (this is very important! if you do the next step when it's still warm the crystals won't grow).
6. Clip the wooden skewer to the peg and use it to hang it down into the glass jar so that it is about 2cm from the bottom (check that it fits and then remove from your jar again).



7. Pour the sugar syrup carefully into the jar up to about 3cm from the top of the jar.
8. Put the skewer back in and put somewhere it won't be disturbed.
9. The crystals will take 3-7 days to grow so you will have to be very patient! This picture is after only three days so if you wait longer you will get more crystals.
10. Your crystals are made of sugar so you can eat them!



What else makes crystals?

You can also make crystals out of salt. This is a picture of salt crystals grown by mixing salt and water and then leaving the water in a shallow container for 3 to 4 weeks until it all evaporates. Salt has a fantastic cube structure which you can see in the crystals but it's not so delicious to eat!

