

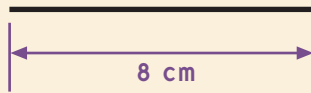
# Triangle Tricks

- You need**  a ruler  cardboard or paper  tape  
 felt pens or coloured pencils  a classmate

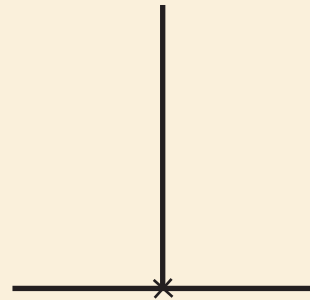
## Activity

Here is a way to use rotational symmetry to make a shape that will tessellate:

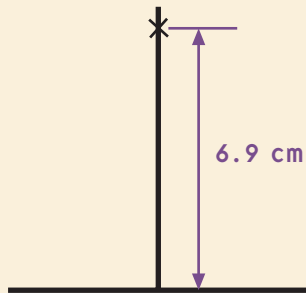
1. Draw an equilateral triangle like this:



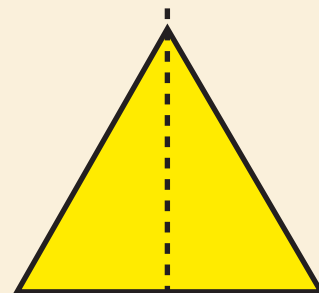
i. Draw a baseline of 8 centimetres. This will be one side of the triangle



ii. From the midpoint, draw a line straight up at right angles.

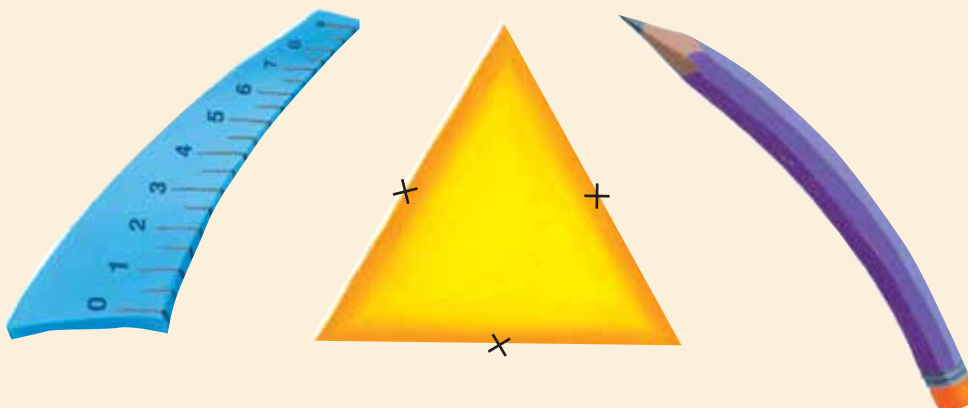


iii. Mark a point 6.9 centimetres up the line.



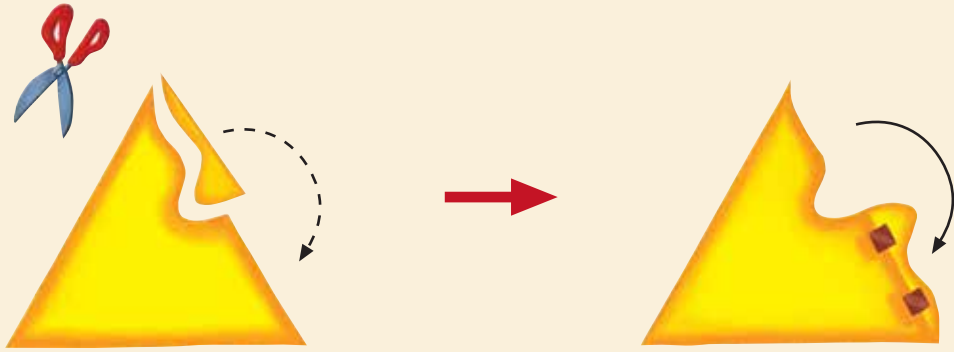
iv. Complete your triangle by drawing the other two sides.

2. Measure the midpoint of each side and mark it clearly.

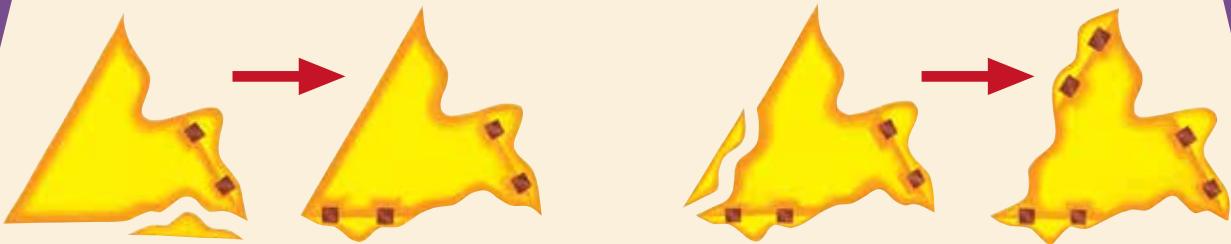


3. Cut out a chunk from one half-side. Rotate it a half-turn clockwise and ...

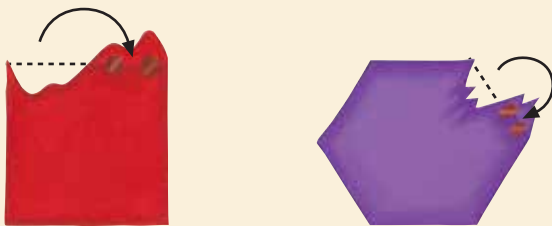
... tape it onto the neighbouring half-side.



4. Do the same thing with the other two sides, like this:



1.
  - a. Follow the instructions above to make a shape that will tessellate by itself (that is, without any other shapes).
  - b. Experiment with your tessellation shape until you can make a tile pattern with it that covers the whole page. You may decide to decorate each shape so that it looks like an animal or object.
2.
  - a. Try changing a square or regular hexagon in the same way.



2.
  - b. The new shape will tessellate by itself. Discuss with a classmate why this happens.