

Cut and paste

Children use Escher's method of creating tessellations from rectangles and regular triangles or hexagons and explore the patterns created.

Skills practised:

- Identifying 2-D shapes and their properties
- Creating tessellations

Conjecture: *We can use some 2-D shapes to create tessellated patterns.*

What to do:

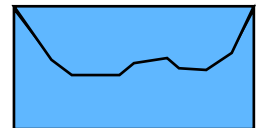
Children work individually or in pairs.

You will need lots of oblongs, squares, equilateral triangles and regular hexagons cut out of thin card, also paper, pencils, scissors and glue.

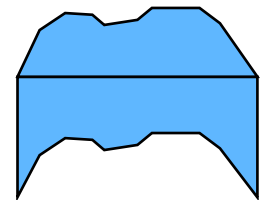
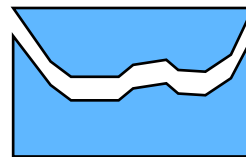
1. Start with a rectangle cut carefully out of thin card.



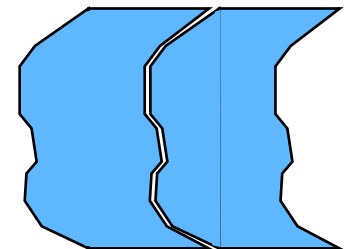
2. Draw a wavy line along one side. It must go corner to corner.



3. Cut carefully along your wavy line.
4. Stick both pieces of your rectangle onto a bigger piece of paper so that the piece you cut out is stuck along the bottom of the rectangle to make a new shape.



5. Cut out your new shape.
6. Lay this shape on a new page and draw round it.
7. Place your shape next to the drawing and draw round it again to create a pattern of shapes next to each other.



Compare patterns. Discuss what you notice about your pattern compared to someone else's.

How would you describe your pattern? How would you describe theirs?

8. Repeat this process but start with a different shape, e.g. a regular triangle, hexagon or a square.

Discuss what you notice. How can you describe your tessellated patterns?

Aims:

- To use regular shapes to create tessellating patterns
- To describe these tessellations using the language of 2-D shape and symmetry

Minimum number of calculations expected

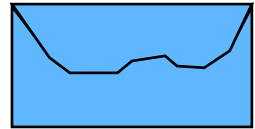
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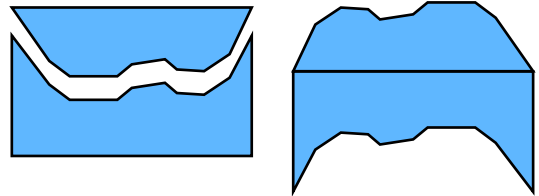
1. Start with a rectangle cut carefully out of thin card.



2. Draw a wavy line along one side. It must go corner to corner.



3. Cut carefully along your wavy line.

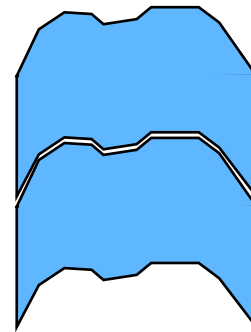


4. Stick both pieces of your rectangle onto a new bigger piece of paper so that the piece you cut out is stuck along the bottom of the rectangle to make a new shape.

5. Cut out your new shape.

6. Lay this shape on a new page and draw round it.

7. Place your shape next to the drawing and draw round it again to create a pattern of shapes next to each other.



Compare patterns. Discuss what you notice about your pattern compared to someone else's. How would you describe your pattern? How would you describe theirs?

8. Have another go but start with a different shape, perhaps a regular triangle, hexagon or a square.

Discuss what you notice. How can you describe your tessellated patterns?