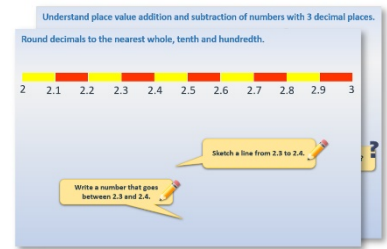


# Week 7, Day 4

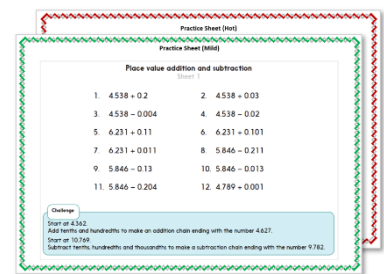
## Symmetrical patterns

Each day covers one maths topic. It should take you about 1 hour or just a little more.

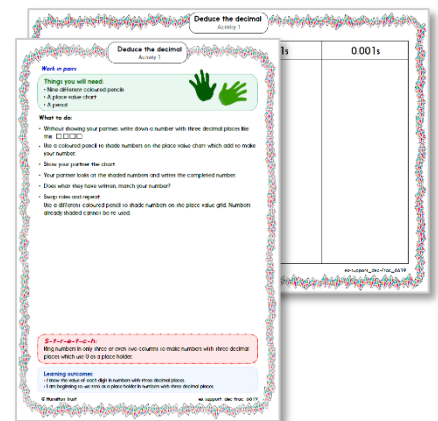
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



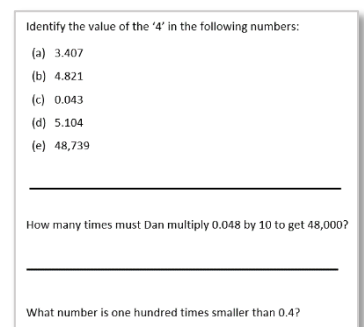
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



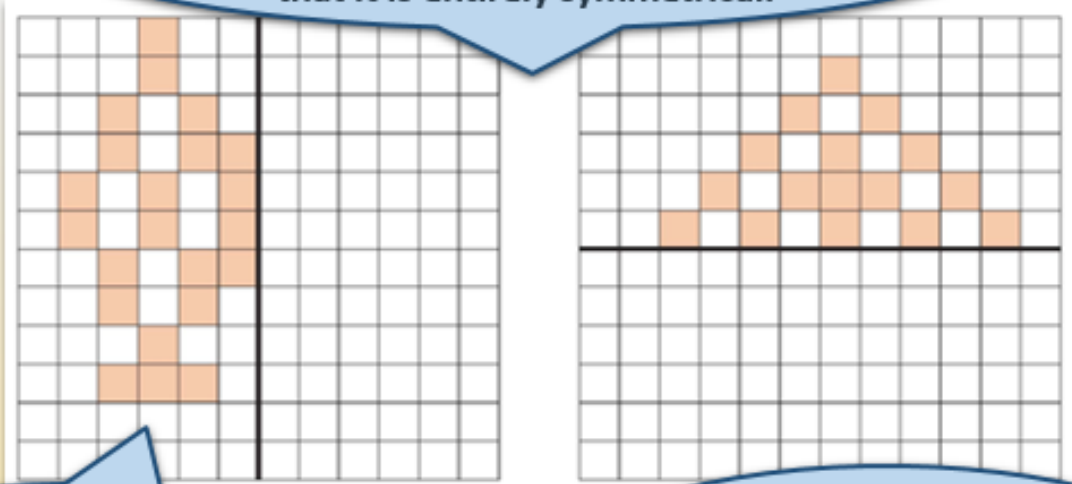
4. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



## Learning Reminders

Complete symmetrical shapes and patterns across a line of symmetry.

Only one half of each pattern is drawn. We are going to draw the other half so that it is entirely symmetrical.



