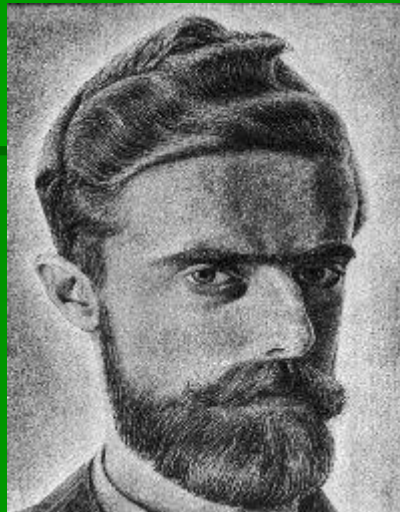


Escher and tessellations

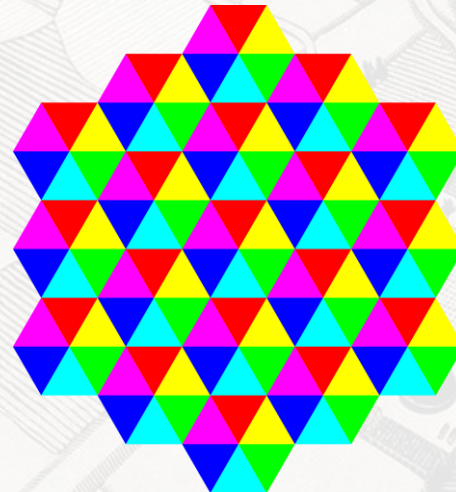
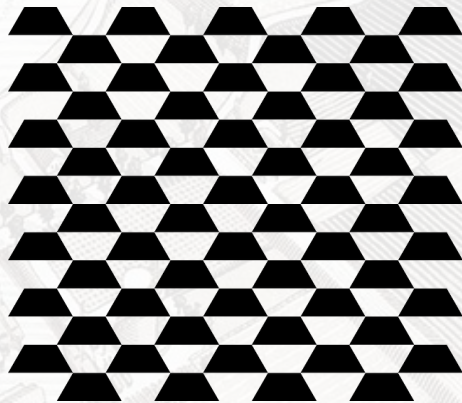
M.C. Escher was born on June 17, 1898, in the Netherlands. He was known for being a graphic artist. His art was mathematically inspired



- Escher created many interesting works of art. He used mathematics in his pieces of art although he was not well-trained in the subject. He used black and white to create dimension. He used cubes, cones, spheres and spirals. Escher's art work was especially liked by mathematicians and scientists.

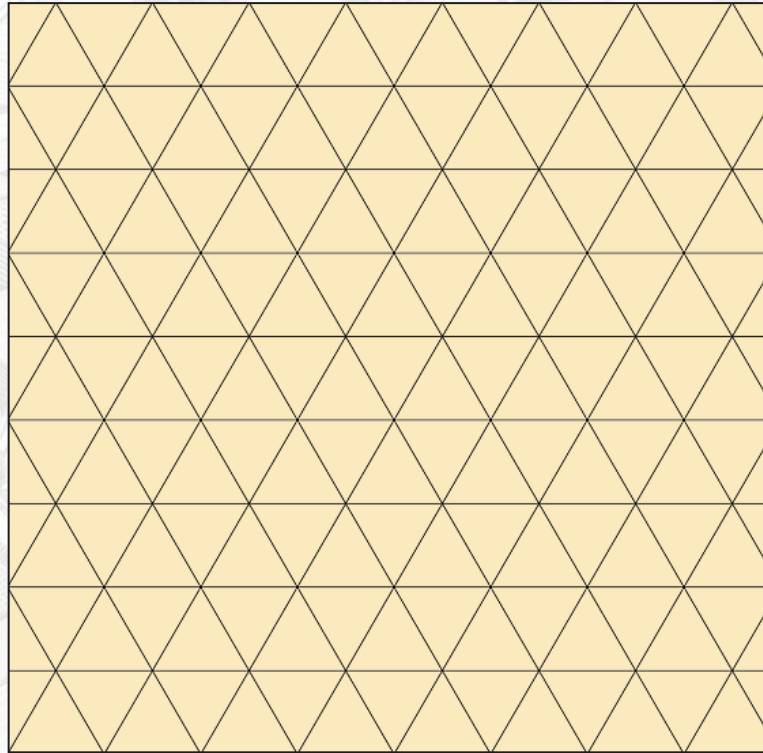
Tessellation

What do you notice?



