



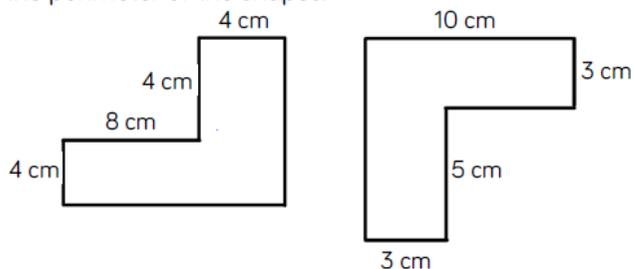
School name: _____ MATHS PLANNING YEAR A



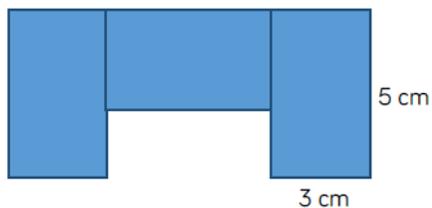
Teacher: _____ Class: _____ Year: _____ Term: Spring 1 Week Commencing: Week 6

Topic		NC Links: Pupils should be taught to:						
Day	Mental/Oral Starter		Main Lesson				Plenary	Assessment
	Objectives	Activity	Objectives	Teaching	Activities	Key Vocabulary	Activity	
Mon	<u>L.O. Recall 12x table</u> <u>L.O. fluency</u> 159x12 = 431÷12= 3997+3889= 806-559=	<u>TMM</u> <u>L.O. To fill in a web</u>	<u>L.O.</u> <u>To calculate the perimeter of rectilinear shapes.</u> <u>Must:</u> find the perimeter <u>Should:</u> note the importance of opposite sides <u>Could:</u> create own shapes and calculate perimeter. <u>Success Criteria</u>	Teach children to begin to calculate perimeter of rectilinear shapes without using squared paper. They use addition and subtraction to calculate the missing sides. Teachers may use part whole models to support the understanding of how to calculate missing sides. Encourage children to continue to label each side of the shape and to mark off each side as they calculate the whole perimeter.	Find area of rectilinear shapes noting the importance of opposite sides. Given the dimensions of a rectangle, chn create different shapes and calculate the perimeter <u>SEN – L.O.</u>	Perimeter Rectangles Addition Subtraction Calculate	Why are opposite sides important when calculating the perimeter of rectilinear shapes? If a rectilinear shape has a perimeter of 24 cm, what is the greatest number of sides it could have? What is the least number of sides it could have?	Exceeding ARE: At ARE: Below ARE: SEND PPG EAL

Find the perimeter of the shapes.

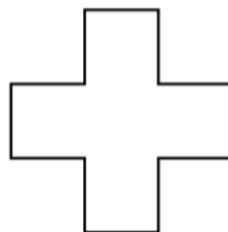


The shape is made from 3 identical rectangles. Calculate the perimeter of the shape.



How many different rectilinear shapes can you draw with a perimeter of 24 cm? How many sides do they each have? What is the longest side? What is the shortest side?

Here is a rectilinear shape. All the sides are the same length and are a whole number of centimetres.

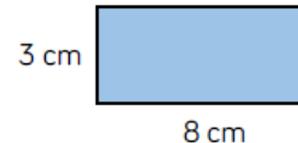


Which of these lengths could be the perimeter of the shape?

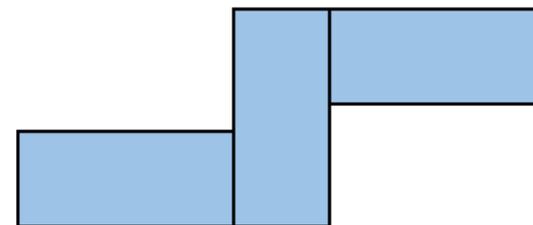
48 cm, 36 cm, 80 cm, 120 cm, 66 cm

Can you think of any other answers which could be correct?

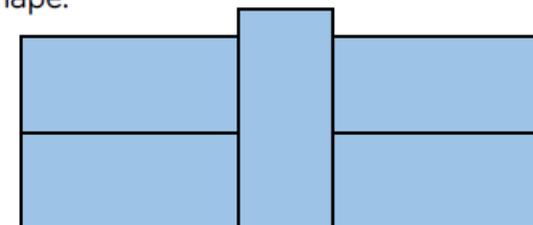
Amir has some rectangles all the same size.