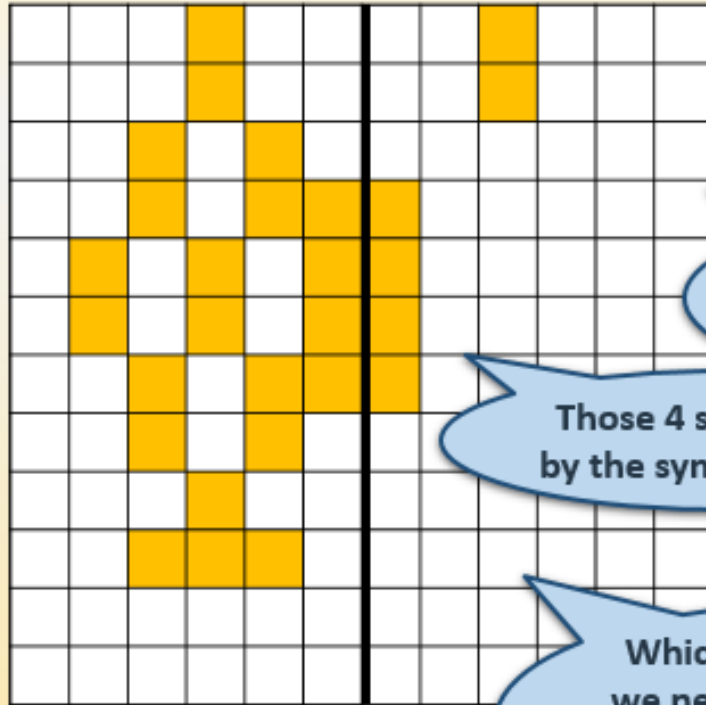
The black line is a line of symmetry in these two patterns.

What do we mean by a **line of symmetry**?

It is an imaginary line along which we can fold the pattern so that it is exactly the same in both halves.

## Learning Reminders

Complete symmetrical shapes and patterns across a line of symmetry.



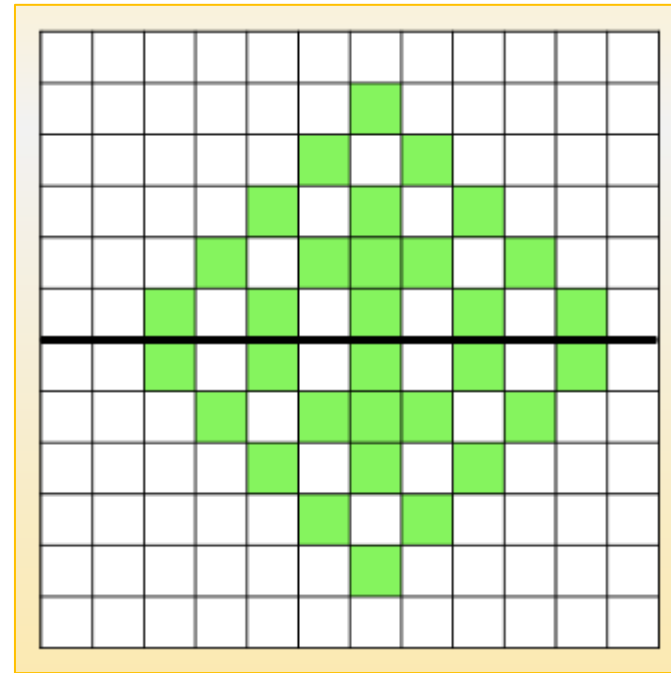
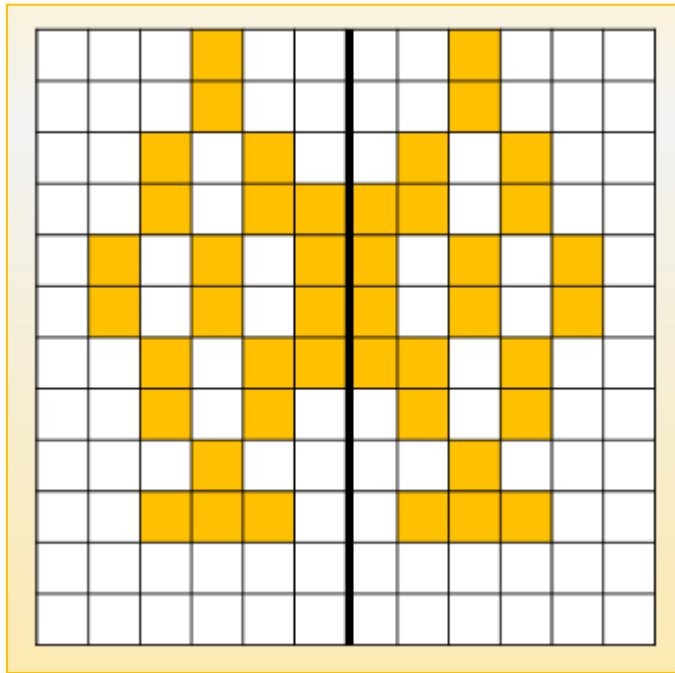
Where would be a good place to start?