Tessellation

Tessellations are created when shapes are repeated again and again with no gaps or overlapping.



Regular polygons will tessellate.

Is that ALWAYS, SOMETIMES or NEVER true?

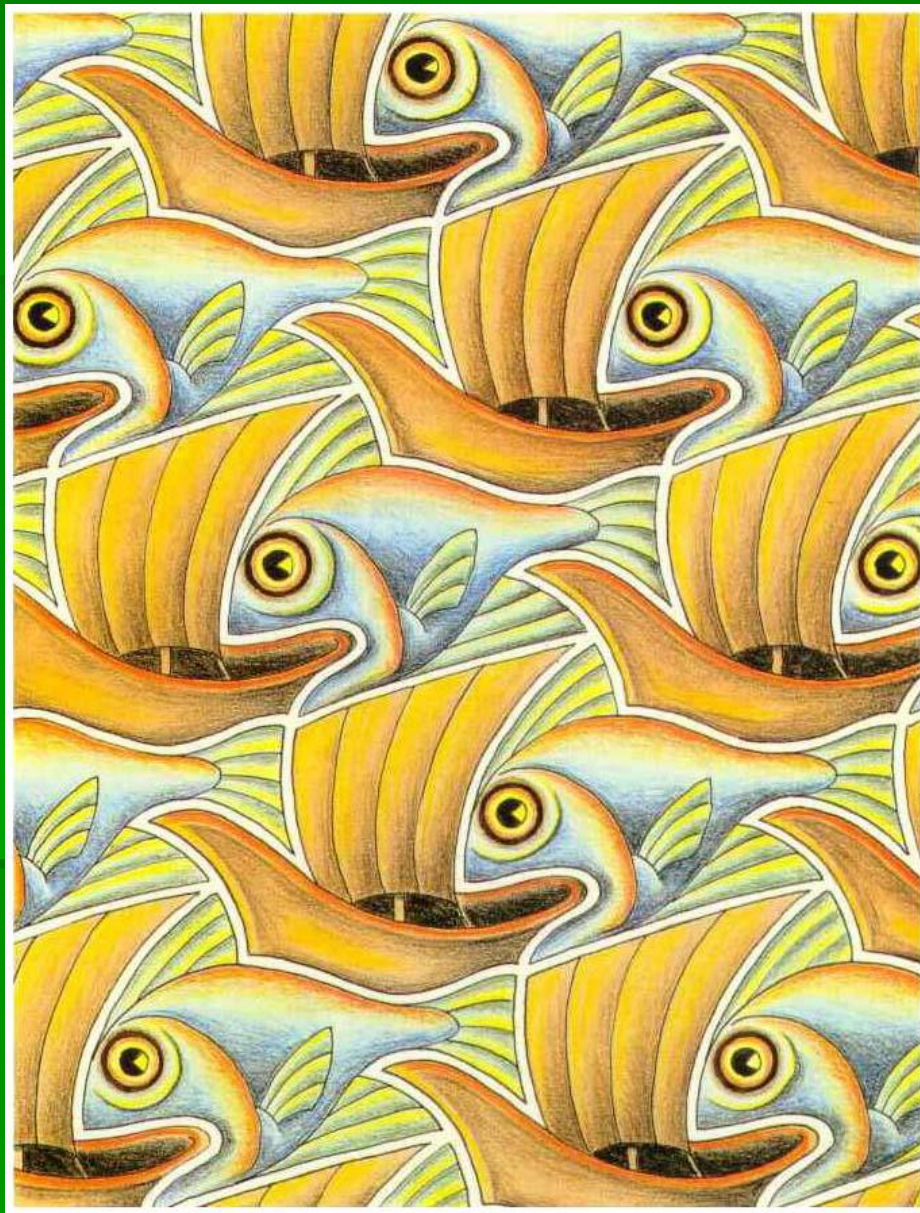
<http://nrich.maths.org/6069>

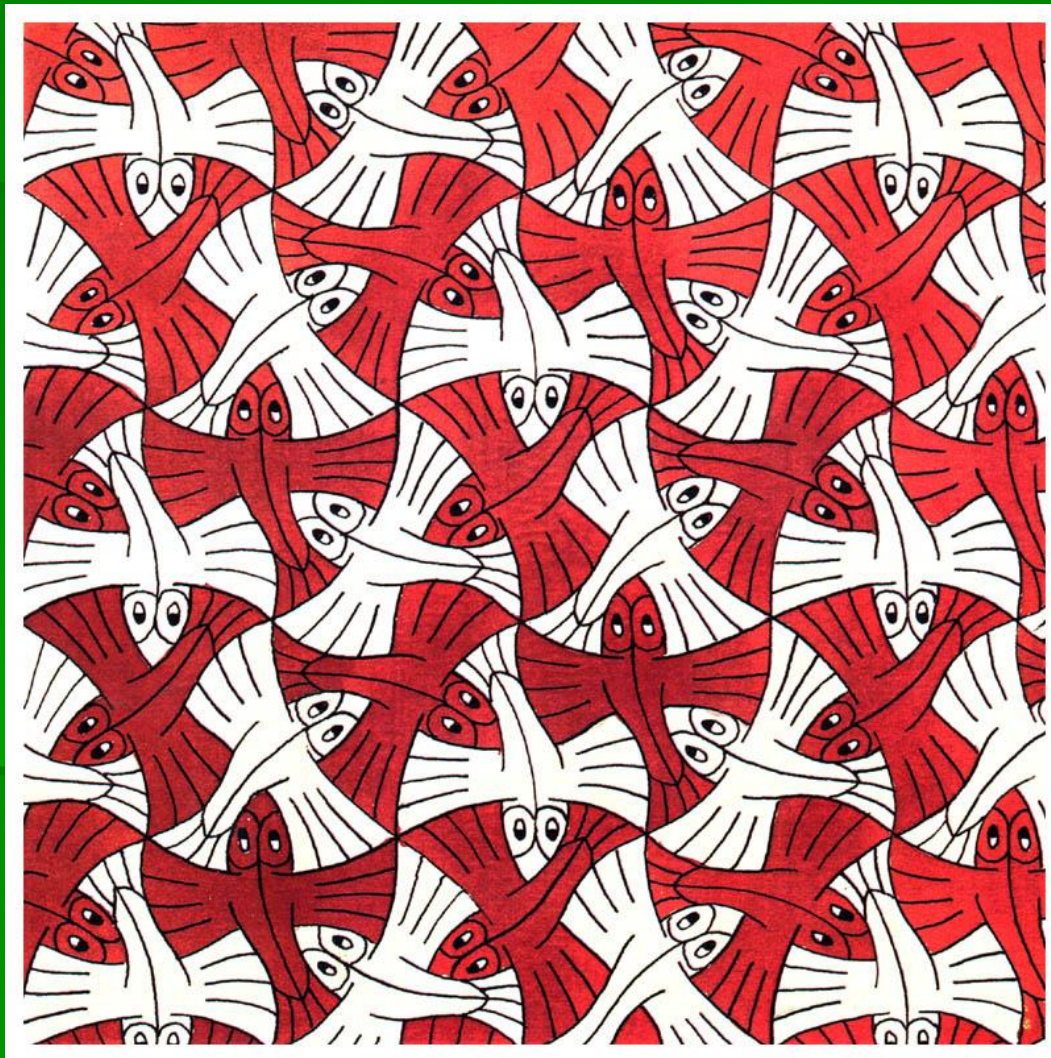
How can you find out?

