

# Lacewood Primary School Mathematics Non-Number Tracker



FS1
FS2
Year 1
Year 2
Year 3
Year 4
Year 5
Year 6

<p><b>Pre-entry to FS1 Observation Checkpoints</b></p> <ul style="list-style-type: none"> <li>Plays with toys such as stacking cups or building bricks – in a trial and error manner</li> <li>Makes some noises/sounds as if engaging with counting, might say some numbers,</li> <li>Arranges objects and shapes into simple patterns/shapes.</li> <li>Completes simple inset puzzles</li> </ul>	
<p><b>Spotting Patterns – Shape, Space and Measurement</b></p>	
<p><b>3 to 4 year olds – FS1</b></p>	<p><b>4 to 5 year olds – FS2</b></p>
<p><b>Knowledge, Skills and Understanding</b></p>	
<ul style="list-style-type: none"> <li>To know how to notice and describe the differences and similarities between shapes using everyday language and common shape names.</li> <li>To know how to partition and combine shapes to make new shapes. (2d and 3d)</li> <li>To know how to continue or copy a pattern and then spot an error (AB 2 step) (numbers, letters, sounds, objects, dance and movements)</li> <li>To know how to make comparisons between objects linked to number, size, length, weight and capacity.</li> <li>To know how to identify, from a set of 2 objects, which is longest/shortest, heavier/lighter etc.</li> <li>To know the language of position. (e.g. on under, behind, in front of etc.)</li> <li>To know the language of direction (forwards, backwards, up, down)</li> <li>To begin to describe a sequence of events using words such as first, next, then</li> </ul>	<ul style="list-style-type: none"> <li>To know how to count and recognise numbers beyond 10 and spot patterns in the number system</li> <li>To know odd and even numbers to 10 and beyond.</li> <li>To know doubles facts within 0 to 10 and then beyond.</li> <li>To know how to make equal groups from quantities and objects.</li> <li>To know increasingly detailed vocabulary and language to compare numbers, patterns, shapes, length, weight, capacity and time.</li> <li>To know how to compose and decompose shapes so that children can see a shape can have other shapes inside it, just as numbers can.</li> <li>To know how to continue, copy and create repeating patterns, identifying the pattern rule.</li> <li>To know everyday language and mathematical terms to describe shapes.</li> <li>To know spatial/positional language and relative terms to describe what they see from different viewpoints.</li> <li>To know how to solve problems, puzzles and challenges involving the application of reasoning about numbers, shape, space and measures.</li> <li>To know how to measure simple units of time with timers, clocks and calendars.</li> </ul>

**End Points/Skills Check**

- So that I can choose items based on their shape which are appropriate for my purpose.
- So that I can talk about and describes 2d and 3d shapes using everyday language and common shape names.
- So that I can combine shapes (2d and 3d) to make new shapes in my play. E.g. building an arch or an enclosure etc.
- So that I can continue or copy a pattern and can spot when an error occurs. (using numbers, letters, sounds, objects, actions in 2 steps AB/AB/AB)
- So that, when playing, I can compare 2 objects and the differences between them according to either number, size, length, weight or capacity.
- So that I can identify, from 2, the longest/shortest, heavier/lighter etc.
- So that I can use positional language to describe or identify the position of an object.
- So that I can describe the direction of myself or another object/person, or follow the direction given to me by another.
- So that I can place an object into a desired position.
- So that I can recall a sequence of events in everyday life and stories using simple language of time.