Those 2 are at the top and 3 away from symmetry line.

Those 4 squares are by the symmetry line.

Which other squares do we need to colour so that the whole is symmetrical across the black line?

## Learning Reminders



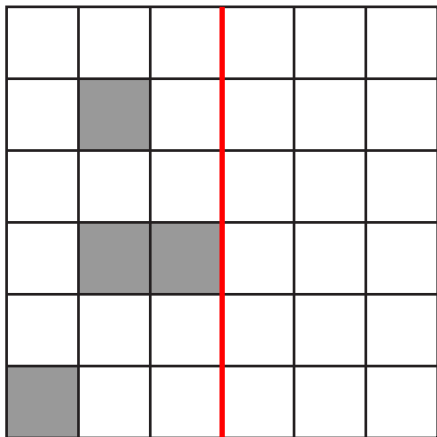
See how each coloured square needs to be the same distance either side of the line of symmetry.

## Practice Sheet Mild

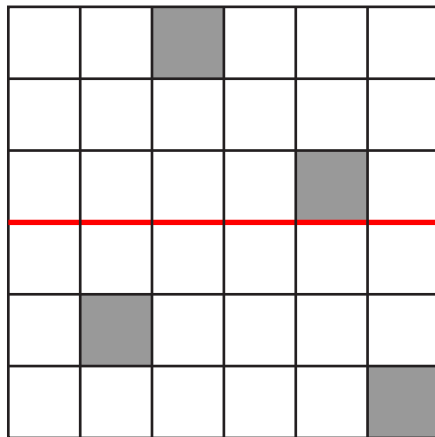
### Grid symmetry patterns

Complete these patterns to make them symmetrical.

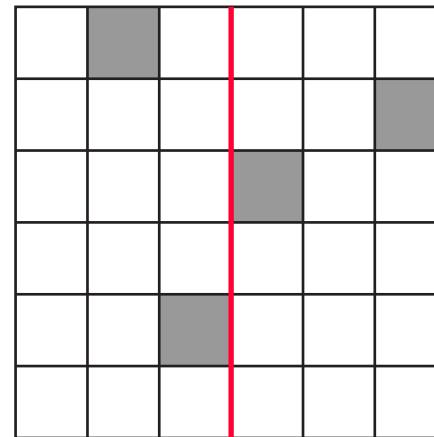
1.



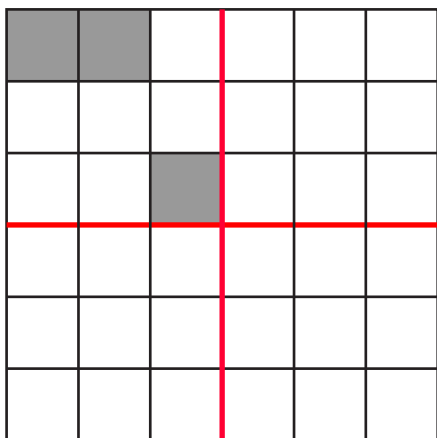
2.



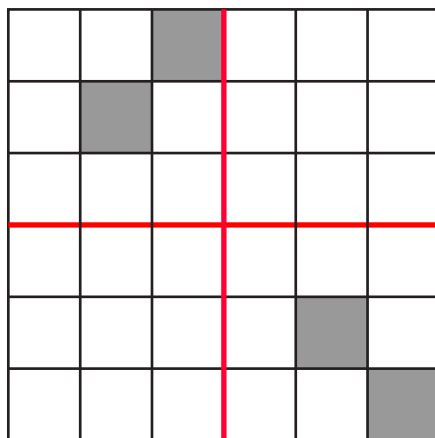
3.



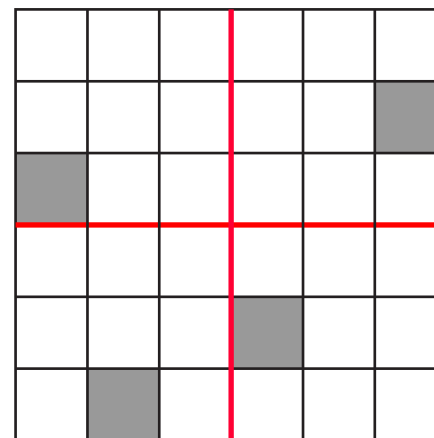
4.



