

Diving into Mastery



Counting Squares

twinkl

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



Diving



Deeper



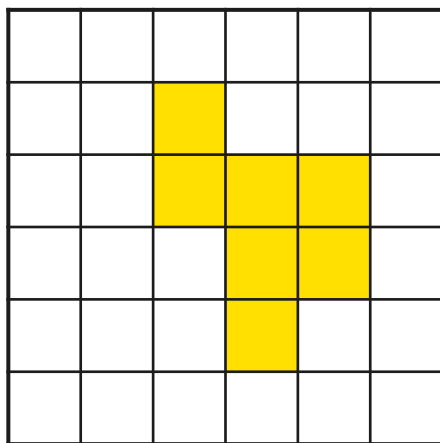
Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

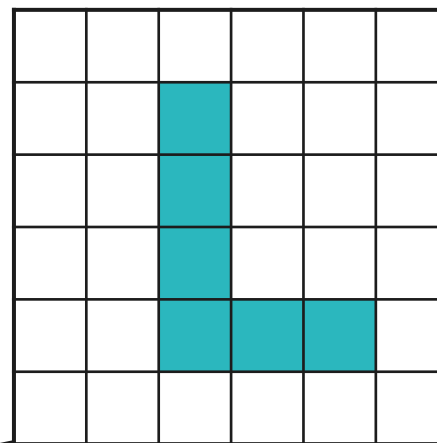
These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.



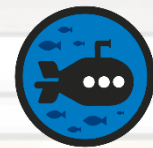
Match each shape to the correct area.



The area of this shape
is 6 squares.

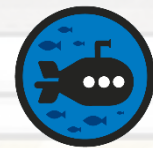


The area of this shape
is 7 squares.

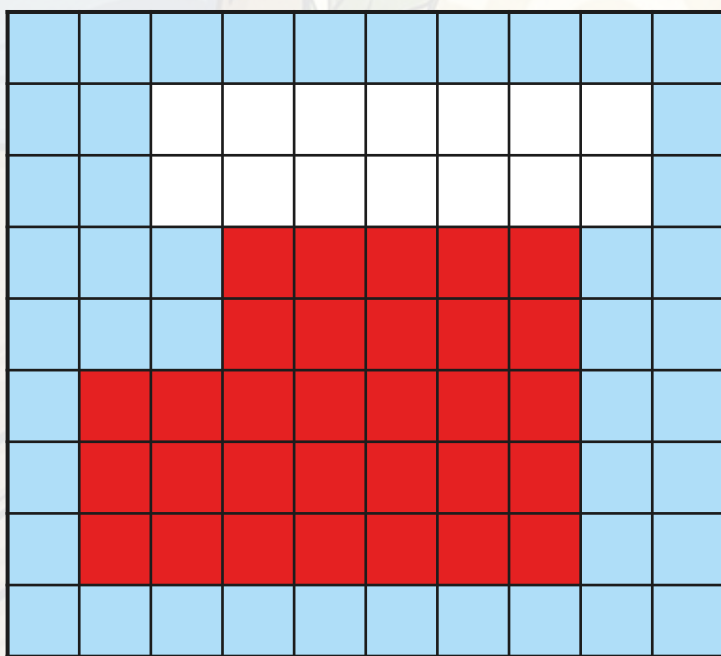


Complete the table.

Shape					Description	Calculation
					<p>There are <u>3</u> squares in each row.</p> <p>There are <u>5</u> rows altogether.</p> <p><u>5</u> rows of <u>3</u> squares equals <u>15</u> squares.</p>	$\boxed{3} \times \boxed{5} = \boxed{15}$ <p>or</p> $\boxed{5} \times \boxed{3} = \boxed{15}$



Count the squares of each colour and add them to find the area of the mosaic.



