Tessellating Tiles

A **Tessellation** (or Tiling) is when we cover a surface with a pattern of flat shapes so that there are no overlaps or gaps. Squares, hexagons and triangles are example of shapes that tessellate easily to build patterns. You can tessellate tiles in 3 ways.

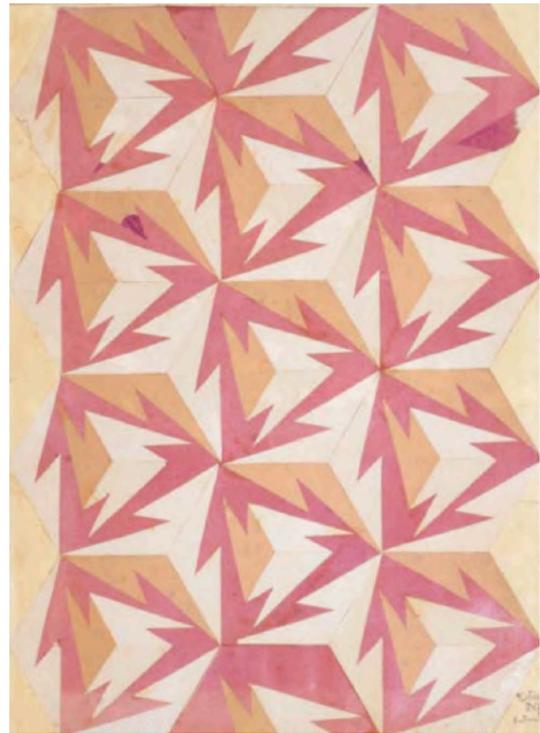**Translation:** when a shape repeats by moving or sliding
Rotation: When a shape repeats by rotating or turning
Reflection: When a shape repeats by reflecting or flipping

This activity shows you how to design your own tile to create a repeat pattern using translation tessellation.
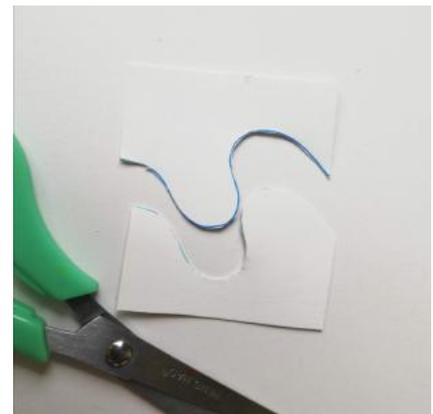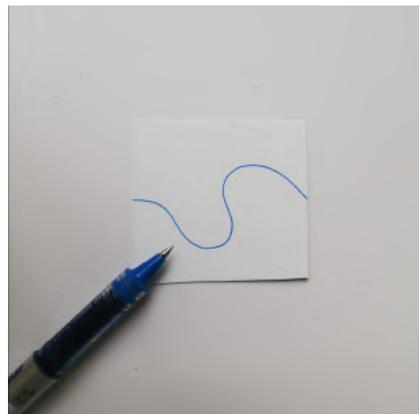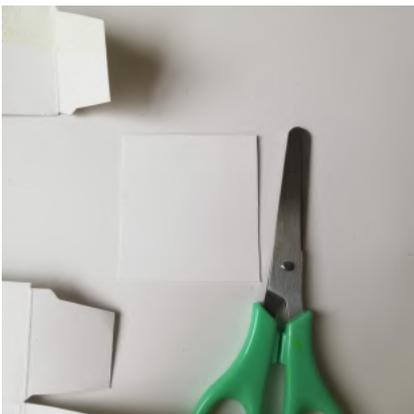
You will need

- Recycled Card
- Recycled paper or A3 paper
- Pen/ Pencil
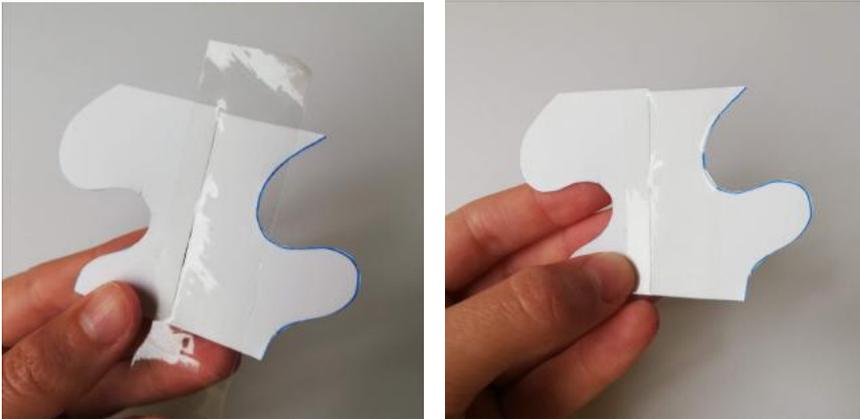- Sticky tape
- Coloured pens or pencils for decorating