5.



6.

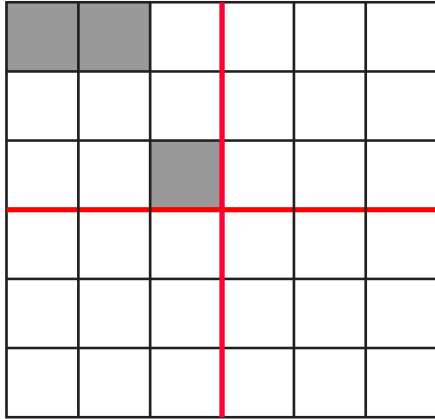


# Practice Sheet Hot

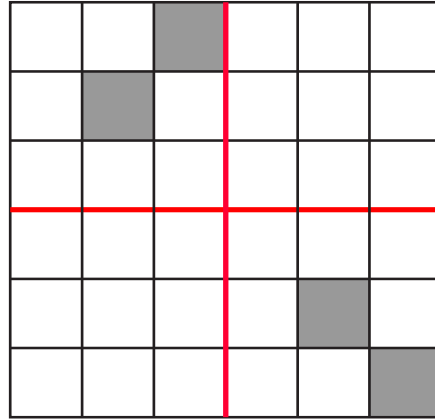
## Grid symmetry patterns

Complete these patterns to make them symmetrical.

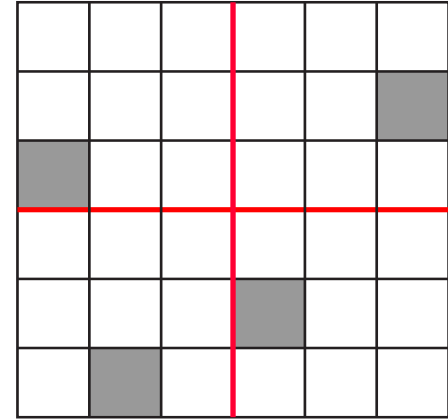
1.



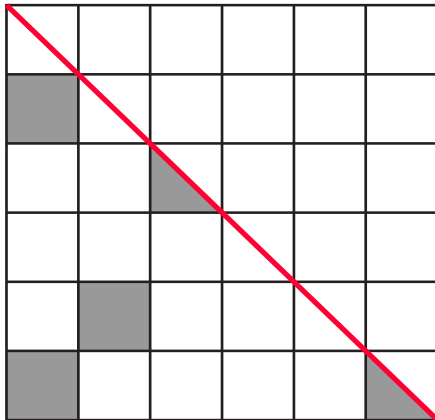
2.



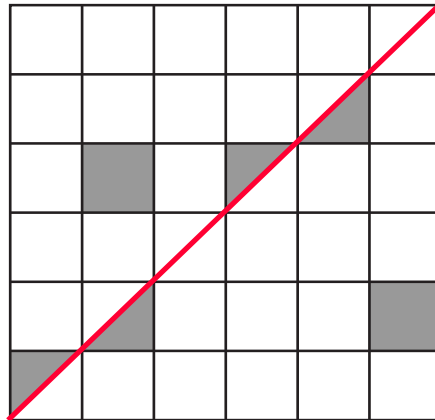
3.



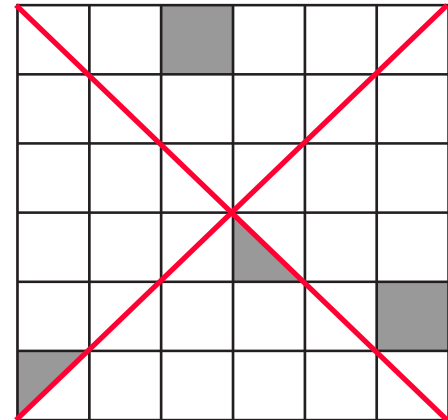
4.



5.