He makes this shape using his rectangles. What is the perimeter?



He makes another shape using the same rectangles. Calculate the perimeter of this shape.



Day	Mental/Oral Starter		Main Lesson				Plenary	Assessment
	Objectives	Activity	Objectives	Teaching	Activities	Key Vocabulary	Activity	
Tues	<u>L.O. Recall 12x table</u> <u>L.O. fluency</u> $2247 + 5214 =$ $4258 - 1789 =$ $147 \times 12 =$ $156 \div 12 =$ $7m = ?cm$	<u>TMM</u> <u>L.O. To fill in a web</u>	<u>L.O. To know what area is</u> Must: know what area is Should: estimate area. Could: solve problems <u>Success Criteria</u>	Children are introduced to area for the first time. They understand that area is the amount space is taken up by a 2D shape or surface. Children investigate different shapes that can be made with sets of sticky notes. They should be encouraged to see that the same number of sticky notes can make different shapes but they cover the same amount of surface. We call this the area of a shape.	Chn estimate area of rectilinear shapes using square sticky-notes. They compare the usefulness of round or square sticky-notes when measuring rectilinear shapes. They solve problems	Area Space Surface	Use square sticky notes to find areas of small items in the classroom, What else could we use? Why are shapes with perpendicular sides more effective to find the area of rectilinear shapes?	Exceeding ARE: At ARE: Below ARE: SEND PPG EAL

Which of the two shapes covers most surface?

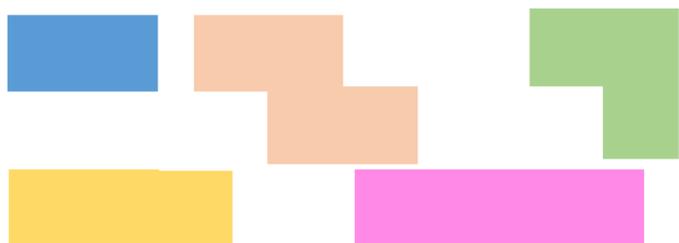


How do you know?

This is a square sticky note.



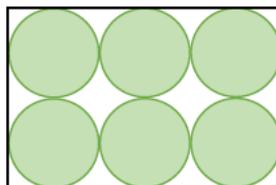
Estimate how many sticky notes you need to make these shapes?



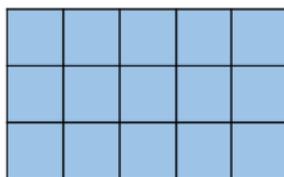
Now make the shapes using sticky notes.
Which ones cover the largest amount of surface? Which ones cover the least amount of surface?

Teddy and Eva are measuring the area of the same rectangle.

Teddy uses circles to find the area.



Eva uses squares to find the area.



Whose method do you think is more reliable?
Explain why.

Two children have measured the top of their desk. They used different sized squares.



Dora

The area of the table top is 6 squares.



Alex

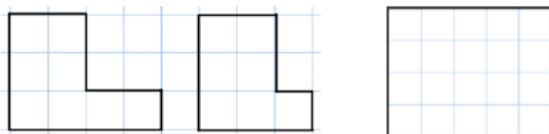
The area of the table top is 9 squares.

Who used the largest squares?
How do you know?

Day	Mental/Oral Starter		Main Lesson				Plenary	Assessment
	Objectives	Activity	Objectives	Teaching	Activities	Key Vocabulary	Activity	
Wed	<p><u>L.O. Recall 12x table</u></p> <p><u>L.O. fluency</u></p> <p>369x12 = 881÷12= 4089+777= 966-456=</p>	<p>TMM</p> <p>L.O. To identify multiples of 12</p>	<p><u>L.O. To find area by counting squares</u></p> <p>Must: count squares to find area</p> <p>Should: begin to use times tables knowledge</p> <p>Could: solve problems</p> <p><u>Success Criteria</u></p>	<p>Once children understand that area is measured in squares, they use the strategy of counting the number of squares in a shape to measure and compare the areas of rectilinear shapes. They explore the most efficient method of counting squares and link this to their understanding of squares and rectangles</p>	<p>Chn find area by counting squares recording each one as they go.</p> <p>Chn find coloured area on a patchwork quilt.</p> <p>Chn use knowledge of times tables to find area</p> <p>Solve problems</p> <p>SEN – <u>L.O.</u></p>	<p>Area Space Surface Square Rectangle</p>	<p>What strategy can you use to ensure you don't count a square twice?</p>	<p>Exceeding ARE:</p> <p>At ARE:</p> <p>Below ARE:</p> <p>SEND</p> <p>PPG</p> <p>EAL</p>

What strategy can you use to ensure you don't count a square twice?

