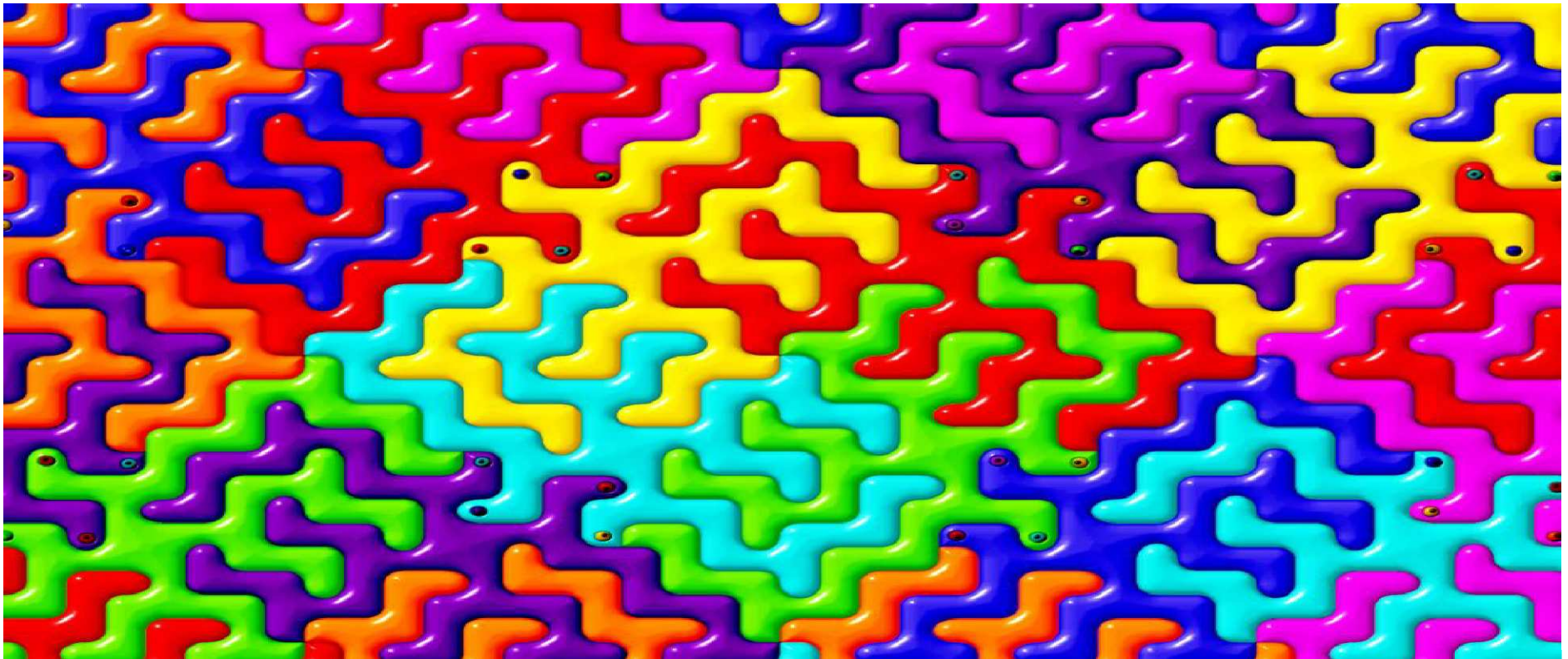


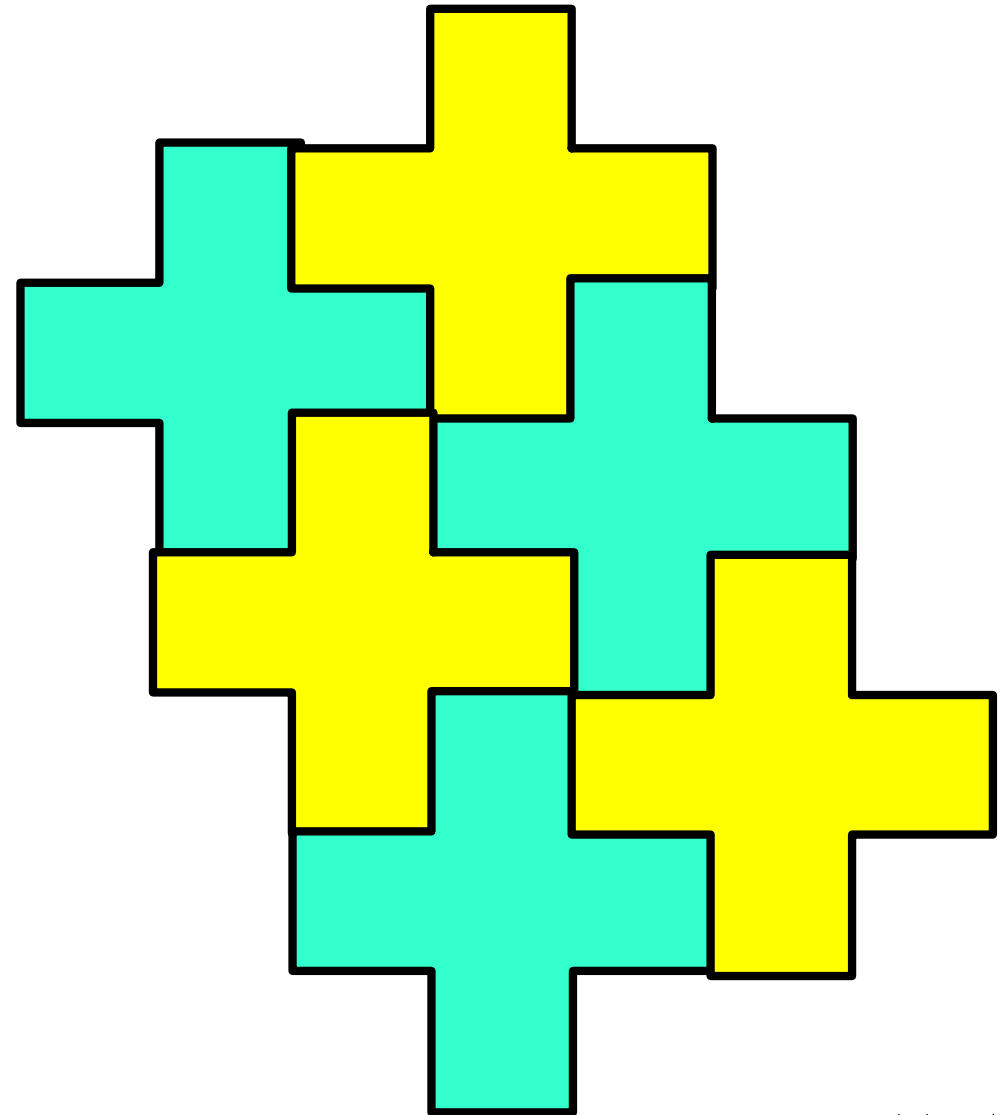
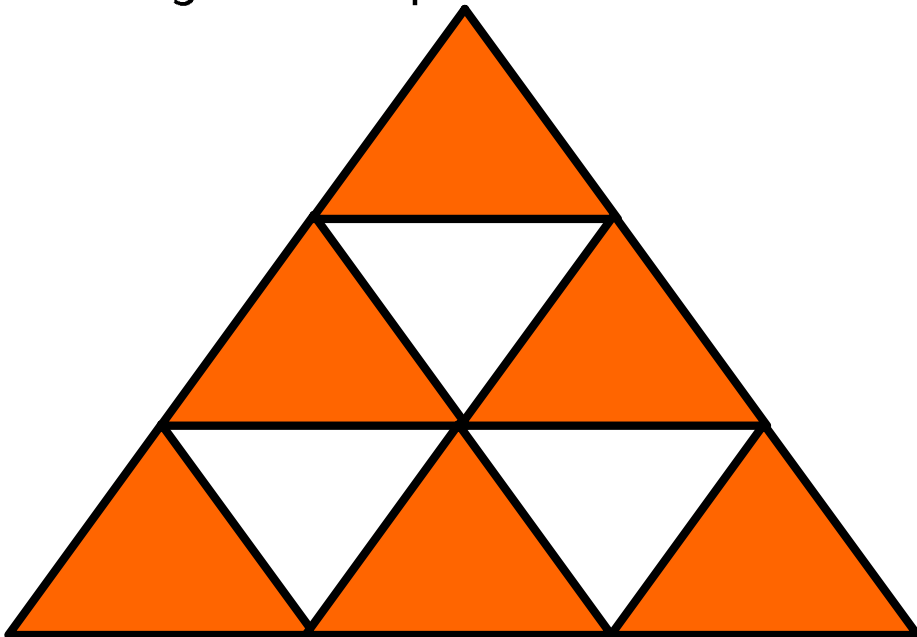
Tessellation