- So that I can count and recognise numbers beyond 10, using knowledge of the number system (e.g. spotting patterns on a 100 square).
- So that I can recognise and notice patterns in numbers e.g. odd and even numbers, doubles facts and equal groups.
- So that I use a greater range of vocabulary and language to describe the similarities and differences between numbers, patterns, shapes, length, weight, capacity and time.
- So that I can compose and decompose shapes to make other shapes.
- So that I can uses familiar objects, actions, sounds and shapes to create and recreate repeating patterns beyond 2 steps (AB = ABB, ABB etc.)
- So that I can spot patterns in the environment and identify the pattern rule.
- So that I use spatial/positional language and relative terms to describe what I can see from different viewpoints.
- So that I can make maps and models to represent environments with landmarks and features.
- So that I can use reasoning skills and prior learning about numbers, shape, space and measures to solve problems, puzzles and challenges.
- So that I can show an awareness of time using timers, clocks and calendars during the day to indicate key times, days or events.

**EYFS Numerical Patterns Vocabulary**

Shape  
 Same/not the same  
 Under  
 Over  
 On  
 Size  
 Length/Long  
 Heavy

Sort  
 Match  
 Belong  
 Together  
 Same/similar  
 Different  
 Compare  
 Circle

	Light Position Group Pattern 2 step Continue Next Then		Triangle Square Rectangle Side Corner Face 2d 2 dimensional 3d 3 dimensional Pattern Problem Solution Double Half
	<b>Geometry – properties of shapes</b>	<b>Measurement</b>	<b>Geometry – position and direction</b>
<b>Year 1</b>			
	<p><b>I know that:</b> each 2d shape has a set of features which define it. Including the number of sides and corners.</p> <p><b>I know:</b> the difference between squares, rectangles, circles and triangles are 2D shapes.</p> <p><b>I know that:</b> each 3d shape has a set of features which define it. Including the number of sides and corners and faces.</p> <p><b>I know:</b> the difference between cubes, cuboids, spheres and cones are 3D shapes.</p>	<p><b>I know that:</b> length and height are measured the same way and what objects would be measured this way.</p> <p><b>I know that:</b> mass is weight and the equipment I would select to measure it.</p> <p><b>I know:</b> the value of coins and notes</p> <p><b>I know:</b> there are seven days in a week, twelve months in a year and 24 hours in a day.</p> <p><b>I know:</b> time is measured in hours and minutes.</p> <p><b>I know:</b> that there are 60 minutes in an hour and half an hour is 30 minutes.</p>	<p><b>I know that:</b> direction means which way an object is moving.</p> <p><b>I know that:</b> position is where an object is.</p> <p><b>I know that:</b> we can use fractions to describe, turns and movement. I.e. half way, a quarter turn.</p>
	No programme of study for year 1		

	<p><b>So that I can:</b> recognise and name common 2-D and 3-D shapes</p>	<p><b>So that I can:</b> Compare, describe and solve practical problems for: lengths and heights, mass/weight, capacity and volume, time</p> <p><b>So that I can:</b> measure and begin to record the following: lengths and heights, mass/weight, capacity and volume, time</p> <p><b>So that I can:</b> recognise and know the value of different denominations of coins and notes</p> <p><b>So that I can:</b> sequence events in chronological order using language</p> <p><b>So that I can:</b> recognise and use language relating to dates, including days of the week, weeks, months and years</p> <p><b>So that I can:</b> tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</p>	<p><b>So that I can:</b> describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p>	
	<p><b><u>Vocabulary</u></b> Sides Corners Properties Pyramids Faces 2-D 3-D Rectangle Circle</p>	<p><b><u>Vocabulary</u></b> Compare Mass Volume  Chronological order Days of the week Months of the year Month Year</p>	<p><b><u>Vocabulary</u></b> Position Direction Movement Whole turn Quarter turn Half turn Three-quarter turn</p>	<p><b><u>Vocabulary</u></b> N/A</p>