Blue = **45** squares

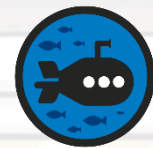
Red = **31** squares

White = **14** squares

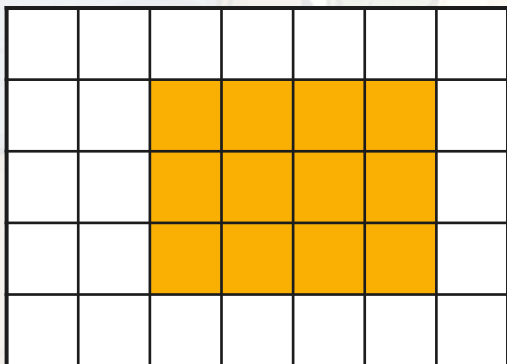
$$\boxed{45} + \boxed{31} + \boxed{14} = \boxed{90} \text{ squares}$$

Write a calculation to find the area of the mosaic.

$$10 \times 9 = 90 \text{ squares}$$



Do you agree or disagree with Tom? Explain your answer.

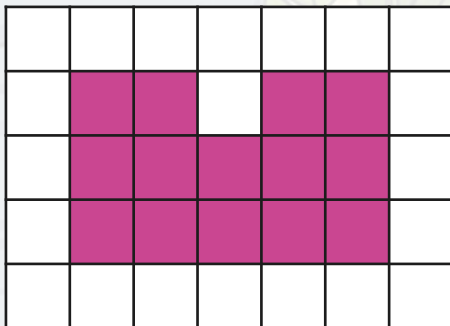
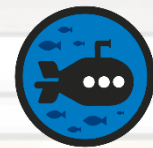


The area of this shape is 16 squares.

Disagree. There are 3 rows of 4 squares, which makes 12 altogether. The area of this shape is 12 squares.

Counting Squares

Deeper



Three children have each calculated the area of this rectilinear shape.

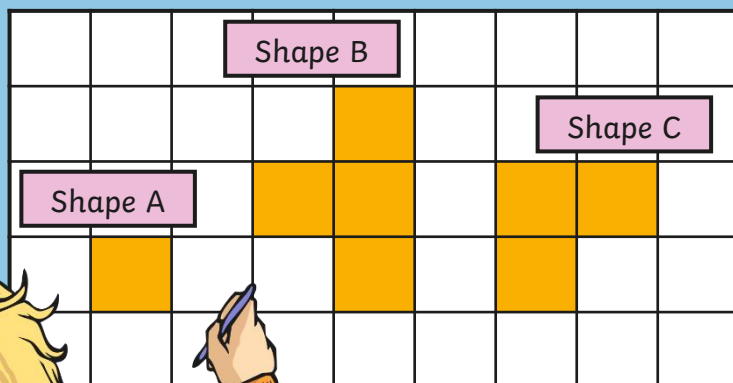
Who is right and who is wrong?
Explain how you know.

Child	Calculation	Tick or Cross	How Do You Know?
Kai	$3 \times 5 = 15$ $15 - 1 = 14$	✓	Kai has written a multiplication calculation to find the area and then subtracted the missing square.
Ellie	$3 + 3 + 2 + 3 + 3 = 14$	✓	Ellie has added each column up correctly, but it is not the best method to use. It would be quicker and easier to use Kai's method.
Alex	$5 \times 3 = 15$	✗	Alex has missed a step. He has multiplied, but has forgotten to subtract the missing square.



Logan has drawn three rectilinear shapes with a total area of 8 squares.

Here is one example he has drawn. Finish off his calculations.



Area of shape A = 1 square

Area of shape B = 4 squares

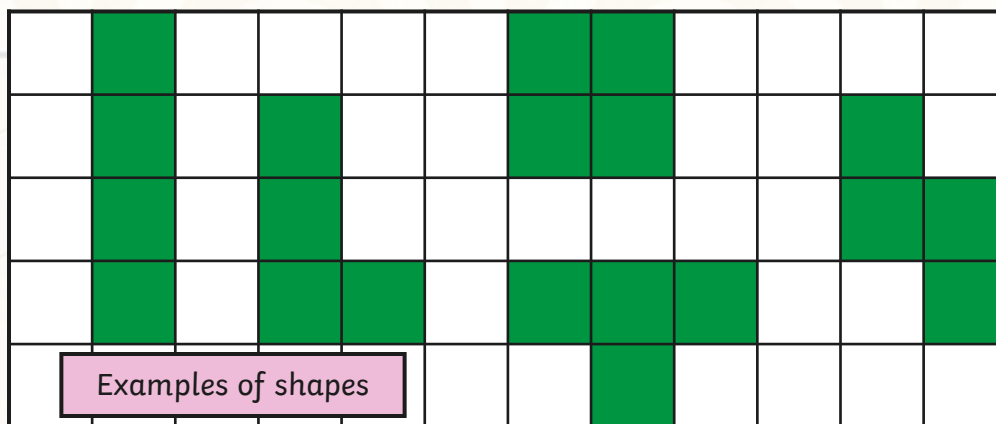
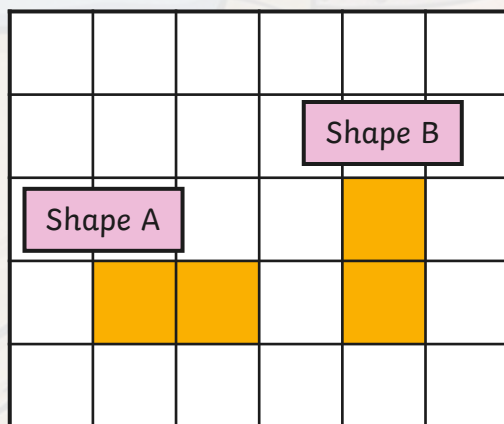
Area of shape C = 3 squares