What is Tessellation

To tessellate means to divide a space with regular shapes or patterns, with no overlapping or gaps between them.

Many regular shapes tessellate, can you make some tessellation patterns from regular shapes?



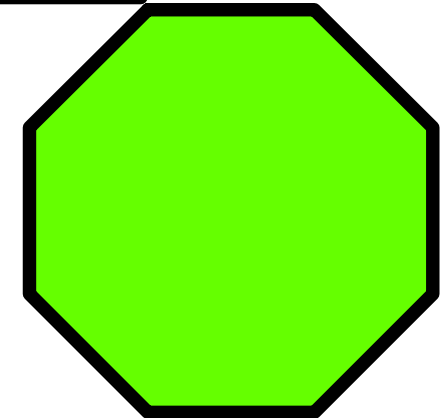
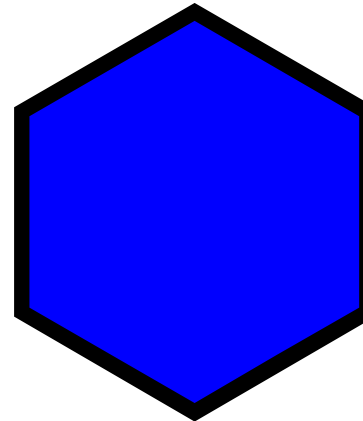
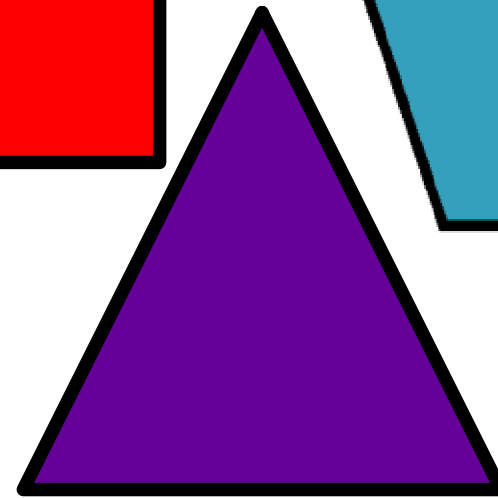
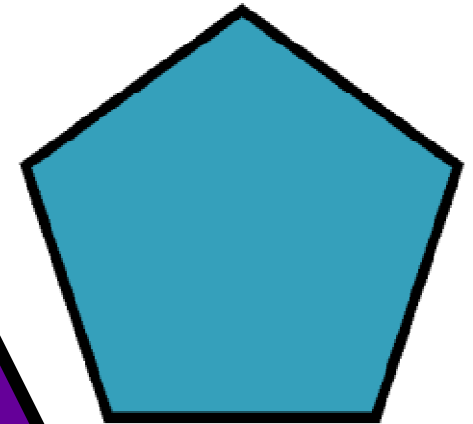
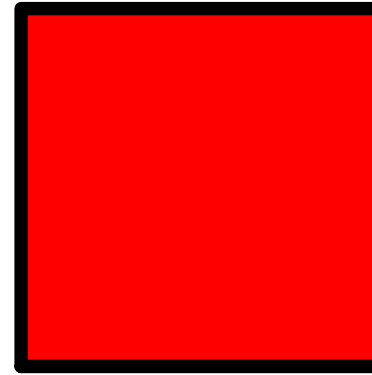
Origins of Tessellation

The word tessella is Latin for a small block, as in a mosaic. To tessellate means to make of small blocks, or squares.

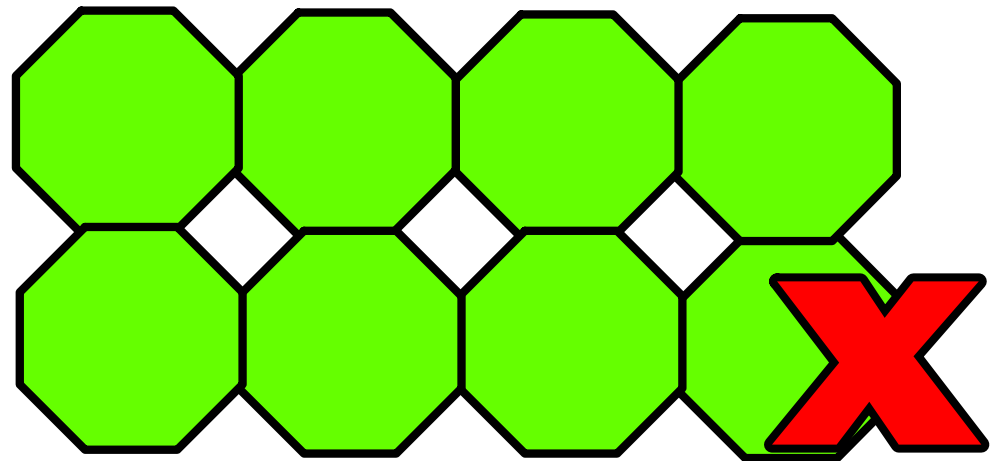
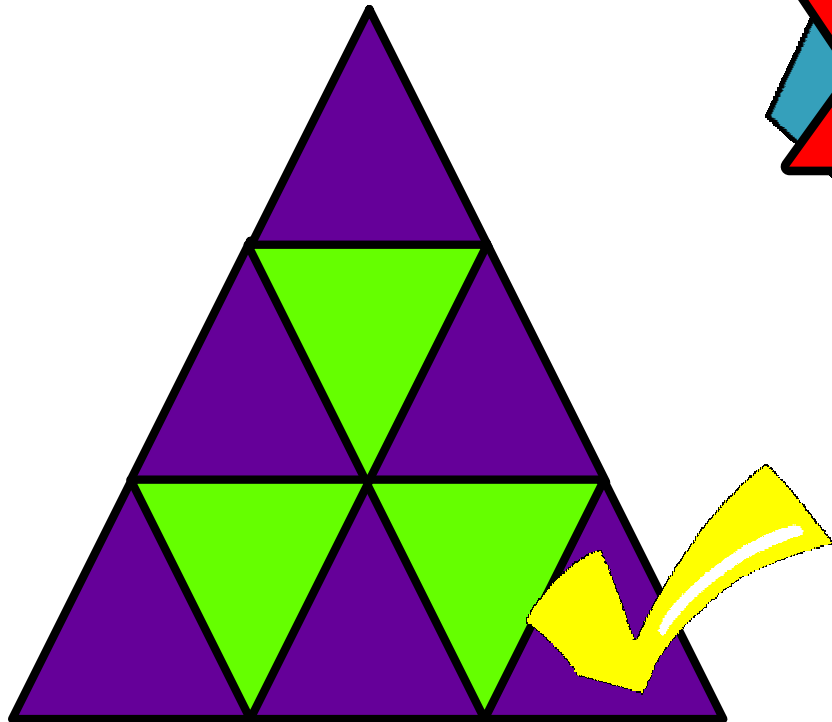
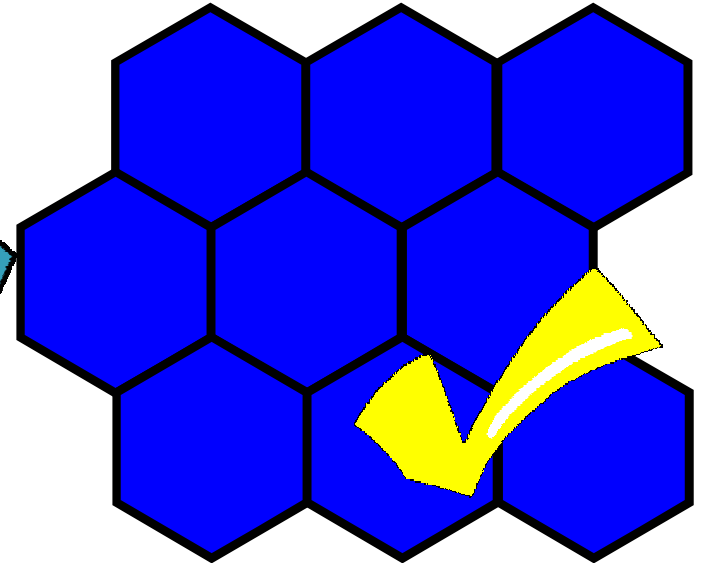
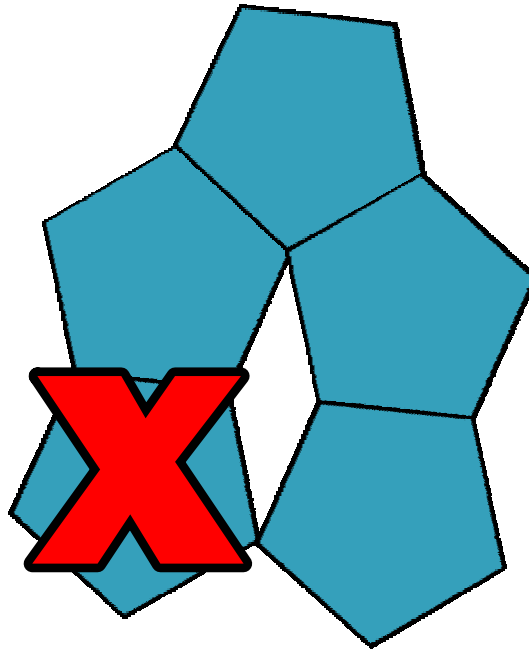
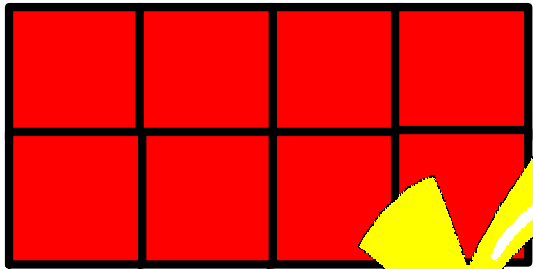


Regular Tessellations

To make a regular tessellation we need to be able to cover a surface, with no overlapping or gaps, with a regular polygon (only one shape). Each vertex (where the corners meet) must also look the same. Which of these regular polygons fit together to make a regular tessellation?

