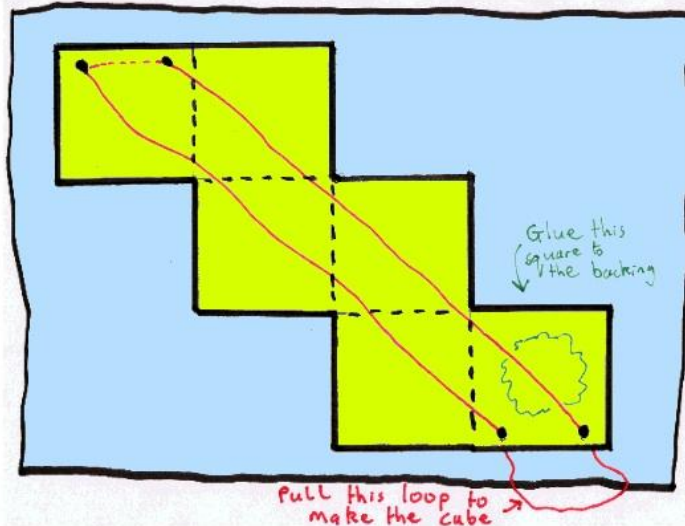


How does the self-assembling cube work?

Adapted from: <http://www.murderousmaths.co.uk/books/BKMM7xcu.htm>

Investigation Brief:

The following plan provides you with the instructions for creating a self-assembling cube.



1. Find 2 different coloured pieces of card.
2. Cut out a net for a cube, as shown by the yellow shape.
3. Fold along the dotted lines and repeat the folding back and forth until it is flexible.
4. Make 4 small holes as shown.
5. Thread a loop of cotton or fine string through the holes as shown.
6. Glue the bottom right square to the backing card.
7. Gently pull the string.

Follow the instructions to create the model. Experiment with assembling it and record your observations about how it works.

Think about the net for an octahedron. Create a model for a self-assembling octahedron. Prepare the assembly plan so others can make one.

What practical applications could there be for self-assembling 3D shapes?

Resources:

- coloured card
- scissors
- glue
- cotton or string.

Prompts and Suggestions

If your cube does not self-assemble, use lighter card or fold the dotted line bends more so that they are very flexible.

How important is the positioning of the string?

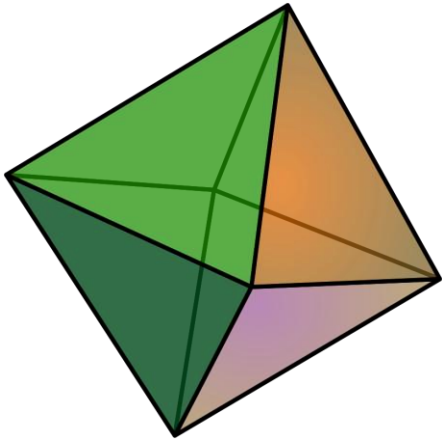
Are there other ways to position the string so that the cube could self-assemble?

Are there other nets for a cube that would work?

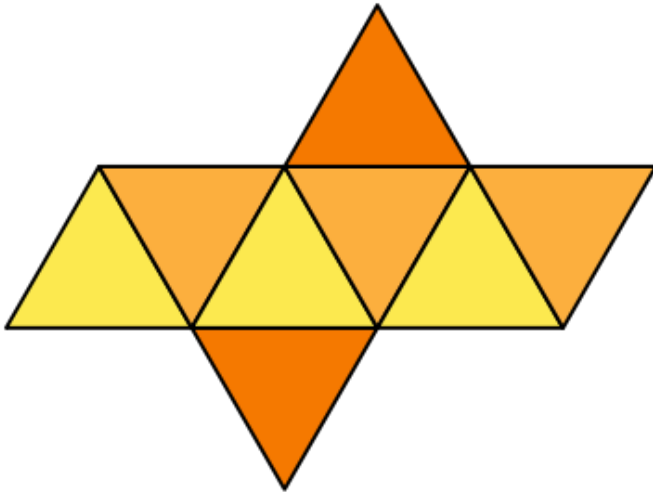
Experiment with nets for other shapes.

Images

Octahedron:



Net for octahedron:



Nets for cubes:

