

Mathematical aspect	Mathematical themes	National Curriculum statement
Arithmetic/fluency needs to be embedded into learning throughout the term as there little number in this term.		
Weeks 1	<p>Percentages Compare quantities and expose percentage as an amount out of 100. Convert fractions to hundredths, both by expanding fractions and by simplifying them. Use a variety of representations showing equivalence (decimals, percentage, and equivalent fractions). Explore bar model to expose the structure Refer to the percentage bubble to make connections Write part of an amount as a fraction. Write the total number of parts as a denominator and the selected number of parts as a numerator. Simplify a fraction to its simplest form. Find equivalent fractions, changing the denominator to 10 or 100. Convert a fraction with a denominator of 100 into a percentage. Understand that percentage is a measure of proportion. Find equivalent fractions, changing the denominator to 10 or 100.</p>	<p>Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.</p>
Weeks 2-4	<p>Geometry Identify and understand perpendicular and parallel lines, horizontal and vertical lines. Understand what makes an angle perpendicular - 'perpendicular' means two lines meet to make a right angle. Understand that 'parallel' means two lines that never meet. Understand the term 'horizontal' meaning parallel to the floor.</p>	<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (°). Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°);</p>

	<p>Identify the term 'vertical' meaning perpendicular to the floor. Name and identify the angles, vertices and sides in a 2-D shape. Key vocabulary (acute, obtuse, right, reflex). Describe the sides using 'perpendicular' and 'parallel' Explores angles: measuring angles, the investigation of angles on a line/point and drawing angles, before moving onto using angles as a descriptor for common shapes. Use a protractor to measure right angles Describe the properties of squares and rectangles Solving problems involving angles and investigating angles inside regular polygons.</p>	<p>other multiples of 900. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>
<p>Week 5-6</p>	<p>Measurement Explore the measurement of mass, temperature, time and length. Convert units of length from millimetres to centimetres and from centimetres to metres. Convert metres to kilometres before looking at converting imperial measures to metric measures. Convert units of mass in the same manner, finishing with imperial and metric conversions. Understand units of time in days, weeks, months and years, then in seconds, minutes and hours. Understand temperature and how to use a vertical number line (thermometer). Estimate and measure mass, volume and length. Understand how to convert units of measure from larger to smaller and vice versa. Link measuring length to perimeter using centimetres and millimetres. Practical context. Solve problems involving all three aspects of measurement. Know the relative values of kilograms and grams. Convert compound units to decimals. Identify the 2 whole numbers in kilograms that the mass lies</p>	<p>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. Solve problems involving converting between units of time. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>

	<p>between. Mark the mass correctly on the number line. Round the mass to the nearest whole kilogram. Accurately read the mass from the scale. Be aware of misconceptions such as: 1 kg is 100 g or 0.5 kg is 5 g. Identify the value of the markings on the scale. Read the scales. Read volume in litres. Write volume in litres using decimals. Apply what they know about fractions and decimals to litres. Indicate volume on a scale. Understand that 1000 ml = 1 l. Convert between millilitres and litres. Approximate volume to the nearest litre and 100ml Know the relative values of centimetres and metres. Convert between centimetres and metres. Visualise length using part of a ruler/height chart Apply their understanding of fractions and decimals to metres and centimetres. Identify the length represented by each interval on the scale. Know that 10 cm = 0.1 m. Know that 1 cm = 0.01 m. Understand centimetres as a fraction of a metre. Measure height in metres using a measuring tape.</p>	
<p>Summer themes integrated into number: Contextualised learning: look for opportunities within topic curriculum</p>		
<p>Weeks 7-8</p>	<p>Area and perimeter Remember the difference between perimeter and area. Explore perimeter. Understand perimeter as measuring the total length around a shape Understand perimeter as combining the lengths of sides. Calculating perimeter by adding all of the lengths together</p>	<p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²). Estimate the area of irregular shapes.</p>

	<p>Measure area by measuring surface coverage, i.e. counting squares before measuring area by using multiplication. Find areas of figures that have squares and rectangles by counting and visualising. T Find area to figures in different orientations. Explain what the area is. Find the area by counting squares. Find the area of a rectangle by multiplying the lengths of the sides. Write area correctly using cm^2 Explain that two triangular areas are equal to one square. Sow the relationship between triangles and squares/rectangles using concrete materials or pictorial representation. See the relationship between area and multiplication. Realise shapes can be divided up to find the area. Understand the properties of a square or rectangle enough to recognise identical lengths when finding the perimeter. See the relationship between the area of a triangle and the area of a rectangle.</p>	
<p>Week 9</p>	<p>Volume Can find the volume of a solid by counting cubes. Refer to the space a solid takes up as volume. Use units of measure for volume, e.g. cm^3 Recognise different solids can have the same volume. Identify layers of cubes in solids. Can add layers of cubes to find the volume of solids. Find volume by multiplying dimensions. Recreate 3-D shapes from a pictorial model using cubes Calculate how many cubes (of different sizes) would fit inside a container. Estimate capacity in a pictorial representation. Explain what capacity is. Relate capacity to volume. Recognise pints as a way of measuring capacity.</p>	<p>Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. Use all four operations to solve problems involving measure [for example, length, mass, volume, money]. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p>

	Recognise that volume is measured in cubes. Compare the volume of different solids.	
Week 10	Assessment - testbase	
Weeks 11- 12: Opportunities for richer and deeper learning. Closing the gap. Cross-curriculum learning Revision		