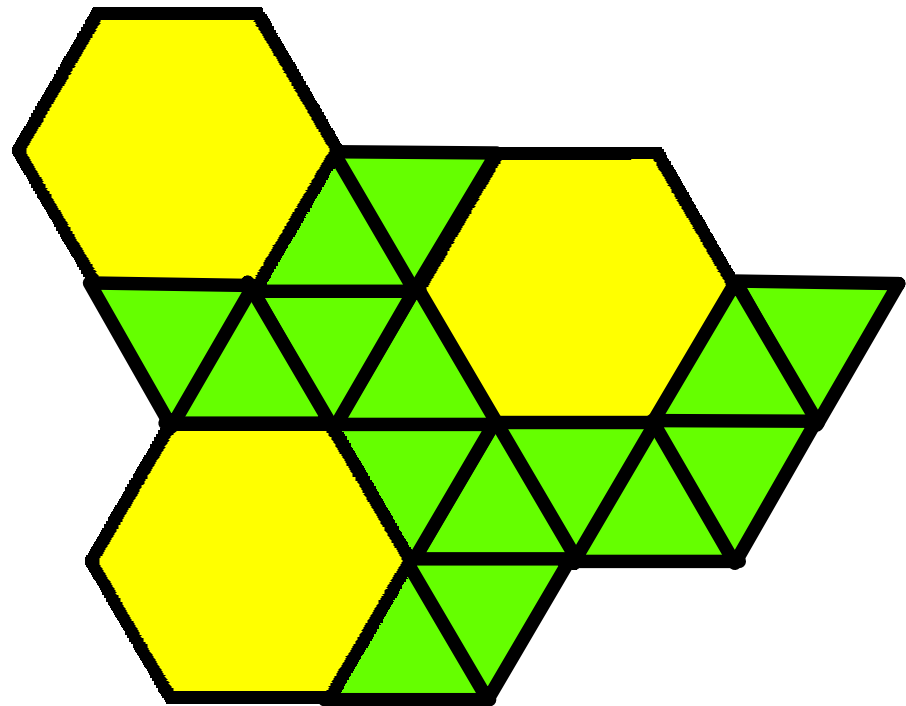
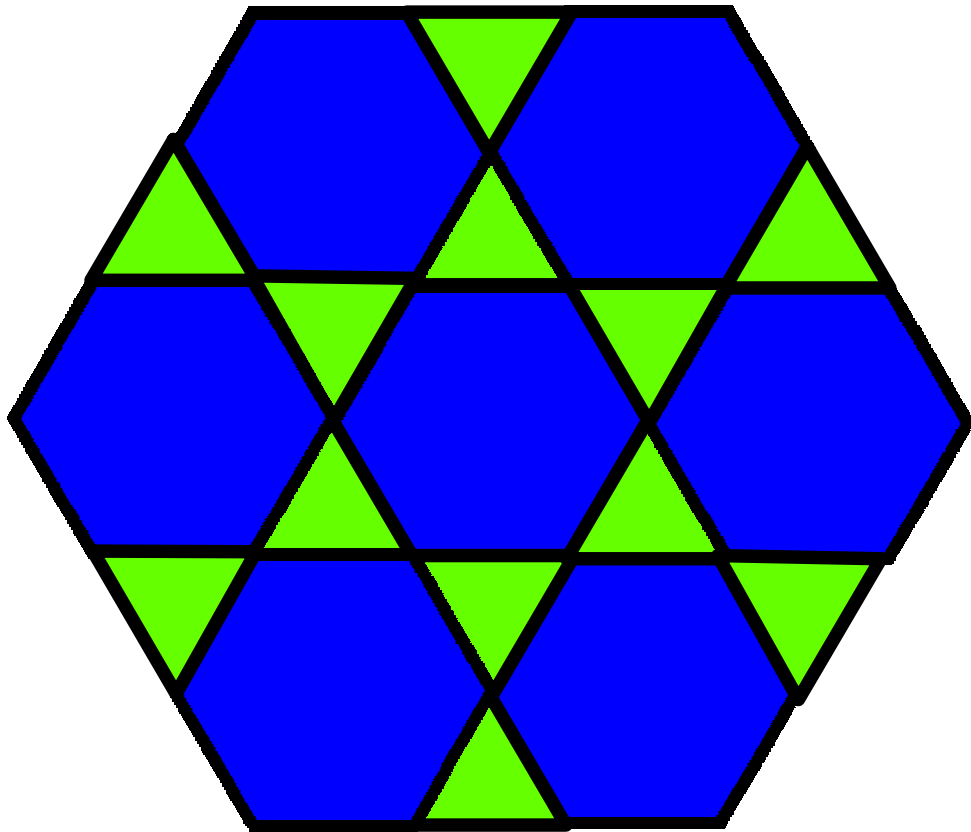


