

Whizz Online Maths Extravaganza Puzzle Sheet



We hope you had a blast attending the maths extravaganza.

The fun isn't over just yet, though!

Here are some questions to ponder, based on the activities we did in the session.

Investigating different routes

How many ways can you find to get from the START to the TOP?

You can only go UP.

Can you say the directions for moving along the route? Use 'to the left', 'to the right' and 'forward' or 'straight ahead'.

Try adding more leaves to the grid and then find the different routes.

You might like to try these activities on position and movement:

Turning man

Scooters, bikes and trikes

Walking round a triangle



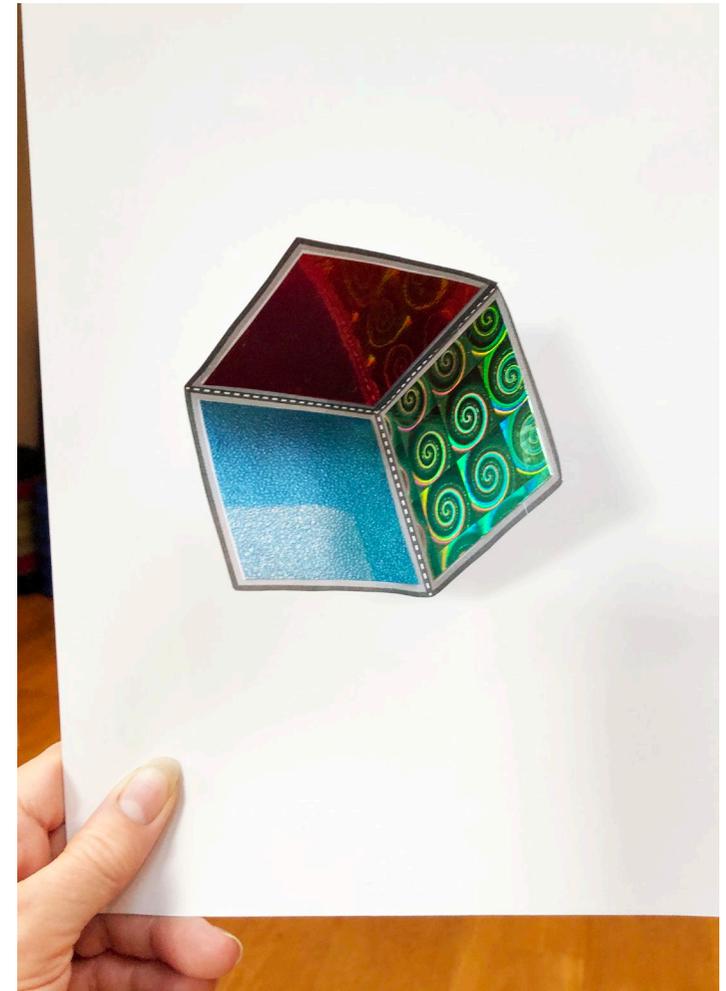
The magic floating cube!

It's an optical illusion! Look at the model from above, close one eye and move your head.

You will see a floating cube.

Here's the link to the template to make one of your own. Cut, fold and assemble as shown. Get ready to impress your friends and family!

<https://mathsticks.com/my/2014/09/floating-cube-illusion/>



3D Bubble Shapes Activity

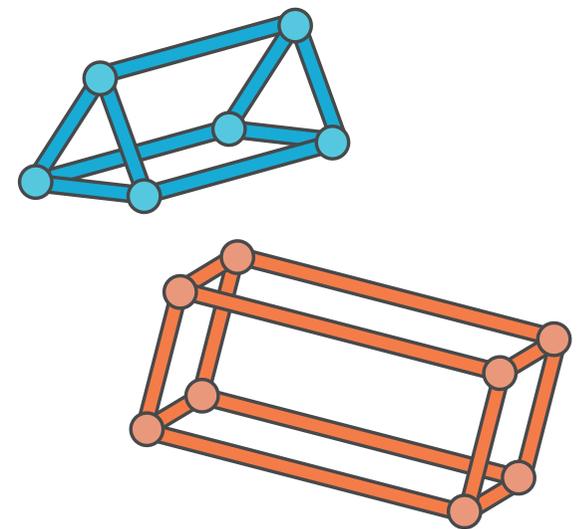
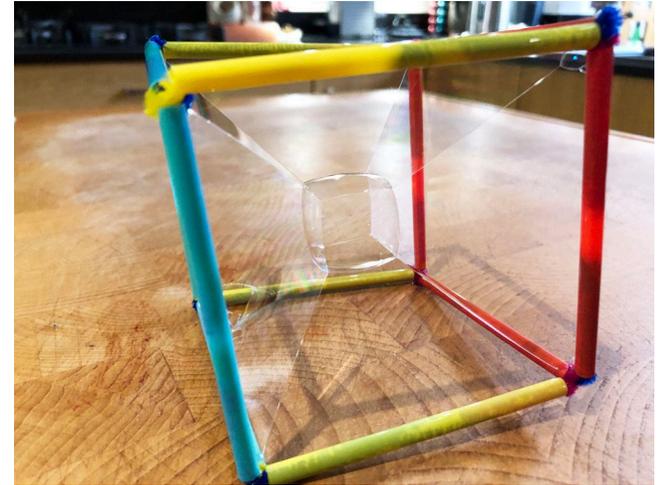
Bubbles, bubble blowing and 3D bubble structures are all an incredible way to explore maths and science (STEM) any day of the year.

The 3D skeleton shapes are made from straws and bendy wire (you can use pipe cleaners or just tape) and then dipped in dilute washing up liquid solution. Then watch the magic happen!

To make a skeleton 3D shape - think carefully about the length of the straws e.g for a cube they all must be the same length (see picture opposite). The bendy wire and/or tape joins the straws together.

Pour enough water in the bucket to cover the size of the shapes you have made. Pour approximately 100ml of washing up liquid into the water.

Practise dipping each shape into the solution then watch the thin soap film that forms inside the shape as you take it out.



3D Bubble Shapes Activity

What can you see?

How many edges does the soap film have?

What do you think will happen when you dip it again halfway?

What shape is the bubble?

What are the differences between the bubble and the frame?

What other shapes could you try out?

How does it work?

The soap film clings to the sides of the frame causing bubbles to appear. The soap film uses the shortest distance possible when connecting all the sides.