	Triangle Cube Cuboid Sphere Cone	O'clock Half past Second  Money Coins Notes Pounds (£) Pence (p)		
	<b>Geometry – properties of shapes</b>	<b>Measurement</b>	<b>Geometry – position and direction</b>	<b>Statistics</b>
	<b>Year 2</b>			
	<p><b>I know that:</b> symmetry is a reflection of an object across a mirror line.</p> <p><b>I know that:</b> 2d shape properties include the number of sides, vertices (corners) and lines of symmetry.</p> <p><b>I know that:</b> lines of symmetry can be found in the centre of a 2d shape vertically and horizontally and that the shape should appear identical across the line to be symmetrical.</p> <p><b>I know that:</b> 3-D shapes have defining features including the number of edges, vertices and faces.</p> <p><b>I know that:</b> the faces of 3d shapes are mainly made up of 2d shapes.</p>	<p><b>I know that:</b> g, kg represents weight and cm, m, km represents distance/height ml, l represent capacity</p> <p><b>I know that:</b> different resources need to be selected to measure these effectively.</p> <p><b>I know that:</b> each coin or note holds a specific value and that we can substitute these for different coins with an equivalent value.</p> <p><b>I know that:</b> a pound has 100 pence.</p> <p><b>I know that:</b> time can be written in 12/hour and 24 hour and the times although expressed with different number may represent the same time.</p> <p><b>I know that:</b> there are 24 hours in a day and 60 minutes in an hour.</p>	<p><b>I know that:</b> patterns and sequences occur when combinations of objects and sequences occur more than once.</p> <p><b>I know that:</b> rotation is described initially as a turn and progresses to right angles for quarter, half and three-quarter turns.</p> <p><b>I know:</b> the direction of clockwise and anti-clockwise.</p>	<p><b>I know that:</b> pictograms, tally charts, block diagrams and simple tables show data and information.</p> <p><b>I know that:</b> categories are used to separate information.</p> <p><b>I know that:</b> data is placed in charts and diagrams to provide a comparison.</p>

	<p><b>So that I can:</b> identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</p> <p><b>So that I can:</b> identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</p> <p><b>So that I can:</b> identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid)</p> <p><b>So that I can:</b> compare and sort common 2-D and 3-D shapes and everyday objects.</p>	<p><b>So that I can:</b> choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</p> <p><b>So that I can:</b> compare and order lengths, mass, volume/capacity and record the results using &gt;, &lt; and =</p> <p><b>So that I can:</b> recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</p> <p><b>So that I can:</b> find different combinations of coins that equal the same amounts of money</p> <p><b>So that I can:</b> solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</p> <p><b>So that I can:</b> compare and sequence intervals of time</p> <p><b>So that I can:</b> tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</p> <p><b>So that I can:</b> know the number of minutes in an hour and the number of hours in a day.</p>	<p><b>So that I can:</b> order and arrange combinations of mathematical objects in patterns and sequences</p> <p><b>So that I can:</b> use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).</p>	<p><b>So that I can:</b> interpret and construct simple pictograms, tally charts, block diagrams and simple tables</p> <p><b>So that I can:</b> ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</p> <p><b>So that I can:</b> ask and answer questions about totalling and comparing categorical data.</p>
	<u>Vocabulary</u>	<u>Vocabulary</u>	<u>Vocabulary</u>	<u>Vocabulary</u>

	<p>Pentagon Hexagon Line of symmetry Properties Cylinder Edges Vertices vertex</p>	<p>Standard units Estimate Order Record results Centimetre cm Metre m</p> <p>Kilogram kg Gram g Quarter full Three quarters full Litres l Millilitres ml Temperature Celsius</p> <p>Intervals of time Quarter past/to Duration</p> <p>Value Change</p>	<p>Clockwise / anticlockwise Straight line Rotation Arrange Sequences</p>	<p>Pictograms Tally chart Block diagram Category Sorting Totalling Comparing Horizontal Vertical</p>
	<b>Geometry – properties of shapes</b>	<b>Measurement</b>	<b>Geometry – position and direction</b>	<b>Statistics</b>
	<b>Year 3</b>			
	<p><b>I know that:</b> right angles form the corner of a square at 90 degrees and that two right angles make a half-turn, three make three quarters of a turn and four a complete turn.</p>	<p><b>I know that:</b> /kg represent weight, cm, m, km represent distance/height and that ml,l represent capacity.</p>	<p>no programme of study for year 3</p>	<p><b>I know that:</b> charts are used to represent and compare different totals and amounts.</p>