Regular Tessellations

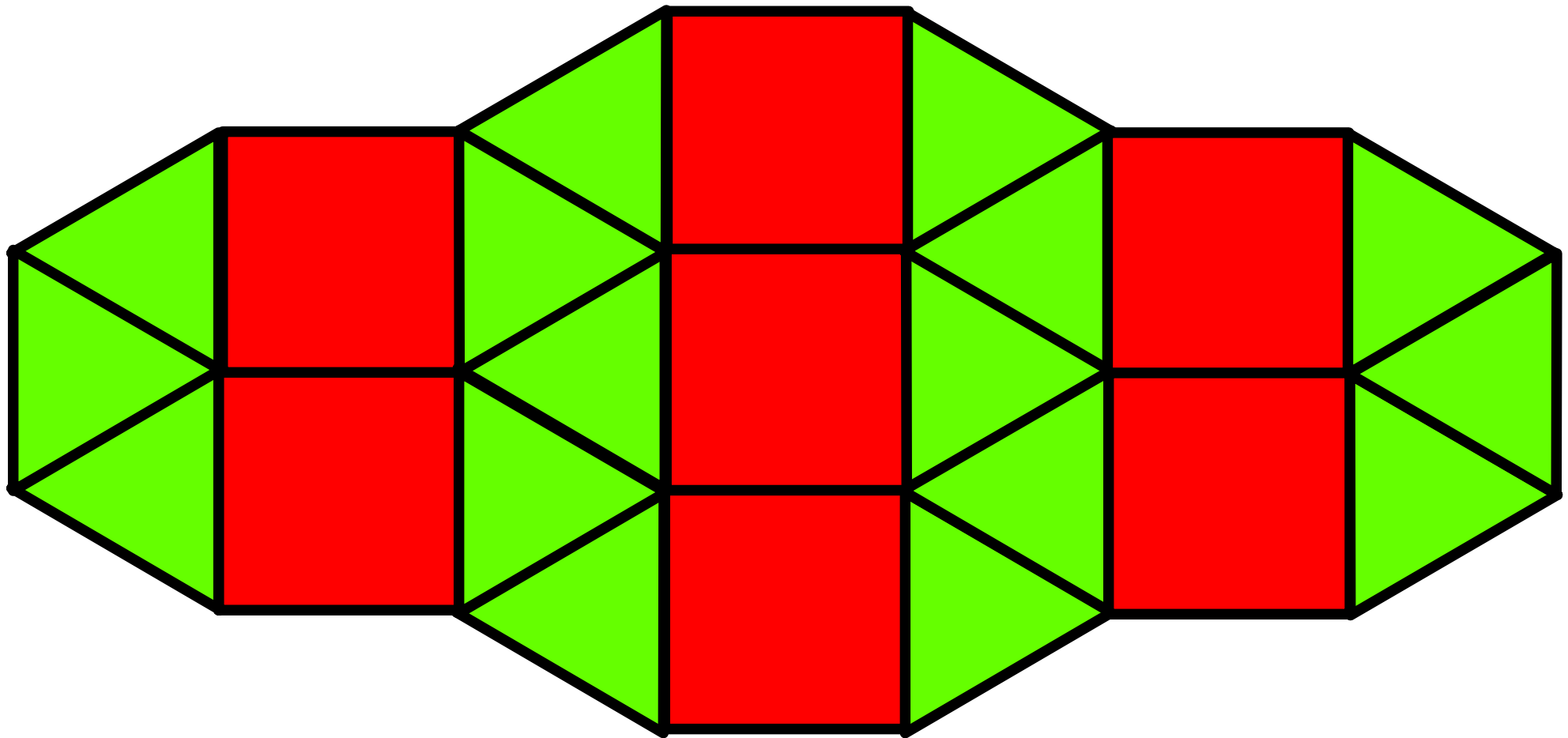


Semi-Regular Tessellations

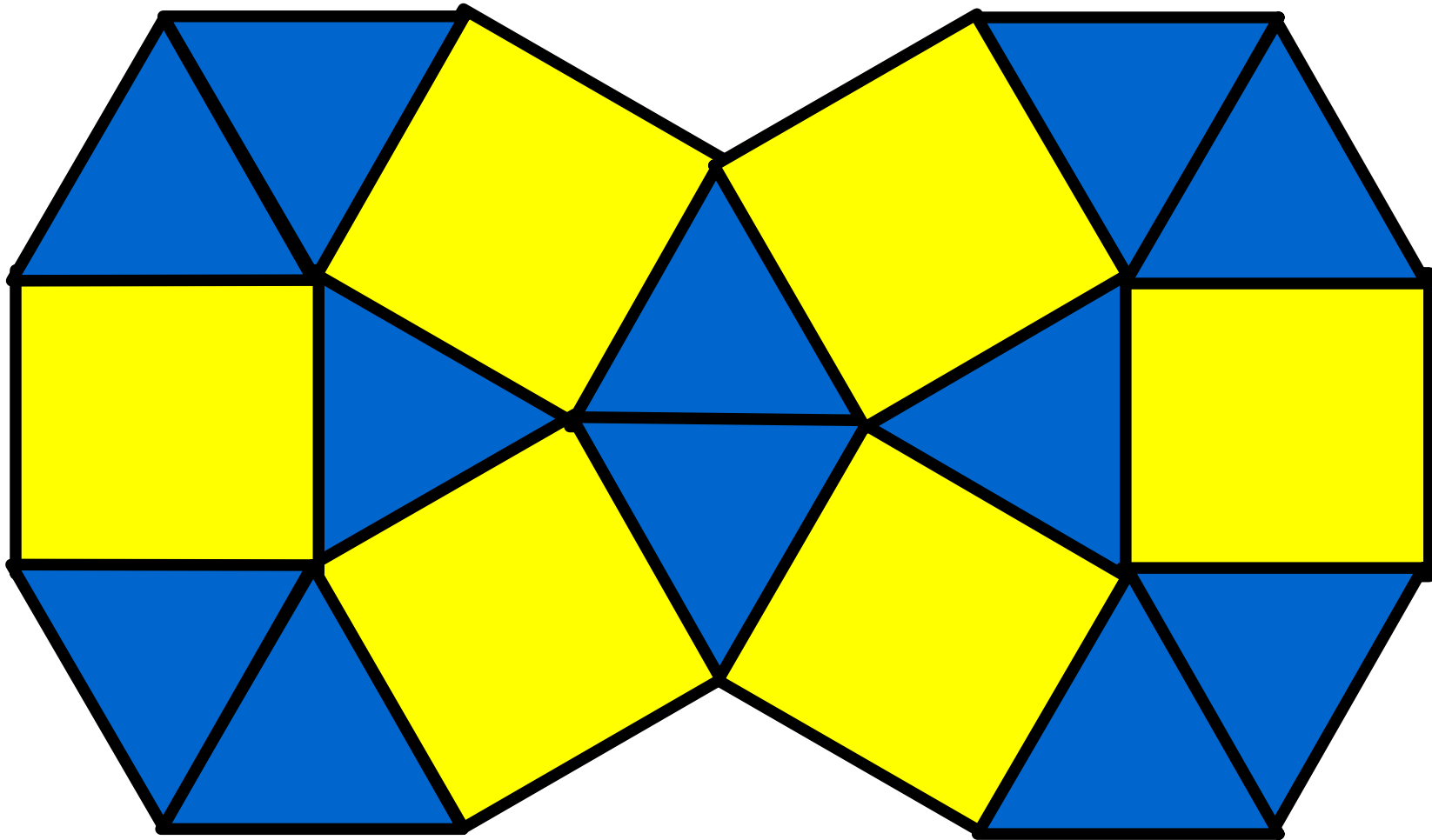
These tessellations are made by using two or more different regular polygons. The rules are still the same. Every vertex must have the exact same configuration.