Total area = $1 + 4 + 3 = 8$ squares



Sonia has also been drawing three rectilinear shapes with a total area of 8 squares. She has drawn a different shape A and shape B.

How many different ways could she draw shape C?



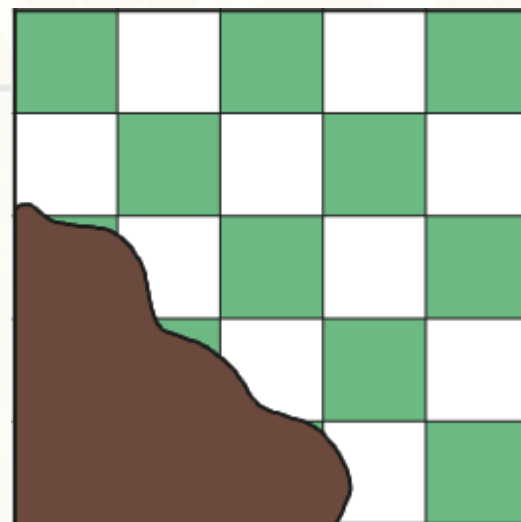
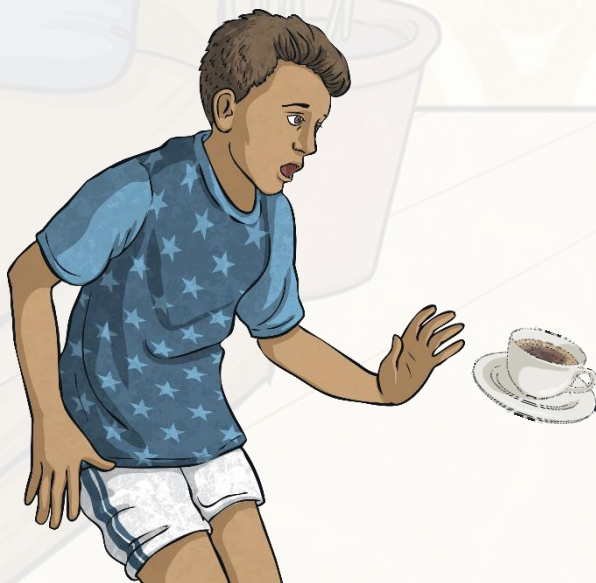
Shape C must contain 4 squares to make 8 in total. Here are the different shapes Sonia could have drawn.

Were any of your shapes the same but a different way round?



Omar has spilt coffee over his new tablecloth.

How many squares are on the tablecloth altogether?



The tablecloth has 5 rows with 5 squares in each row.

$$5 \times 5 = 25 \text{ squares}$$

Counting Squares

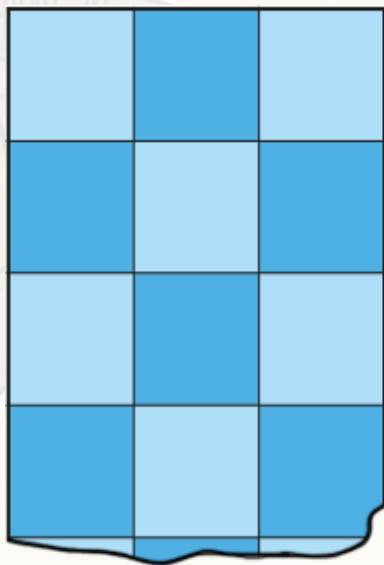
Deepest



Sadie's dog has torn off the bottom of her checked curtain.