	<p><b>I know that:</b> angles can be greater than or less than a right angle</p> <p><b>I know that:</b> vertical lines travel up and horizontal lines travel across.</p> <p><b>I know that:</b> parallel lines do not touch and maintain an equal distance constantly.</p> <p><b>I know that:</b> perpendicular lines meet at a right angle.</p>	<p><b>I know that:</b> kilo means 1000. Cent means 100 and milli means 1000 and this can help solve problems of conversion.</p> <p><b>I know that:</b> perimeter is the total distance around the edge of a 2d shape.</p> <p><b>I know that:</b> a pound has 100 pence and we can show this through decimals.</p> <p><b>I know that:</b> AM means before midday and PM means past midday.</p> <p><b>I know that:</b> time can be written in 12/hour and 24 hour and the times although expressed with different number may represent the same time.</p> <p><b>I know that:</b> there are 24 hours in a day, seven days in a week, 60 minutes in an hour and 60 seconds in a minute.</p> <p><b>I know that:</b> there are x amount of days are in each month.</p>		<p><b>I know that:</b> a key must be read to understand a pictogram and that half an image would equate to half the amount.</p>
	<p><b>So that I can:</b> draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</p> <p><b>So that I can:</b> recognise angles as a property of shape or a description of a turn</p> <p><b>So that I can:</b> identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn;</p>	<p><b>So that I can:</b> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) So that I can: measure the perimeter of simple 2-D shapes</p> <p><b>So that I can:</b> add and subtract amounts of money to give change, using both £ and p in practical contexts</p>		<p><b>So that I can:</b> interpret and present data using bar charts, pictograms and tables</p> <p><b>So that I can:</b> solve one-step and two step questions (for example, 'How many more?' and 'How many fewer?') using</p>

	<p>identify whether angles are greater than or less than a right angle</p> <p><b>So that I can:</b> identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p>	<p><b>So that I can:</b> tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p><b>So that I can:</b> estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</p> <p><b>So that I can:</b> know the number of seconds in a minute and the number of days in each month, year and leap year</p> <p><b>So that I can:</b> compare durations of events [for example to calculate the time taken by particular events or tasks].</p>		<p>information presented in scaled bar charts and pictograms and tables.</p>
	<p><b><u>Vocabulary</u></b>  Right angle triangle  Heptagon  Octagon  Polygon  Properties  Prism  Orientations  Angles  Acute angle  Obtuse angle  Turn  Right angles  Half turn</p>	<p><b><u>Vocabulary</u></b>  Millimetre mm  Perimeter</p> <p>Analogue clock  Roman numerals  12 – hour clock  24 – hour clock  a.m / p.m  Noon  Midnight  Leap year  Digital</p>	<p><b><u>Vocabulary</u></b></p>	<p><b><u>Vocabulary</u></b>  Table  Bar chart  One-step problem  Two-step problem</p>

