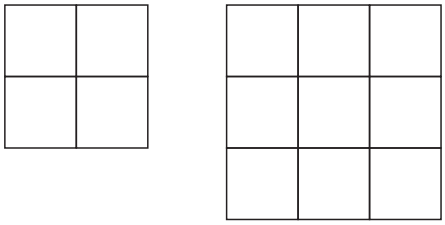
Station 5

In this station we look for patterns in the perimeters and areas of squares.

Resources:

- squared paper
- squared tiles
- coloured pens

1. Below are a 2 x 2 square and a 3 x 3 square. You may wish to make them with square tiles. What is the difference between their perimeters?



2. Compare the perimeters of a 3 x 3 square with a 4 x 4 square.
   Compare the perimeter of a square with the next biggest square.

   What do you notice? Why does this occur?

3. Go back to the 2 x 2 and 3 x 3 squares. Compare the areas of these squares.
   Compare the area of different squares with the area of the next biggest square.

   What pattern do you notice?

   Organising your results in a table may help:

Square	Area	Difference from next biggest square
1 x 1	**1**	**3**
2 x 2	**4**	
3 x 3		
4 x 4		
5 x 5		
6 x ^		

4. Investigate the difference in areas and perimeters between rectangles and the next biggest rectangle, like 1 x 2 and 2 x 3, 2 x 3 and 3 x 4, 3 x 4 and 4 x 5…
   What patterns do you notice? Try to explain why each pattern occurs.