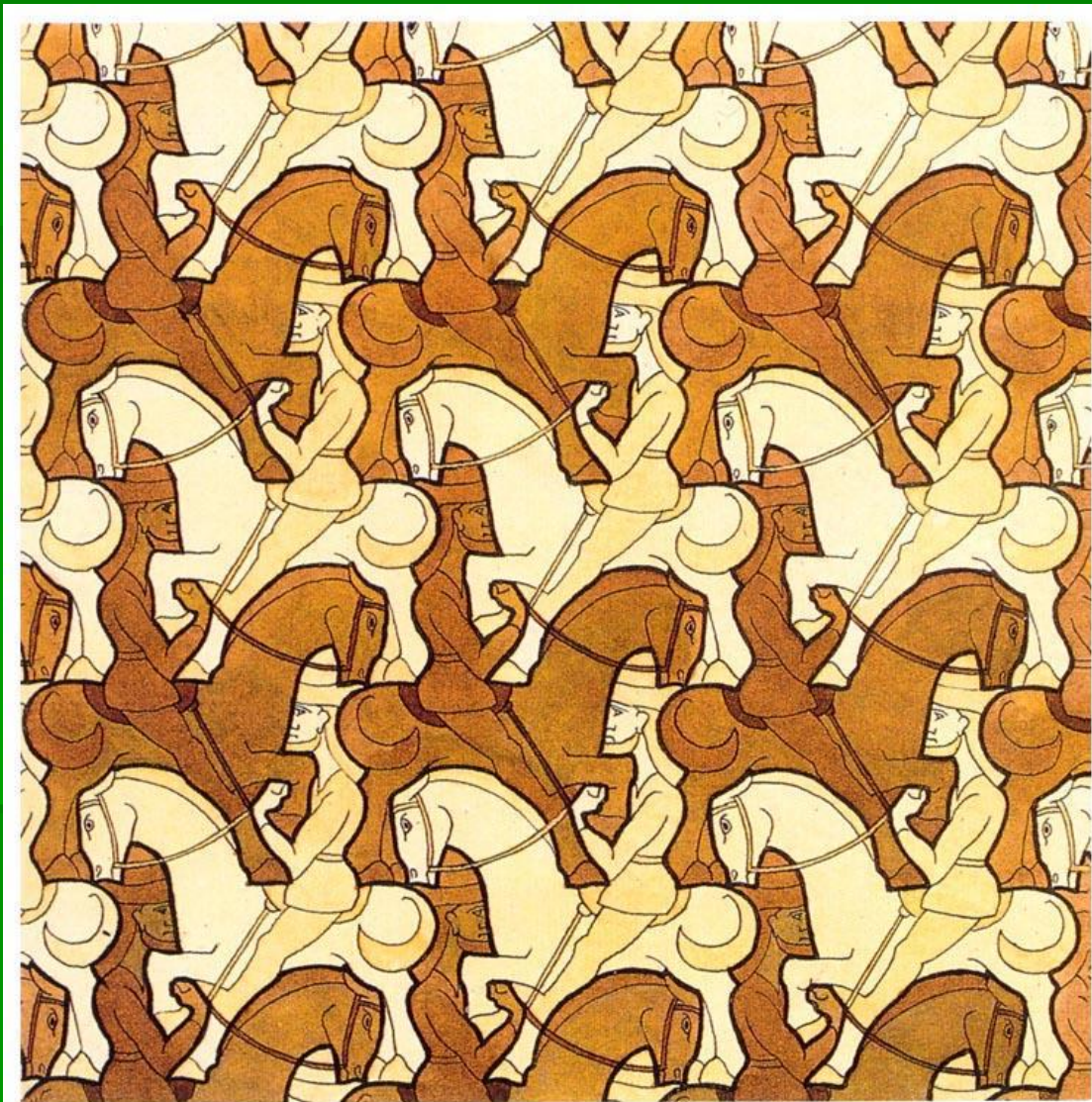
What about irregular polygons?