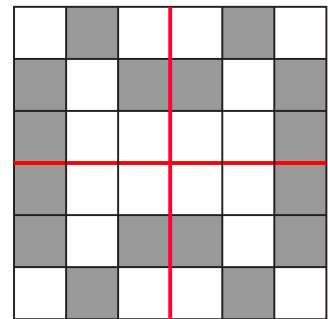
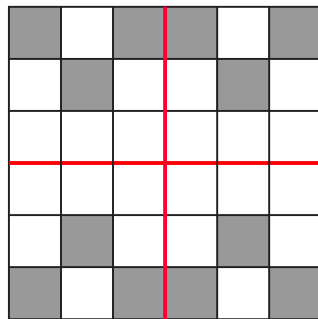
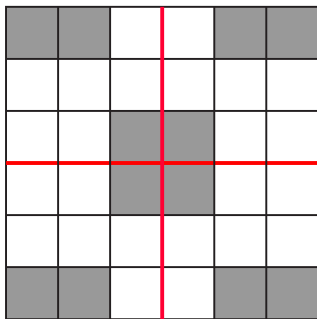
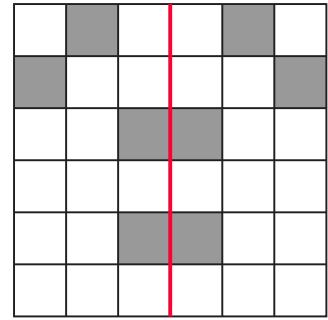
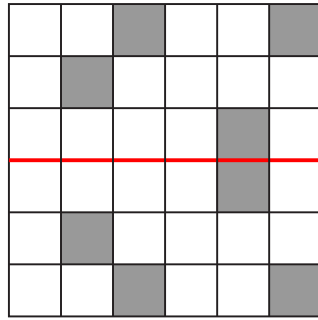
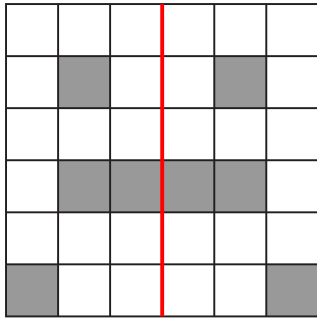


6.

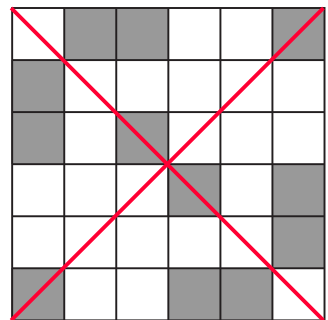
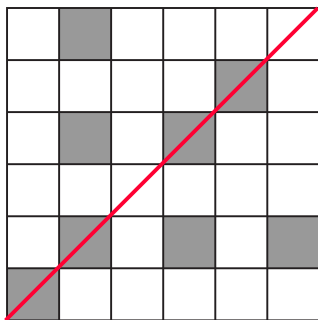
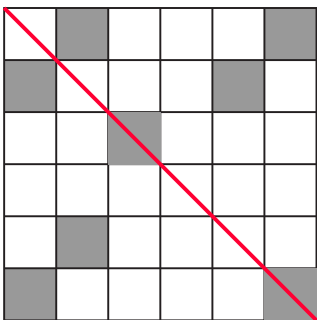
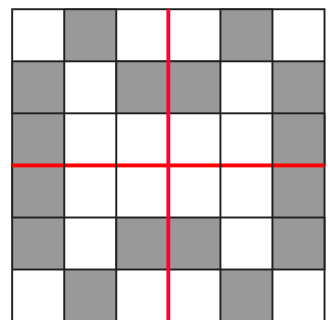
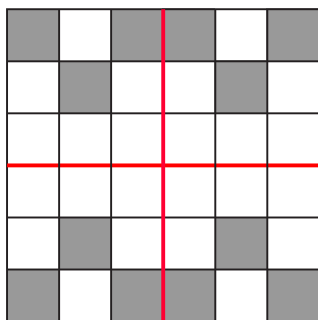
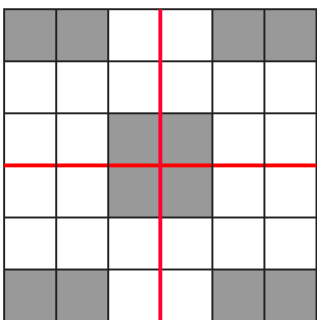