	<p>Three quarters of a turn Greater than right angle Horizontal lines Vertical lines Perpendicular lines Parallel lines</p>			
	<b>Geometry – properties of shapes</b>	<b>Measurement</b>	<b>Geometry – position and direction</b>	<b>Statistics</b>
	<b>Year 4</b>			
	<p><b>I know that:</b> triangles can be scalene, equilateral, right angle and isosceles and the differences between them.</p> <p><b>I know that:</b> a right angle is 90 degrees. I know that: an acute angle is smaller than 90 degrees.</p> <p><b>I know that:</b> an obtuse angle is bigger than 90 degrees but smaller than 180 degrees.</p> <p><b>I know that:</b> lines of symmetry can be found in the centre of a 2d shape either diagonally, vertically or horizontally and that the shape should appear identical across the line to be symmetrical.</p>	<p><b>I know that:</b> metric measurements relate to one another and g/kg represent weight, cm, m, km represents distance/height and that ml, l represent capacity.</p> <p><b>I know that:</b> kilo means 1000. Cent means 100 and milli means 1000 and this can help solve problems of conversion.</p> <p><b>I know that:</b> area is the space inside a 2d shape and can be found with the squares inside.</p> <p><b>I know that:</b> a pound has 100 pence and we can multiply/divide to convert between the two.</p> <p><b>I know that:</b> there are 24 hours in a day, 12 months in a year, seven days in a week, 60 minutes in an hour and 60 seconds in a minute.</p>	<p><b>I know that:</b> a grid must be read on the x axis followed by the y axis.</p> <p><b>I know that:</b> shapes can be moved through a grid and how these move directionally, i.e. left/right, up/down whilst still retaining their original shape.</p> <p><b>I know that:</b> to plot a point accurately we must plot the x coordinate before the y coordinate.</p>	<p><b>I know that:</b> bar charts represent concrete data.</p> <p><b>I know that:</b> bar charts are used to compare data and how to interpret them accordingly.</p>
	<p><b>So that I can:</b> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p>	<p><b>So that I can:</b> Convert between different units of measure [for example, kilometre to metre; hour to minute]</p>	<p><b>So that I can:</b> describe positions on a 2-D grid as coordinates in the first quadrant</p>	<p><b>So that I can:</b> interpret and present discrete and continuous data using appropriate graphical</p>

	<p><b>So that I can:</b> identify acute and obtuse angles and compare and order angles up to two right angles by size</p> <p><b>So that I can:</b> identify lines of symmetry in 2-D shapes presented in different orientations</p> <p><b>So that I can:</b> complete a simple symmetric figure with respect to a specific line of symmetry.</p>	<p><b>So that I can:</b> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p><b>So that I can:</b> find the area of rectilinear shapes by counting squares</p> <p><b>So that I can:</b> estimate, compare and calculate different measures, including money in pounds and pence</p> <p><b>So that I can:</b> read, write and convert time between analogue and digital 12- and 24hour clocks</p> <p><b>So that I can:</b> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p>	<p><b>So that I can:</b> describe movements between positions as translations of a given unit to the left/right and up/down</p> <p><b>So that I can:</b> plot specified points and draw sides to complete a given polygon.</p>	<p>methods, including bar charts and time graphs.</p> <p><b>So that I can:</b> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>
	<p><b><u>Vocabulary</u></b>  Isosceles  Equilateral  Scalene  Trapezium  Rhombus  Parallelogram  Kite  Geometric shapes  Quadrilaterals</p>	<p><b><u>Vocabulary</u></b>  Kilo - 1000  Milli - 1000  Kilometres km  Rectilinear shape  Area  Capacity</p> <p>Convert</p> <p>Analogue  Digital</p>	<p><b><u>Vocabulary</u></b>  Co-ordinates  First quadrant  Grid  Translation  Plot  Polygon  Axis</p>	<p><b><u>Vocabulary</u></b>  Time graph  Discrete data  Continuous data  Line graph  Comparison problem  Sum problem  Difference problem  Calculate  Interpret</p>
	<b>Geometry – properties of shapes</b>	<b>Measurement</b>	<b>Geometry – position and direction</b>	<b>Statistics</b>