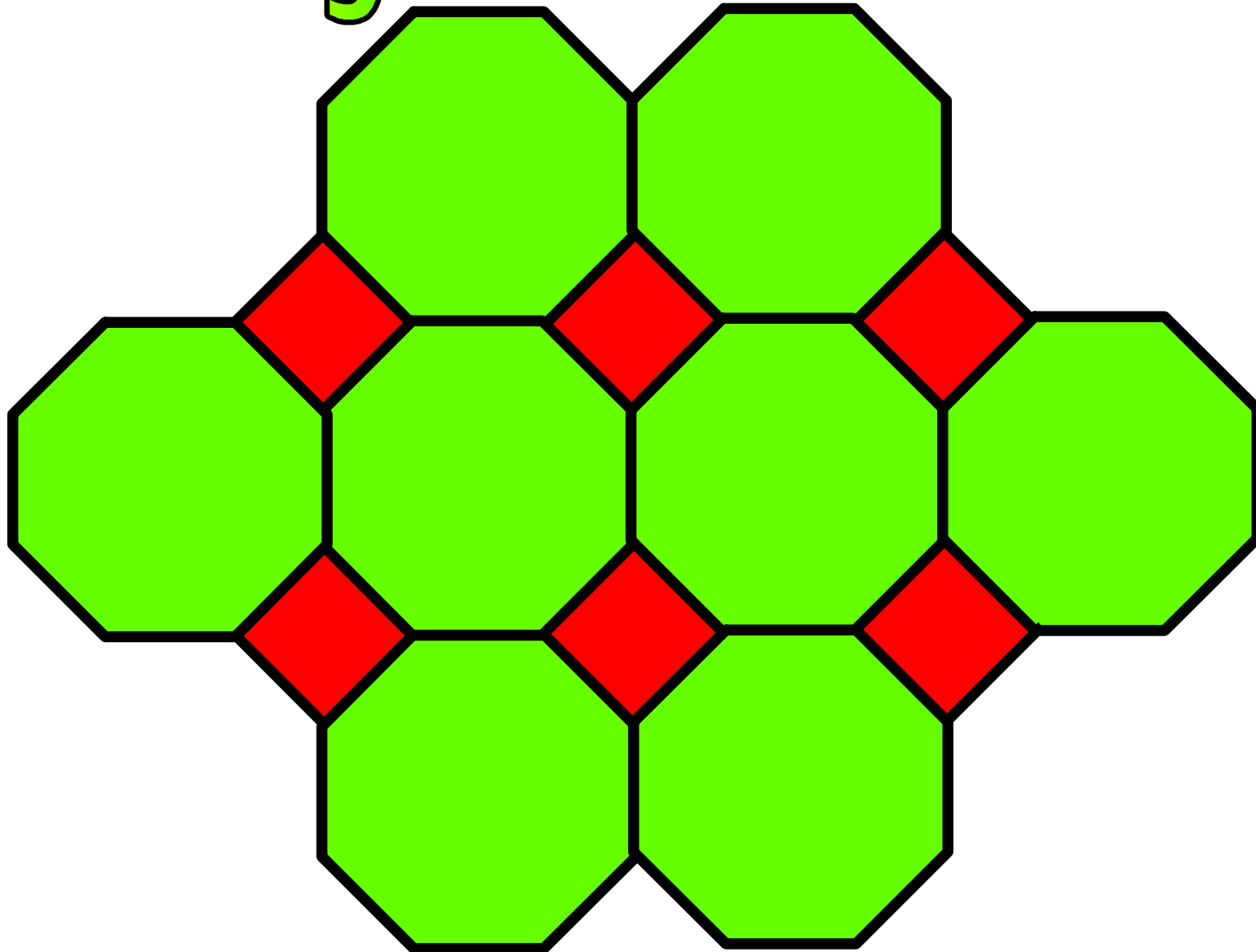
Semi-Regular Tessellations



Semi-Regular Tessellations

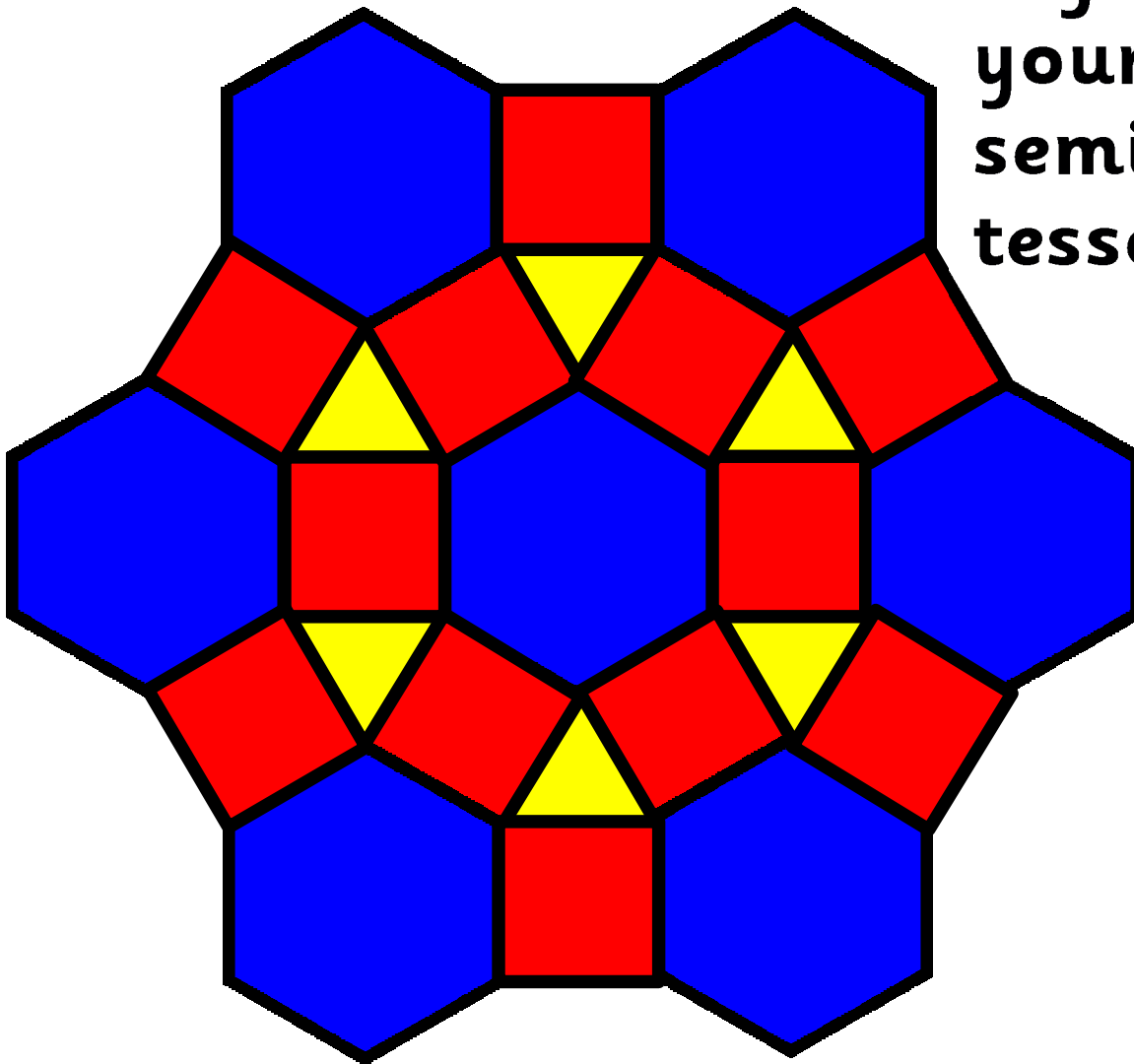


Semi-Regular Tessellations



Semi-Regular Tessellations

Try making some of
your own
semi-regular
tessellations.



Tessellation All Around Us

We see examples of tessellation every day. From tiles decorating the floor to window panes and wallpaper. We can also still see tessellations in modern mosaics.



