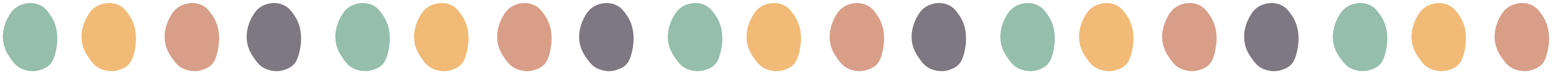


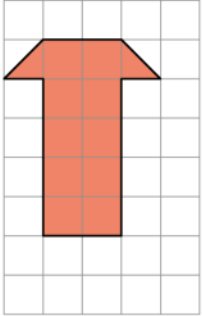
Y5- Overview

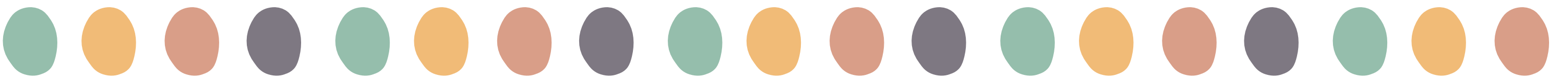
	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1	Summer 2	
Unit	1	2	3	4	5		6	7	8	9	10

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Understand the concept of area (1 week)
Ready to progress	5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.
NCETM documents	FROM 4.1 TO POINT 5 https://www.ncetm.org.uk/media/dbwkd5mv/ncetm_spine2_segment16_y4.pdf#page=22
Small steps	- To explain what area is. - To measure area using counting with squares as a strategy. - To make different shapes with the same area. - To compare the area of different shapes. - To solve problems involving counting and drawing the areas of different shapes.
Links	NCETM- https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-5-area-and-scaling/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/understand-the-concept-of-area/lessons?sid-cb1bab=2x8okMcU7B&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/account/resources Mastery with greater depth https://www.ncetm.org.uk/media/lp0o2lgn/mastery_assessment_y5.pdf
Reasoning	Undoing The area of a shape is between 40 and 50 square units. What could the shape look like? Can you draw or describe two different shapes that would fit this condition? Other Possibilities A rectangle has an area of 24 square units. What could its length and width be? Can you find three different rectangles that would work? How do they compare in shape even though the area is the same?



	Understand the concept of area
Problem solving	Click on me
Glossary	• Polygon - A two-dimensional shape made up of three or more straight lines. • Tessellate - A shape tessellates if copies of it can fully cover a space without overlapping. • Area - The measurement of a flat surface. It measures a 2D space. • Square units - A square of a set size used to measure area. • Rectilinear - Rectilinear shapes are 2D polygons composed of one or more rectangles.
Stem sentences	Area is the measurement of the surface of a flat item. Perimeter is the measurement of the distance around the edge of an item This shape has an area of _____ square units.
Representations	What is the area of this shape? 