Year 5

<p><b>I know that:</b> protractors measure in degrees and can be read inside/outside</p> <p><b>I know that:</b> a right angle is 90 degrees.</p> <p><b>I know that:</b> an acute angle is smaller than 90 degrees.</p> <p><b>I know that:</b> an obtuse angle is bigger than 90 degrees but smaller than 180 degrees.</p> <p><b>I know that:</b> a reflex angle is between 180 and 360 degrees.</p> <p><b>I know that:</b> all 3d shapes have a set amount of faces and that these are present in a 2d representation. I know that: angles in a quadrilateral add up to 360. And that each corner should be 90 degrees. I know that: a rectangle must have a pair of equal sides.</p>	<p><b>I know that:</b> metric measurements relate to one another and g/kg represent weight, cm, m, km represents distance/height and that ml, l represent capacity.</p> <p><b>I know that:</b> kilo means 1000. Cent means 100 and milli means 1000 and this can help solve problems of conversion.</p> <p><b>I know that:</b> area is the space inside a 2d shape and that perimeter is the distance around the edge.</p> <p><b>I know that:</b> there are 24 hours in a day, seven days in a week, 60 minutes in an hour and 60 seconds in a minute.</p> <p><b>I know that:</b> there are x amount of days are in each month.</p>	<p><b>I know that:</b> a grid must be read on the x axis followed by the y axis.</p> <p><b>I know that:</b> shapes can be moved through reflections and translations across a grid and how these move differently</p>	<p><b>I know that:</b> data can be represented in various forms.</p> <p><b>I know that:</b> line graphs are a representation of continuous data.</p> <p><b>I know that:</b> timetables can display information for different starts, finishes and intervals.</p>
<p><b>So that I can:</b> identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p> <p><b>So that I can:</b> know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</p>	<p><b>So that I can:</b> convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</p> <p><b>So that I can:</b> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p>	<p><b>So that I can:</b> identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p>	<p><b>So that I can:</b> solve comparison, sum and difference problems using information presented in a line graph</p> <p><b>So that I can:</b> complete, read and interpret</p>

	<p><b>So that I can:</b> draw given angles, and measure them in degrees (°)</p> <p><b>So that I can:</b> identify angles at a point and one whole turn</p> <p><b>So that I can:</b> use the properties of rectangles to deduce related facts and find missing lengths and angles</p> <p><b>So that I can:</b> distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>	<p><b>So that I can:</b> calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</p> <p><b>So that I can:</b> estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]</p> <p><b>So that I can:</b> solve problems involving converting between units of time</p> <p><b>So that I can:</b> use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>		<p>information in tables, including timetables.</p>
	<p><b><u>Vocabulary</u></b>  Regular polygon  Irregular polygon  Reflex angles  Degrees  One whole turn  Angles on a straight line  Angles around a point  Vertically opposite  Missing angles</p>	<p><b><u>Vocabulary</u></b>  Decimal notation  Scaling  Metric units  Imperial units  Inches  Compound shape  Irregular shape  Square centimetres  Square metres</p> <p>Cubic centimetre  Pounds  Pints</p>	<p><b><u>Vocabulary</u></b>  Reflection  Translation  Four quadrant  Co-ordinate plane</p>	<p><b><u>Vocabulary</u></b>  Timetable  Two-way tables</p>