# Practice Sheets Answers

## Grid symmetry patterns (mild)



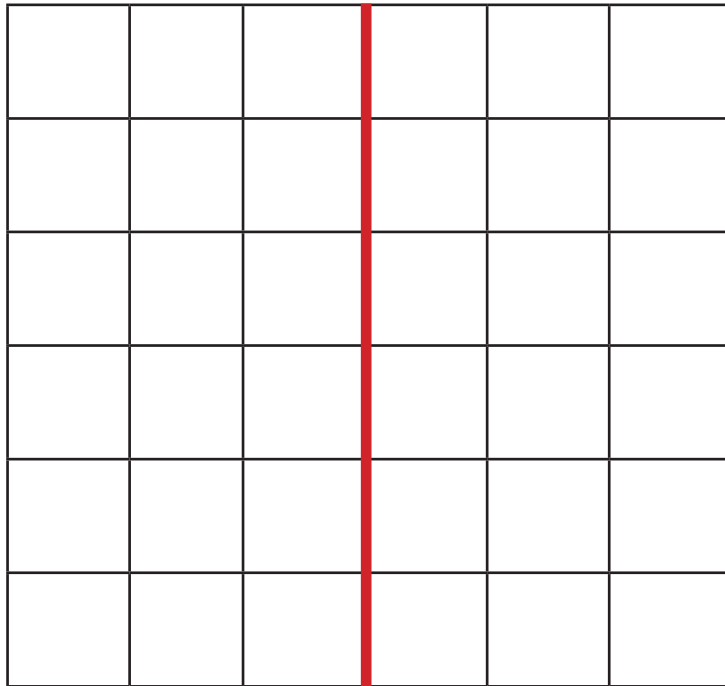
## Grid symmetry patterns (hot)



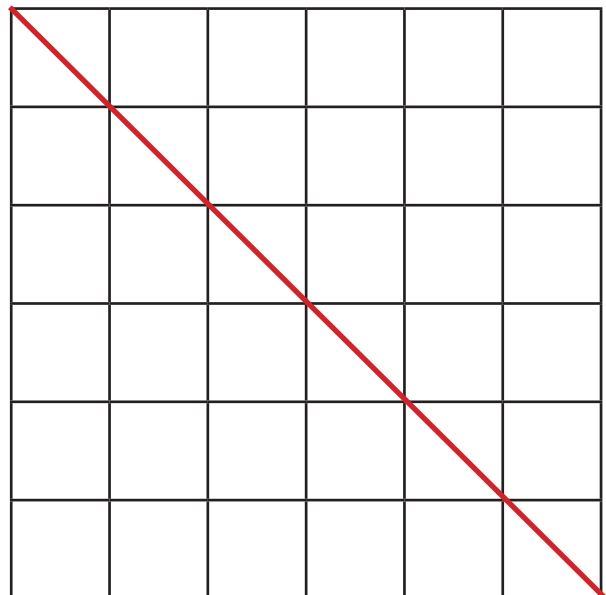
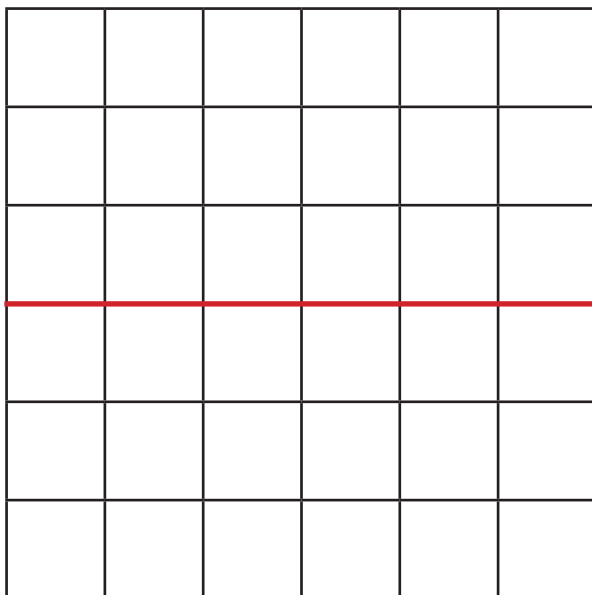
## A Bit Stuck? Partner patterns

### What to do:

- Ask a partner to colour in a square anywhere on this grid:



- You then colour in a square on the other side of the line of symmetry (the red line) to keep the pattern symmetrical.
- Carry on until you have each coloured in eight squares.
- Is your final pattern still symmetrical?
- Repeat with these grids:

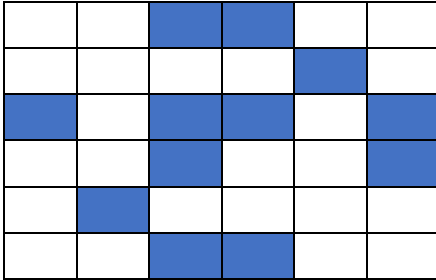




## Check your understanding

### Questions

Shade 4 more spaces on this grid to create a pattern with two lines of symmetry.