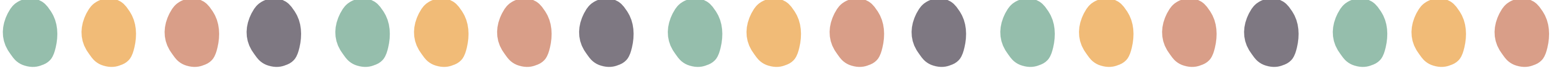


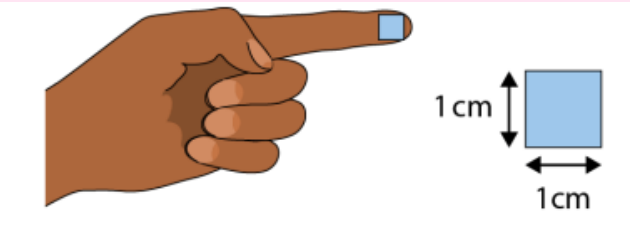
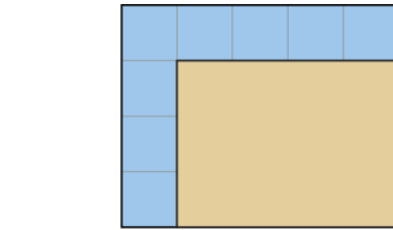
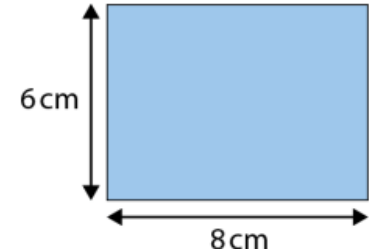
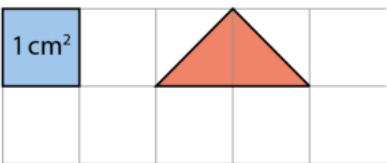
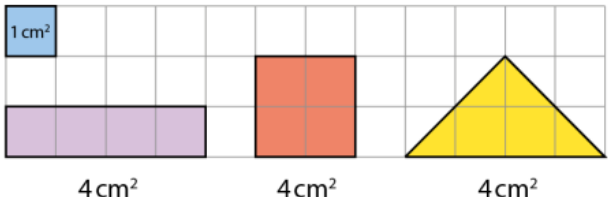
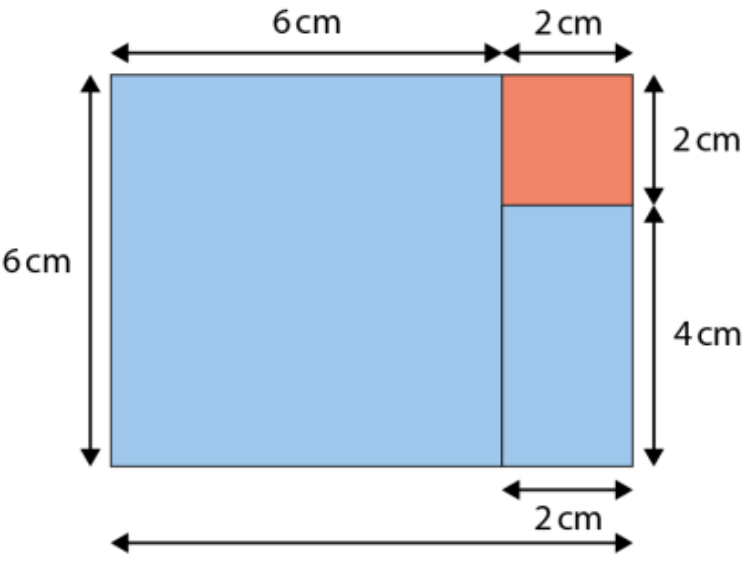
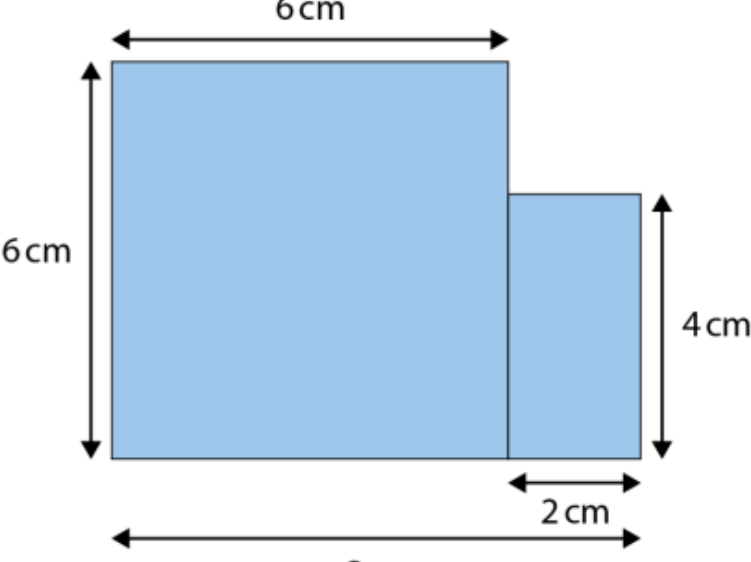
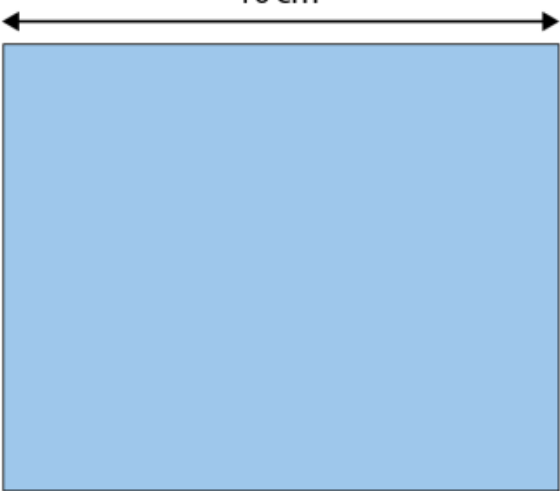
Y5- Overview