**Here are some examples
of Eschers tessellations**













How to Make a Tessellation Template

Instructional PowerPoint

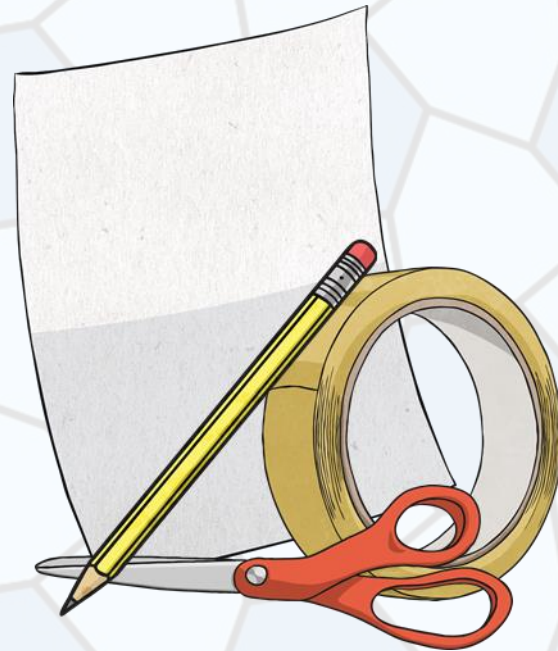


Equipment

Begin with a rectangular piece of thin card. If you are planning on using your finished template to create an A5 tessellation design, try a 5cm x 7cm rectangle. The bigger the rectangle, the bigger your template.

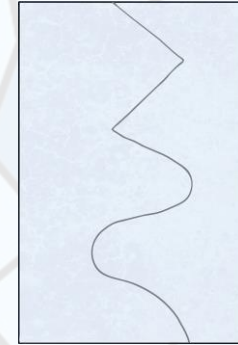
You will also need:

- Scissors
- Sticky tape
- Pencil/pen
- Piece of white A5 card

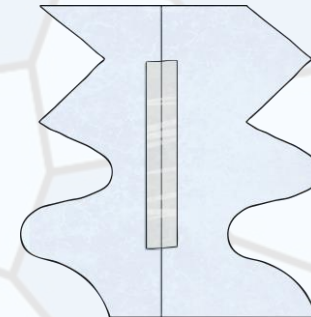


Method

1. The top of your card will be the shorter measurement in width. Begin by drawing a line from the top your card to the bottom. It could be a wiggly line, or zigzags, but don't make the design too complicated to cut out.



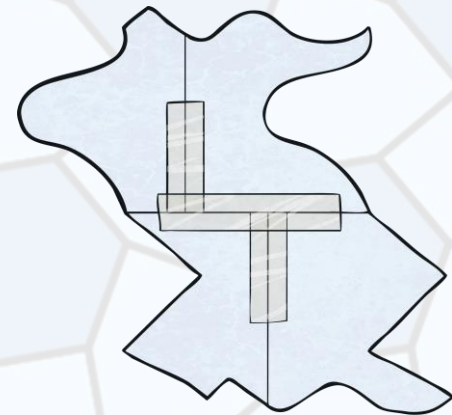
2. Cut down the line very carefully.
3. Next, move the two pieces so that the straight edges are now back to back. Using sticky tape, carefully join them together making sure there aren't any gaps.



Top tips: Use a piece of tape that is smaller than your template. Keep your template this way up, ready for the next step.

Method

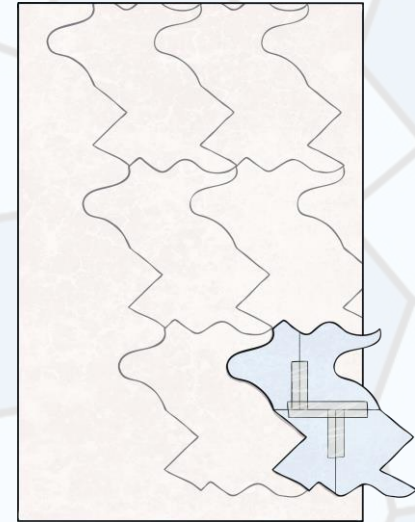
4. Draw another line from left to right (wiggly/zigzags), keeping it central. You may need a pen to do this.
5. Carefully cut along this line and put the pieces back to back again (along the straight edge), using sticky tape to join them together.
6. Now you have your finished template, you are almost ready to begin your tessellation design. First, decide whether your template looks better portrait or landscape.



How To Use Your Tessellation Template

To create your tessellation design, take a piece of white card and place the template in the centre. Draw around it very carefully.

Now, move the template to the right or left of your outline and make sure it fits perfectly without any gaps or overlapping. You might find that when you move your template above or to the side of the original outline, it doesn't completely fit on the page. This doesn't matter, just draw around what you can before going off the edge of the paper.



Continue filling the whole sheet of paper with your design.

Finally, choose different colours to colour in your tessellation. Two alternate colours will work well and really make your design stand out.