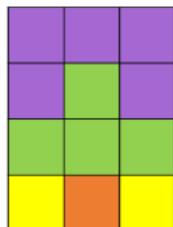
Complete the sentences for each shape.



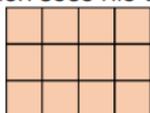
The area of the shape is ___ squares.

Here is a patchwork quilt.
It is made from different coloured squares.
Find the area of each colour.

Purple = ___ squares Green = ___ squares
Yellow = ___ squares Orange = ___ squares

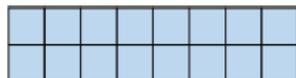


Jack uses his times-tables to count the squares more efficiently.

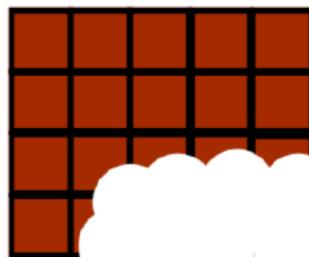


There are 4 squares in 1 row.
There are 3 rows altogether.
3 rows of 4 squares = 12 squares

Use Jack's method to find the area of this rectangle.

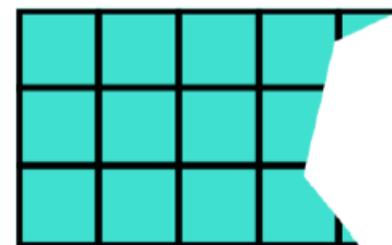


Dexter has taken a bite of the chocolate bar.



The chocolate bar was a rectangle.
Can you work out how many squares of chocolate there were to start with?

This rectangle has been ripped.



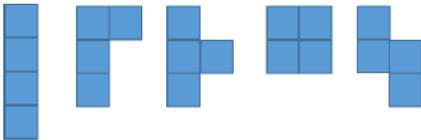
What is the smallest possible area of the original rectangle?

What is the largest possible area if the length of the rectangle is less than 10 squares?

Day	Mental/Oral Starter		Main Lesson				Plenary	Assessment
	Objectives	Activity	Objectives	Teaching	Activities	Key Vocabulary	Activity	
Thurs	<p><u>L.O. Recall 12x table</u></p> <p><u>L.O. fluency</u></p> <p>400 - 257 = 104 x 12 = 168 ÷ 12 = 4571 + 1554 = 70cm = ?mm</p>	<p>TMM</p> <p><u>L.O. To fill in a Venn Diagram</u></p>	<p><u>L.O. To make shapes from a known area.</u></p> <p><u>Must:</u> make rectilinear shapes from squares <u>Should:</u> find the area of the shapes. <u>Could:</u> solve problems</p> <p><u>Success Criteria</u></p>	<p>Teach children to make rectilinear shapes using a given number of squares. It is important that children understand that the rectilinear shapes they make need to touch at the sides not just at the corners. They can work systematically to find all the different rectilinear shapes by moving one square at a time.</p>	<p>Children make rectilinear shapes using a given number of squares.</p> <p>They find the area of their shapes.</p> <p>Solve problems</p> <p>SEN – <u>L.O.</u></p>	<p>Squares Rectangles Rectilinear Area</p>	<p>How many different rectilinear shapes can you make with 8 squares? Will the area always be the same? Why?</p>	<p>Exceeding ARE:</p> <p>At ARE:</p> <p>Below ARE:</p> <p>SEND</p> <p>PPG</p> <p>EAL</p>

Ron has 4 squares.

He systematically makes rectilinear shapes.



Use 5 squares to make rectilinear shapes.

Can you work systematically?

Use squared paper to draw 4 different rectilinear shapes with an area of 12 squares.

Compare your shapes to a partner.

Are they the same?

Are they different?

Mo is building a patio made of 20 square slabs.

What could the patio look like?

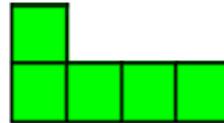
Mo is using 6 black square slabs in his design.