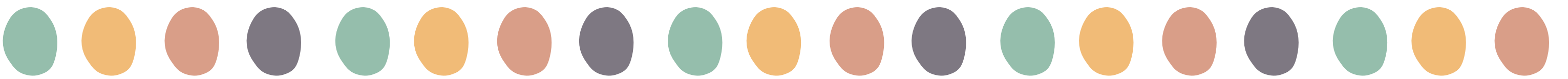
	Autumn 1		Autumn 2		Spring 1	Spring 2		Summer 1	Summer 2	
Unit	1	2	3	4	5	6	7	8	9	10

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Link area of rectangles to multiplication (2 weeks)
Ready to progress	5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.
NCETM documents	FROM POINT 5 TO THE END https://www.ncetm.org.uk/media/dbwkd5mv/ncetm_spine2_segment16_y4.pdf#page=22
Small steps	- To measure the area of flat shapes using square centimetres. - To measure the area of flat shapes using square metres. - To calculate the area of a rectangle using multiplication. - To calculate the areas of rectangles using multiplication. - To calculate the area of shapes made from 2 rectangles by decomposing the shape in different ways. - To calculate the area of compound rectilinear shapes. - To choose an efficient way to decompose a compound shape to calculate the area. - To calculate missing dimensions in rectangles and compound rectilinear shapes. - To calculate the area of shapes made from 2 or more rectangles. - To use knowledge of area to solve problems in a range of contexts.
Links	NCETM-https://www.ncetm.org.uk/classroom-resources/cp-year-5-unit-5-area-and-scaling/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/link-area-of-rectangles-to-multiplication/lessons?sid-ldaa02=U66f2wifeD&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/account/resources Mastery with greater depth https://www.ncetm.org.uk/media/lp0o2lgv/mastery_assessment_y5.pdf
Reasoning	Undoing The area of a shape is between 40 and 50 square units. What could the shape look like? Can you draw or describe two different shapes that would fit this condition? Other Possibilities A rectangle has an area of 24 square units. What could its length and width be? Can you find three different rectangles that would work? How do they compare in shape even though the area is the same?



	Understand the concept of area
Problem solving	 Click on me
Glossary	• Square centimetres - Square centimetres are the area equal to a square that is one centimetre on each side. • Rectilinear - A rectilinear shape is a 2D shape with straight sides and right angles • Array - Items (including numbers) arranged in columns or rows are called arrays. • Length - Length is the distance from one point to another. • Width - Width is the distance from side to side. • Compound - A compound shape is one made up of two or more shapes. • Dimension - A dimension is a measurement of length in one direction. Width and height are examples of the dimensions of 2D shapes. •
Stem sentences	We can measure area in square centimeters. We can write this as "cm²" Area- The _____ represents the _____ E.G The 5cm represents the width The 4cm represents the length The 20cm represents the area. To find the area of a rectangle multiply the length by the width. Area (divide) by know side = unknown side.
Representations	 What is the area of this rectangle?  $5\text{ cm} \times 4\text{ cm} = 20\text{ cm}^2$ $4\text{ cm} \times 5\text{ cm} = 20\text{ cm}^2$ $A = 20\text{ cm}^2$ • 'The "5 cm" represents the width.' • 'The "4 cm" represents the length.' • 'The "20 cm²" represents the area.' Using multiplication to calculate the area of rectangles:  $6\text{ cm} \times 8\text{ cm} = 48\text{ cm}^2$ Representing 1 cm²:  Different shapes with the same area:  4 cm² 4 cm² 4 cm² Finding the area by making one large rectangle: 'What is the area of this shape?'  $A = 8\text{ cm} \times 6\text{ cm} - 2\text{ cm} \times 2\text{ cm} = 44\text{ cm}^2$ Finding the area using two rectangles: 'What is the area of this shape?'  $A = 6\text{ cm} \times 6\text{ cm} + 2\text{ cm} \times 4\text{ cm} = 44\text{ cm}^2$ 'The area of this rectangle is 80 cm². How long is the short side?'  $A = 80\text{ cm}^2$ $80 \div 10 = 8$ short side = 8 cm