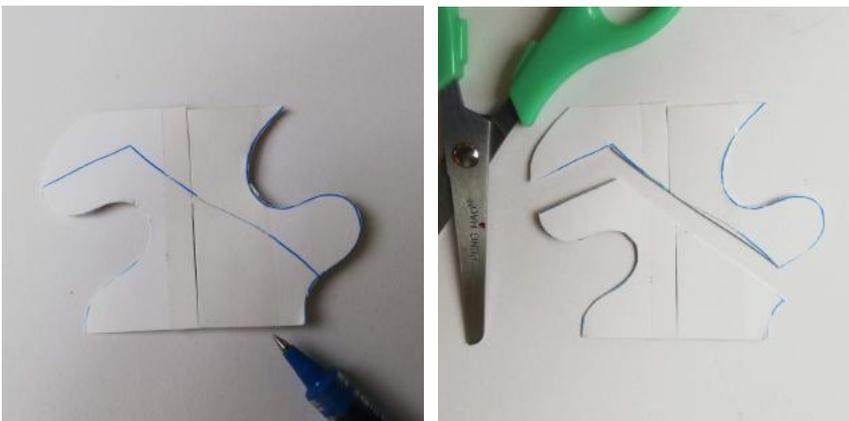Fortunato Depero, Design for a rug, 1927

1) Cut out a square of recycled card (no bigger than 2 inches).
2) Draw a line from one side of your square to the other. You can make this as simple or complicated as you wish.
3) Cut along the line you drew.

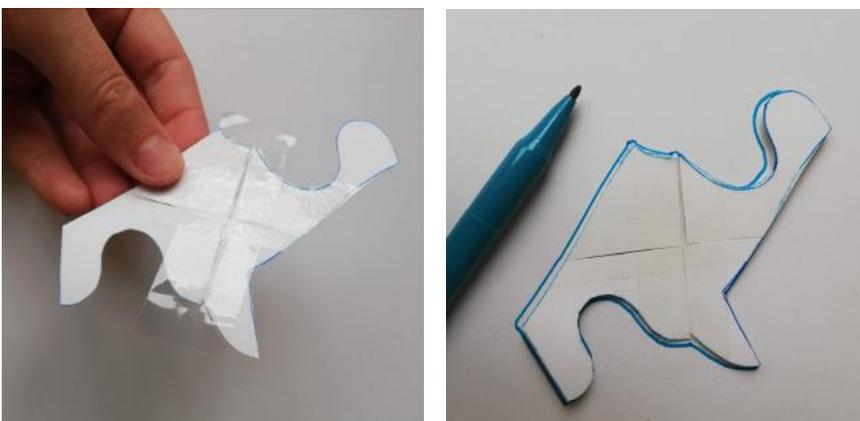4) Interchange the shapes and stick them together with tape.

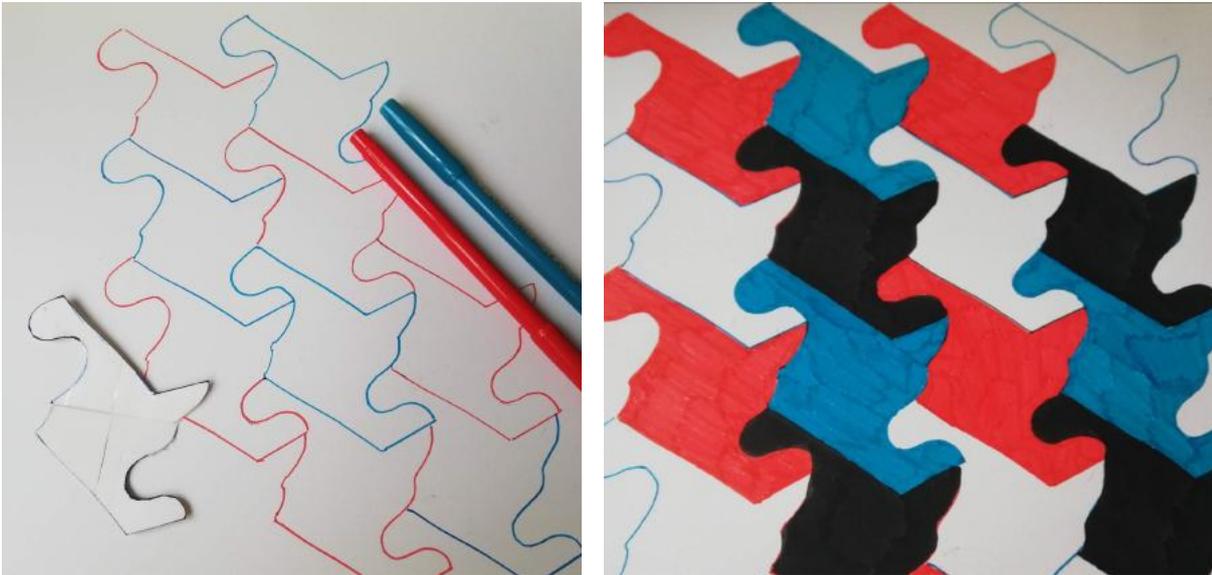5) Draw another line across the shape and cut along it.

6) Interchange the shapes and stick them together along the straight edge.
7) Draw around the shape on a piece of paper or recycled card.

8) Move your tile so that it fits into itself and keep drawing around it until you have filled your paper with a repeat pattern. Select colours or design patterns to fill in your shapes.

Top Tip: Carefully trim off any excess sticky tape to make the edge of your tile neat and easy to draw around.

Experiment: Does your tile design make you think of anything? Could you turn it into a character by adding some eyes, nose and a mouth? Try designing patterns your could fill your shapes with.

Research: Repeat the activity again but with a smaller tile and see what results you get. Try very simple or intricate lines when you make your tile to see the different patterns they make.