

Geometric Straw Ornaments

Maths involved: 3D shapes

In this activity, we'll show you how to make some 3D geometric ornaments out of paper straws and pipe cleaners. The shape we are making is a triangle based pyramid. There are some suggestions at the end of the tutorial on how to take this activity further.



For each ornament, you will need:

- 2 paper straws
- 2 craft pipe cleaners, 30cm long
- A pair of scissors
- A ruler (optional)

Step 1: Cut your straws in to thirds, so that you end up with 6 pieces of straw that are all the same length (the length of our straws was not easily divisible by three, so we measured and cut them in to 6cm long pieces with a bit of each straw left over).

Step 2: Cut your pipe cleaners in half, so that you have a total of 4 pieces, 15cm long each.



Step 3: Bend each piece of pipe cleaner in to 2.5cm sections, to create a zig-zag pattern.

Step 4: Squeeze the zig-zags together to create three 'arms' as shown in the photo.



Step 5: Slip the paper straw pieces over the arms of the pipe cleaners. Start by connecting three straw pieces with three pipe cleaner pieces to create a triangle.



Step 6: Angle the pipe cleaner arms that are still sticking out upwards, and slip the remaining three straw pieces on to them.

Step 7: Use the final pipe cleaner piece to connect the three straw pieces you just added at their open ends (this last step can be a bit fiddly).



Ta da! You have created a triangle based pyramid.

Step 8: Loop a piece of string around one corner of the pyramid and tie a knot in the ends, so that you can hang up your decoration.



Taking it further:

- Try making a cube instead of a pyramid. How many pieces of pipe cleaners and pieces of straw will you need?
- Use different colours of straws and try and make it so that no two straw pieces of the same colour are touching. How many different colours would you need for the pyramid? How many for the cube?