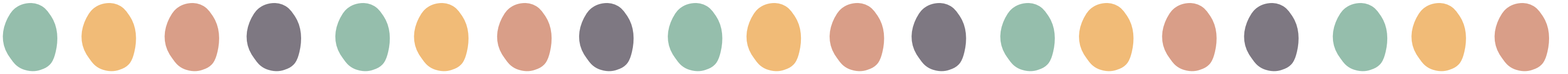


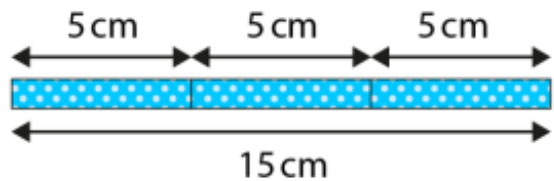
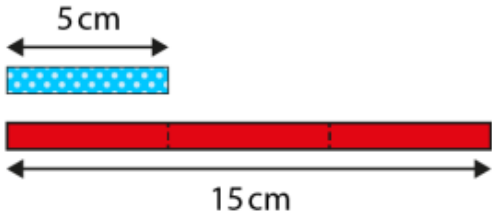
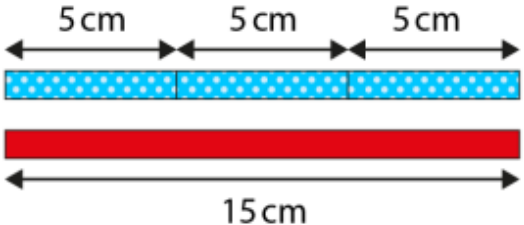
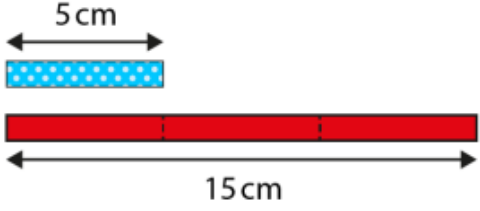
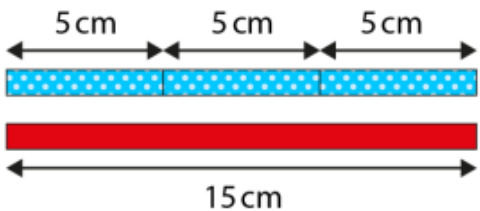
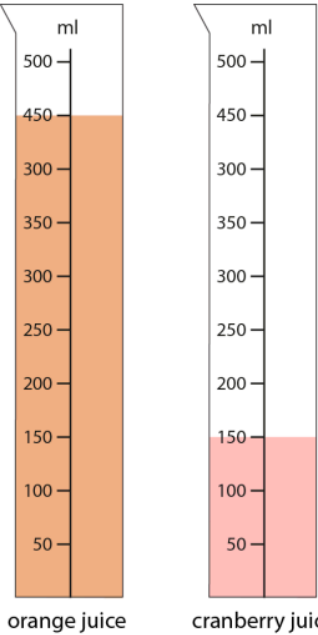
Y5- Overview

	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2	
Unit	1	2	3	4	5		6	7	8	9	10	