Tessellation In Nature

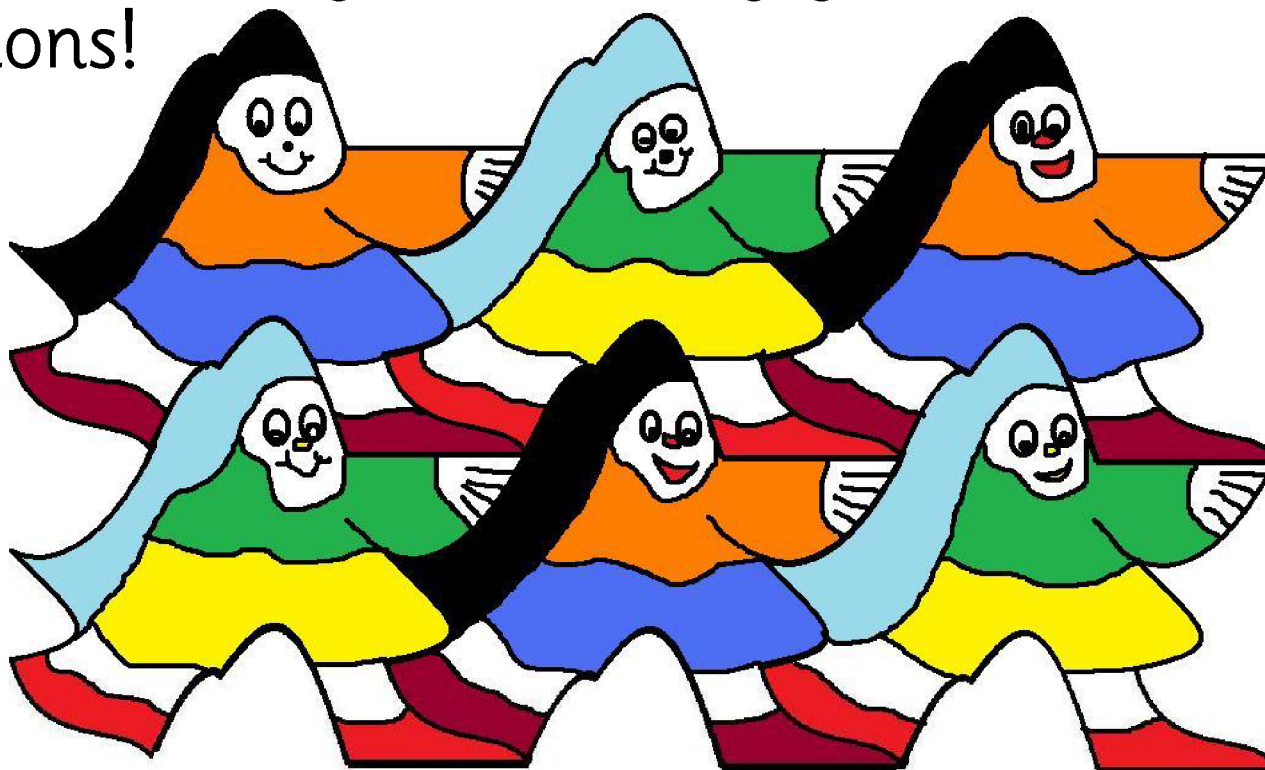
Examples of tessellation can also be found in nature.

A bee-hive and naturally occurring basalt crystals both have tessellating hexagonal patterns.



Tessellation in Art

We can use tessellation to make patterns in art. Escher is famous for making paintings which showed tessellating forms. Try and find some examples of his work, and have a go at making your own Terriffic Tessellations!