What is the smallest possible area of the whole curtain?

$5 \times 3 = 15$ squares

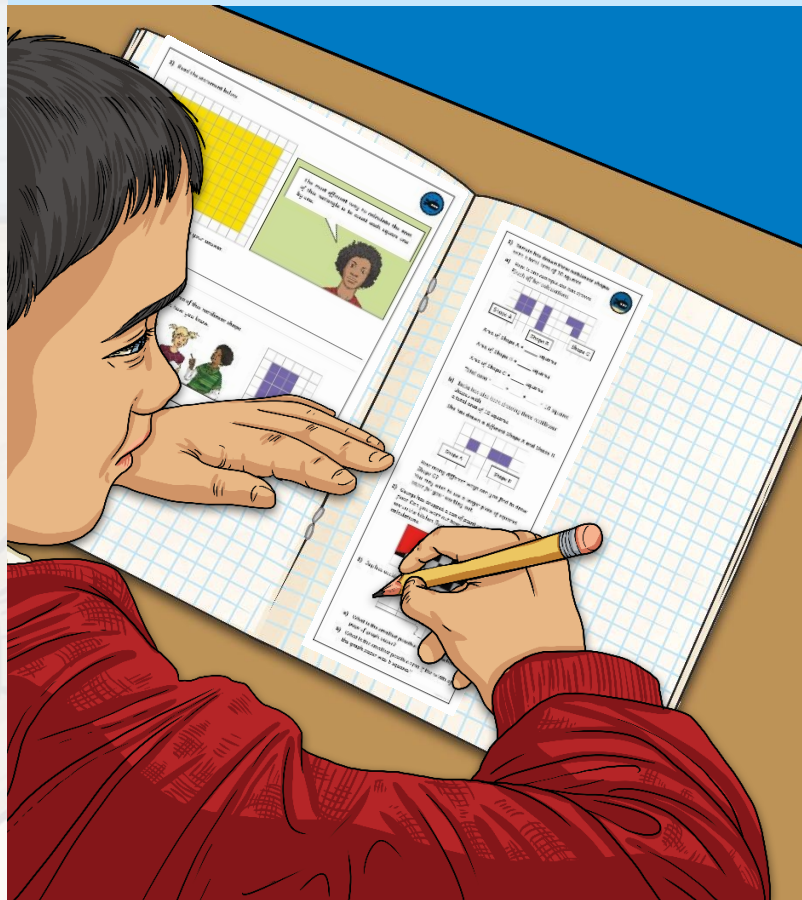


What is the largest possible area of the whole curtain if its original length was 7 squares?

$3 \times 7 = 21$ squares

Counting Squares

Dive in by completing your own activity!



1) Read the story.

The most of this row by one.

Do you agree?

2) Three children are sitting at a table. Who is right?

Child

Ravi

Max

Ava

Child

Ravi

Max

Ava

3) Match each shape to the correct area.

The area of this shape is 10 squares.

The area of this shape is 9 squares.

The area of this shape is 7 squares.

The area of this shape is 6 squares.

The area of this shape is 8 squares.

4) Complete the table.

Shape	Description	Calculation
	There are ____ squares in each row. There are ____ rows altogether. ____ rows of ____ squares equals ____ squares.	____ × ____ = ____ or ____ × ____ = ____
	There are ____ squares in each row. There are ____ rows altogether. ____ rows of ____ squares equals ____ squares.	____ × ____ = ____ or ____ × ____ = ____
	There are ____ squares in each row. There are ____ rows altogether. ____ rows of ____ squares equals ____ squares.	____ × ____ = ____ or ____ × ____ = ____

5) a) Count the squares of each colour and add them to find the area of the mosaic.

Blue = ____ Brown = ____
Green = ____ Yellow = ____
____ + ____ + ____ = ____ squares

b) Write a calculation to find the area of the mosaic: ____

c) Which method is better? Why do you think that?

visit twinkl.com