A group of colorful plastic objects

Description automatically generated

A group of green and yellow plastic building blocks

Description automatically generated

A red and green plastic structure

Description automatically generated

What are these for???

Warning!!!- Pinch hazard

Turn over to discover more…

Free- form Assembly!!!

## How beautiful, or wacky, or colourful can you make your structure?

Ditch the rules of regular repeating structures

and embrace your creativity with free-form assembly!

Take some pieces and assemble them.

*In this game, there are no rules on how to connect the pieces.*

*Twist, turn, stack, or layer them in any fashion you see fit*

Innovate and Express!

*Challenge yourself to think outside the box.*

*Use pieces of different colours, sizes, and shapes*

*to see what new forms you can invent.*

Can you describe your structure?

*What inspired its design?*

*How do the different pieces contribute to the overall design?*

How does the free-form assembly compare to the giant crystalline structures?

*Some chemicals just don’t form regular repeating crystalline structures*

*when they assemble- it’s just not in their nature!*

*Examples include some plastic and glass.*

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 the toy Zoobs 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 assembly of materials known as ‘metal-organic frameworks’, which are a bit like the Zoob pieces. Scan the QR code to find out more!

Although most metal-organic frameworks are crystalline, some have disordered regions and some are completely amorphous.

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