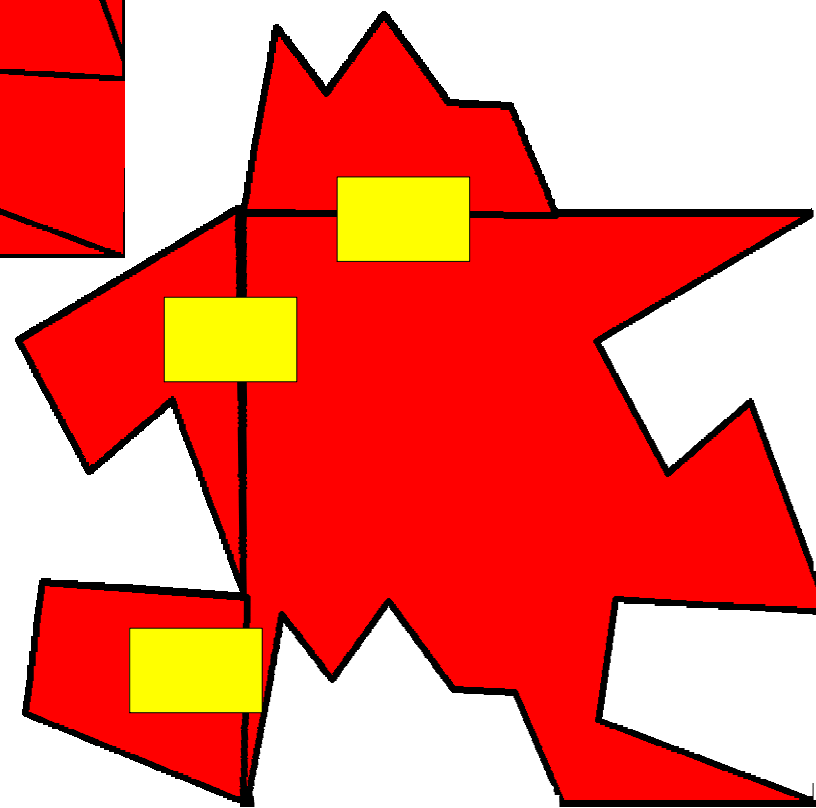
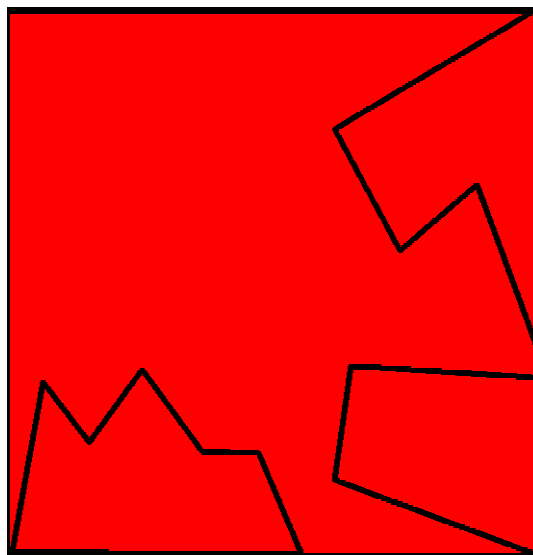


Make Your Own Tessellating Shape

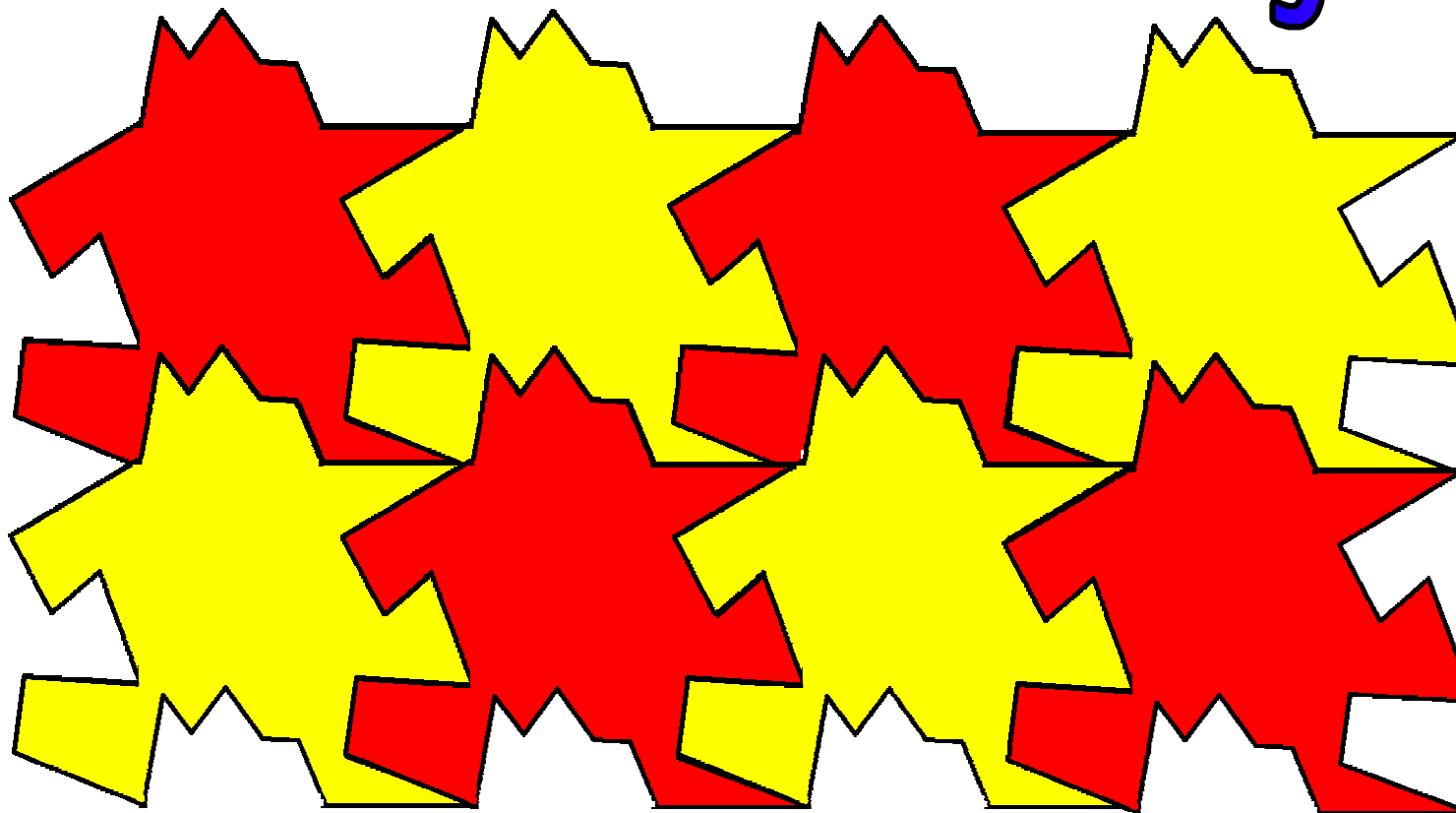
Take a square or rectangular piece of card.

Draw and cut a shape from one side, and stick it on to the opposite side with tape.

Now draw around your pattern as many times as will fit on your page.



Make Your Own Tessellating Shape



What do these shapes remind you of? Crazy dancers? Someone wearing a hat? Think about what your tessellating pattern reminds you of and decorate it!