	Geometry – properties of shapes	Measurement	Geometry – Position and Direction	Statistics
	<b>Year 6</b>			
	<p><b>I know that:</b> protractors must be used accurately to draw given angles.</p> <p><b>I know that:</b> all 3d shapes have a set amount of faces and that these are present in a 2d representation.</p> <p><b>I know that:</b> a circle is comprised of different parts and that the diameter is twice the radius and circumference is the shapes perimeter.</p> <p><b>I know that:</b> angles in a triangle add up to 180° and angles in a quadrilateral add up to 360°. There are 360° in a full turn and 180° on a straight line. Opposite angles are equal.</p>	<p><b>I know that:</b> metric measurements relate to one another.</p> <p><b>I know that:</b> kilo means 1000. Cent means 100 and milli means 1000.</p> <p><b>I know that:</b> miles are an imperial measurement.</p> <p><b>I know that:</b> a ratio of 5:8 represents miles to Km.</p> <p><b>I know that:</b> area is created by perimeter and that the two can impact on one another's size. I know that: volume is found through the formula of LxWxH.</p> <p><b>I know that:</b> the area of a triangle is found using <math>BH/2</math>.</p> <p><b>I know that:</b> the area of a parallelogram is found by using the formula of <math>H \times W</math></p>	<p><b>I know that:</b> a grid can have four quadrant and x always is measured before y.</p> <p><b>I know that:</b> shapes can be moved through reflections and translations across a grid and how these move differently.</p>	<p><b>I know that:</b> data can be represented in various forms.</p> <p><b>I know that:</b> pie charts show discrete data and that line graphs show continuous data.</p> <p><b>I know that:</b> the mean average is calculate through adding the data and dividing it by the set amount.</p>
	<p><b>So that I can:</b> draw 2-D shapes using given dimensions and angles</p> <p><b>So that I can:</b> recognise, describe and build simple 3-D shapes including making nets</p> <p><b>So that I can:</b> compare and classify geometric shapes based on their properties and sizes and find</p>	<p><b>So that I can:</b> solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</p> <p><b>So that I can:</b> use, read, write and convert between standard units, converting measurements of length, mass, volume and time</p>	<p><b>So that I can:</b> describe positions on the full coordinate grid (all four quadrants)</p> <p><b>So that I can:</b> draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p>	<p><b>So that I can:</b> interpret and construct pie charts and line graphs and use these to solve problems</p> <p><b>So that I can:</b> calculate and interpret the mean as an average</p>

	<p>unknown angles in any triangles, quadrilaterals, and regular polygons</p> <p><b>So that I can:</b> illustrate and name parts of circle.</p> <p><b>So that I can:</b> recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p>	<p>from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</p> <p><b>So that I can:</b> convert between miles and kilometres</p> <p><b>So that I can:</b> recognise that shapes with the same areas can have different perimeters and vice versa</p> <p><b>So that I can:</b> recognise when it is possible to use the formulae for area and volume of shapes</p> <p><b>So that I can:</b> calculate the area of parallelograms and triangles</p> <p><b>So that I can:</b> calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units (for example, mm<sup>3</sup> and km<sup>3</sup>)</p>		
	<p><b><u>Vocabulary</u></b>  Radius  Diameter  Circumference  Dimensions</p>	<p><b><u>Vocabulary</u></b>  Conversion  Miles  Formulae  Parallelograms  Triangles  Feet</p> <p>Cubic metre  Cubic millimetre  Cubic Kilometre  Gallons</p>	<p><b><u>Vocabulary</u></b></p>	<p><b><u>Vocabulary</u></b>  Pie chart  Mean</p>

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	<b>Algebra</b>		<b>Ratio and Proportion</b>	
	<b>Year 6</b>			
	<p><b>I know that:</b> formulae is used to solve the same problem with a variety of numbers.</p> <p><b>I know that:</b> linear number sequences always add the same amount</p>	<p><b>I know that:</b> a percentage represents a total out of 100.</p> <p><b>I know that:</b> multiplication and division facts must be used to solve problems with relative sizes of two quantities.</p> <p><b>I know that:</b> scale factor is found by multiplying or dividing the original size.</p>		
	<p><b>So that I can:</b> use simple formulae</p> <p><b>So that I can:</b> generate and describe linear number sequences</p> <p><b>So that I can:</b> express missing number problems algebraically</p> <p><b>So that I can:</b> find pairs of numbers that satisfy number sentences involving two unknowns</p> <p><b>So that I can:</b> enumerate possibilities of combinations of two variables</p>	<p><b>So that I can:</b> solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p><b>So that I can:</b> solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and use percentages for comparison</p> <p><b>So that I can:</b> solve problems involving similar shapes where the scale factor is known or can be found</p> <p><b>So that I can:</b> solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p>		

	<b>Vocabulary</b> Formulae Linear number sequences Algebraically Equation Unknowns Combinations Variables	<b>Vocabulary</b> Ratio Proportion Part Whole Scale Scale factor Similar Notation  Ratio Scale factor Similar	
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