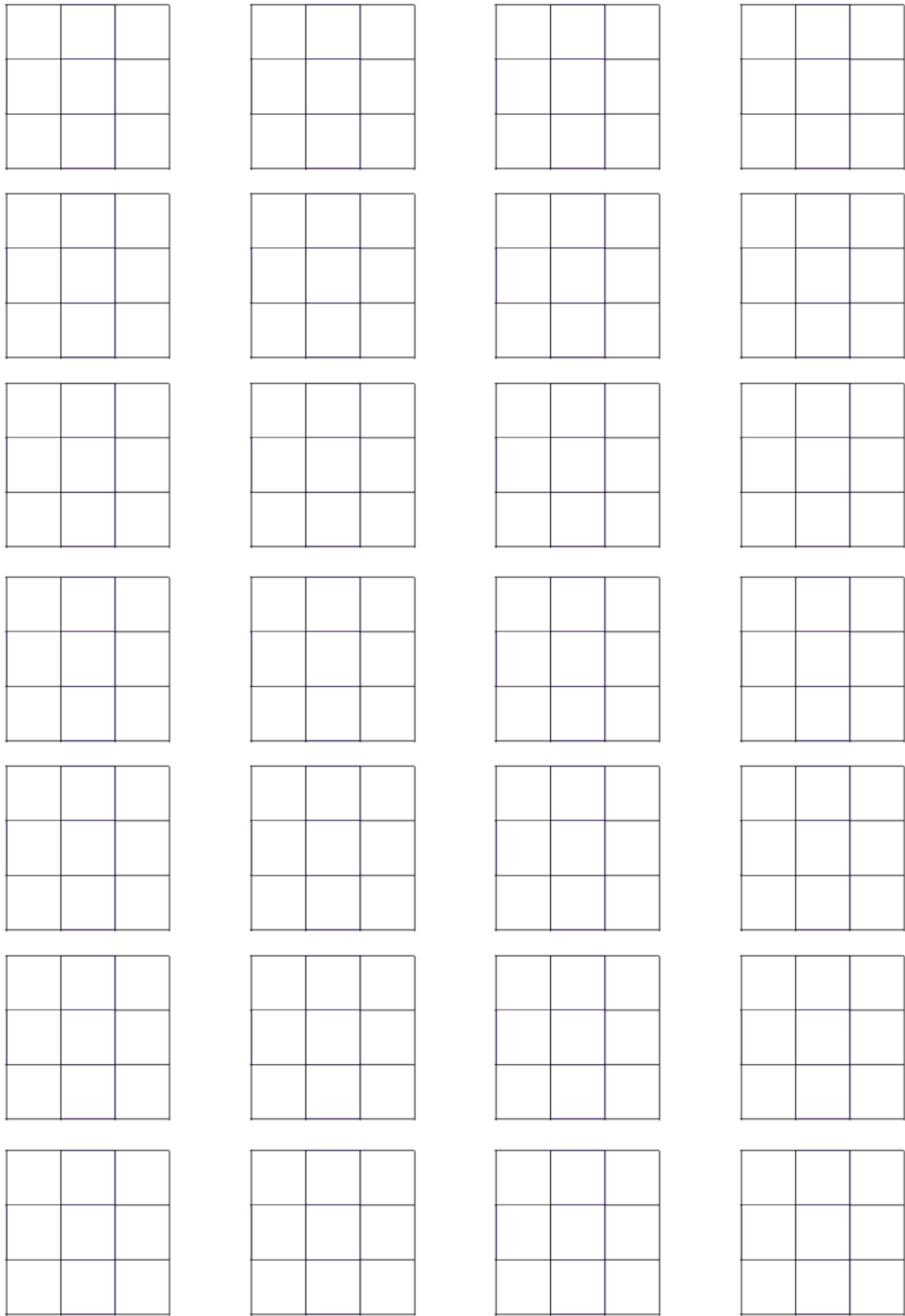


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By shading just one 'cell' on a 3 by 3 square grid (see sheet below), how many different symmetrical patterns can you make? Be careful not to count reflections or rotations of patterns already made...

How many different patterns can you make if you are allowed to shade 2, 3, 4 or 5 cells?