None of them are touching each other.

Where could they be in the designs you have made?



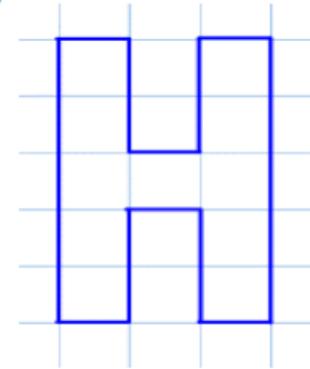
Here is a rectilinear shape.



Using 7 more squares, can you make a rectangle?

Can you find more than one way?

Can you make some capital letters on squared paper using less than 20 squares?



Make a word from some and count the total area of the letters.

Which letters have a line of symmetry?

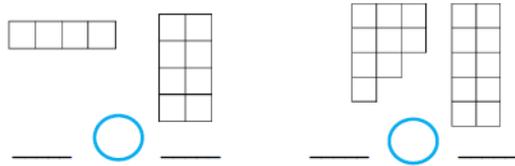
What is the area of half of each letter?

Day	Mental/Oral Starter		Main Lesson				Plenary	Assessment
	Objectives	Activity	Objectives	Teaching	Activities	Key Vocabulary	Activity	
Fri	<u>L.O. Recall 12x table</u> <u>L.O. fluency</u> 550 - 349 = 188 x 12 = 898 ÷ 12 = 406 + 1554 = 90cm = ?mm	<u>TMM</u> <u>L.O. To Solve a multiplication pyramid</u>	<u>L.O. To Compare Area</u> Must: find the area Should: draw shapes with larger/smaller areas Could: solve problems <u>Success Criteria</u>	Teach children to compare the area of rectilinear shapes where the same size square has been used. Children will be able to use <and >with the value of the area to compare shapes. They will also put shapes in order of size by comparing their areas.	Chn sort shapes according to area, including $\frac{1}{2}$ squares. Chn draw shapes with less than or more than the area of the shape given. Chn spot patterns in an enlarging shape and predict next shape. Solve problems SEN – <u>L.O.</u>	Greater than Less than Equal Area Larger Smaller.	How much larger/smaller is the area of the shape? How can we order the shapes? Can we draw a shape that would have the same area?	Exceeding ARE: At ARE: Below ARE: SEND PPG EAL

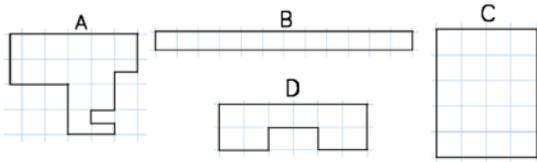
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Use the words 'greater than' and 'less than' to compare the rectilinear shapes.

Complete the sentence stems using < and >



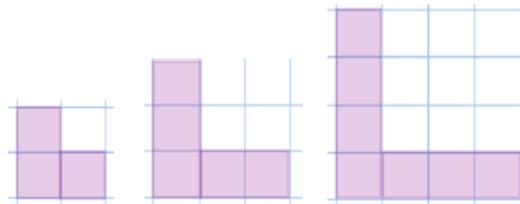
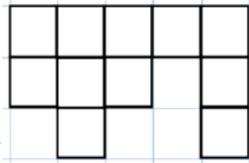
Put the shapes in order from largest to smallest area.



Here is a shape.

Draw a shape that has a smaller area than this shape but an area greater than 7 squares.

Draw a shape that has an area equal to the first shape, but looks different.



Look at the shapes. Can you spot the pattern and explain how the area is changing each time?

Draw the next shape. What is its area?

Can you predict what the area of the 6th shape would be?

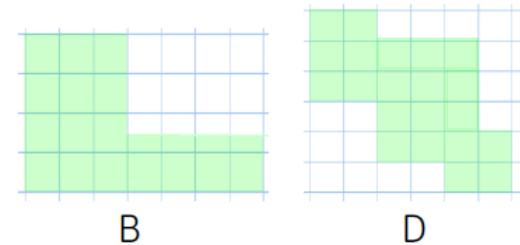
Can you spot any patterns in your answers?

Shape C has been deleted.

Area C > Area B

Area C < Area D

Can you draw what shape C could look like?



Shape A is missing too.

- It has the smallest area.
- It is symmetrical.

Can you draw what it could look like?