

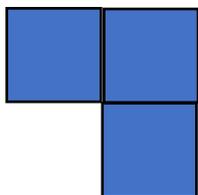
Instructions for the task / questions and prompts for parents working with their child

Activity A – Regular tessellation to create symmetrical shapes

In this activity, tiles must be placed edge to edge and vertices (corners) must always meet (see diagram below).

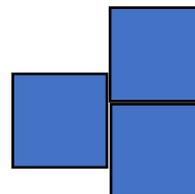
Like this

Edge to edge,
corner to corner



Not like this

corners and edges not
line up



Before you start to move your tiles, spend some time imagining the different symmetrical shapes you could make using five square tiles.

- How many did you imagine?
- How might you record the different shapes so that you could compare them? (e.g. sketching with pencil and paper, photos on a phone)
- How sure were you that they were symmetrical?
- Did you think about line symmetry, rotational symmetry or both?

Now start to use the tiles to explore the different shapes you could make. Try to make and record as many different shapes as you can.

- Were you able to find all the ones you imagined?
- Did you find more? Why might that be?

When you are happy that you have found as many different shapes as you can, take some time to compare your shapes.

- Are they all different?
- Does it matter to you if some are reflections or rotations of others? It's up to you.
- Did you have a system for trying to find as many as possible?
- What shape did you start with?
- What did you move to make the next shape?

Try taking a break for a bit if you can't find any more...but come back to it later and see if you can imagine another one. Don't forget to send a picture of your work to your teacher so they can see all the shapes you found.

Activity B – Finding all the shapes

For children looking for an extra challenge, this is another way to work on this.

Start again and, this time, find all the shapes that can be made using 5 square tiles placed edge to edge, vertices lined up.

In this activity, the shapes do not need to have symmetry but must not be rotations of each other. Reflections, however, are allowed.

Think about the same questions as in the first activity. You will need to work systematically this time if you are going to find all of the shapes. When you send your picture to your teacher, don't forget to tell them about your system...how did you try to make sure you found all the shapes?