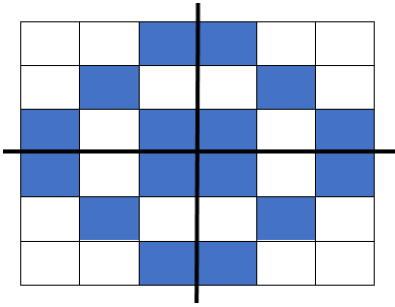
Can you make a prediction about how the number of patterns with 6 cells shaded might relate to the number with 3 cells shaded?



## Check your understanding

### Answers

Shade 4 more spaces on this grid to create a pattern with two lines of symmetry.



Children can check with a mirror – the grid is 6 by 6 so the lines of symmetry can be marked first, as indicated.

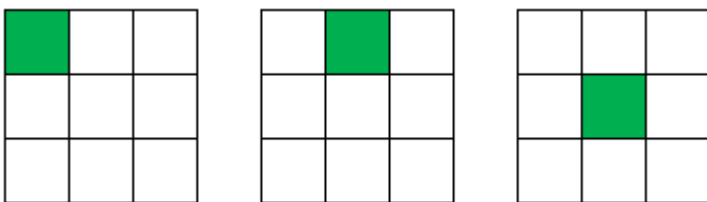
---

By shading just one 'cell' on a 3 by 3 square grid, how many different symmetrical patterns can you make? Be careful not to count reflections or rotations of patterns already made...

How many different patterns can you make if you are allowed to shade 2, 3, 4 or 5 cells?

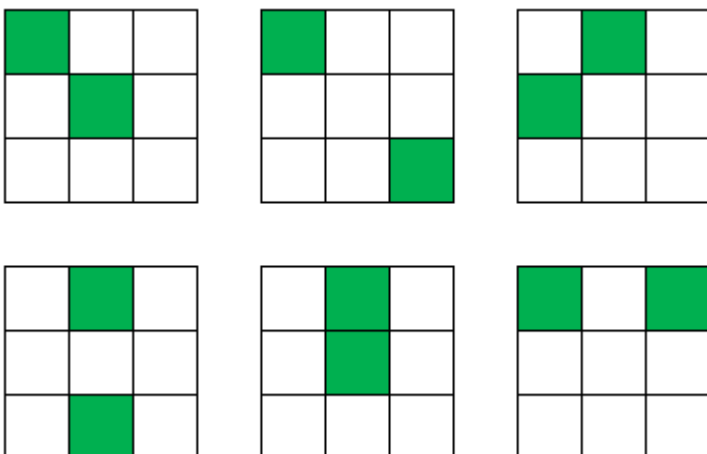
Can you make a prediction about how the number of patterns with 6 cells shaded will relate to the number with 3 cells shaded?

1 cell shaded:



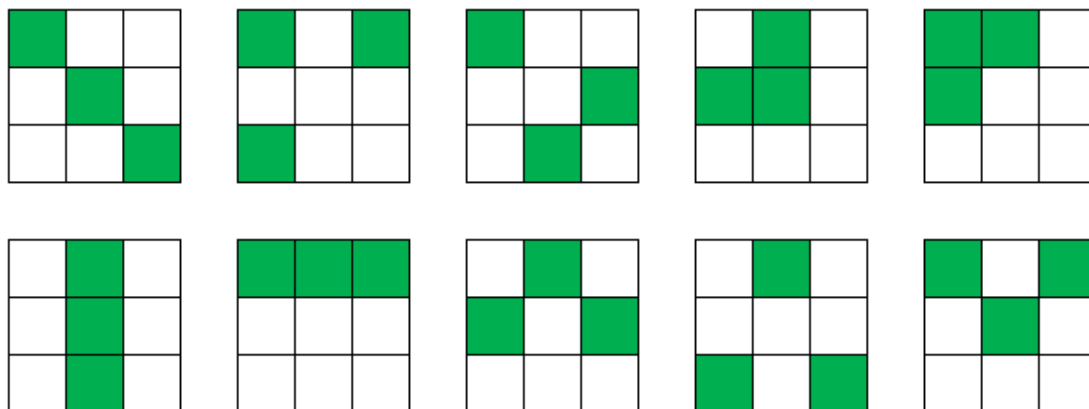
The square has *diagonal* and *side-bisecting* lines of symmetry. Rotating and reflecting the square reveals just these three different patterns.

2 cells shaded



There are 6 different patterns.

3 cells shaded:



There are 10 different patterns.