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	<u>Compare and describe measurements using knowledge of multiplication and division</u>
Ready to progress	5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.
NCETM documents	WHOLE DOCUMENT https://www.ncetm.org.uk/media/xega5ms/ncetm_spine2_segment17_y4.pdf#page=6
Small steps	To compare and describe lengths using knowledge of multiplication To solve comparison and change problems using multiplication To compare and describe lengths using knowledge of division To solve comparison and change problems using division To solve problems involving comparison and change deciding when to use multiplication or division To compare and describe measurements involving mass and capacity. To compare and describe measurements involving time and money To describe changes in measurements using knowledge of multiplication and division To use knowledge of multiplication and division to solve comparison and change problems To solve comparison and change problems in a range of contexts
Links	NCETM-https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.ncetm.org.uk%2Fmedia%2Fttbdvloc%2Fcp-year-5-unit-5-area-and-scaling.pptx&wdOrigin=BROWSELINK OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/compare-and-describe-measurements-using-knowledge-of-multiplication-and-division/lessons?sid-fff13a3=2a9NFXILTq&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/account/resources Mastery with greater depth https://www.ncetm.org.uk/media/lp0o2lgv/mastery_assessment_y5.pdf
Reasoning	Top Tips Put these amounts in order starting with the largest 130000cm² 1.2 m² 13 m² Explain your thinking Undoing A school play ends at 6.45pm. The play lasted 2 hours and 35 minutes. What time did it start? Write more statements Mr Smith needs to fill buckets of water. A large bucket holds 6 litres and a small bucket holds 4 litres. If a jug holds 250 ml and a bottle holds 500 ml suggest some ways of using the jug and bottle to fill the buckets. Always, sometimes, never When you cut off a piece of a shape you reduce its area and perimeter. Working backwards Put these lengths of time in order starting with the longest time. 105 minutes 1 hour 51 minutes 6360 seconds The answer is 0.3km What is the question? What do you notice? What do you notice? 1 minute = 60 seconds 60 minutes = seconds Fill in the missing number of seconds down some more time facts like this.



	Compare and describe measurements using knowledge of multiplication and division
Problem solving	 Click on me
Glossary	• Polygon - A two-dimensional shape made up of three or more straight lines. • Tessellate - A shape tessellates if copies of it can fully cover a space without overlapping. • Area - The measurement of a flat surface. It measures a 2D space. • Square units - A square of a set size used to measure area. • Rectilinear - Rectilinear shapes are 2D polygons composed of one or more rectangles.
Stem sentences	Relationship between 2 lengths- The _____ is _____ times the length of the _____. (The spotty ribbon is one-third the length of the plain ribbon.) When one is a factor, the product is equal to the other factor. If two objects are the same length, one object is one times the length of the other. _____ multiplied by _____ is equal to _____. _____ is _____ times the size of _____. _____ multiplied by _____ is equal to _____. _____ divided by _____ is equal to _____. _____ is _____ times the size of _____.
Representations	Calculating the combined length of three short ribbons:  • 'The combined length of three spotty ribbons is fifteen centimetres.' $5\text{ cm} \times 3 = 15\text{ cm}$ • 'Five centimetres times by three is equal to fifteen centimetres.' Writing the equation:  $15\text{ cm} \times \frac{1}{3} = 5\text{ cm}$ Concluding the length of the long ribbon: • 'So the plain ribbon is fifteen centimetres long.'  • 'The plain ribbon is <u>three times</u> the length of the spotty ribbon.' $5\text{ cm} \times 3 = 15\text{ cm}$ • 'The "5 cm" represents the length of one spotty ribbon.' • 'The "3" represents the number of spotty ribbons that are equal to the length of the plain ribbon.' • 'The "15 cm" represents the length of three spotty ribbons. It also represents the length of the plain ribbon.'  $15\text{ cm} \times \frac{1}{3} = 5\text{ cm}$ $15\text{ cm} \div 3 = 5\text{ cm}$   orange juice cranberry juice • 'The volume of orange juice is <u>three times</u> the volume of cranberry juice.' $150\text{ ml} \times 3 = 450\text{ ml}$