

## YEAR 6 Maths 'at a glance'

<b>Number: Number &amp; Place Value</b>	<b>Number: Addition &amp; Subtraction, Multiplication &amp; Division</b>	<b>Geometry: Properties of Shapes</b>
<ul style="list-style-type: none"> <li>• read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>• 'round any whole number to a required degree of accuracy '</li> <li>• use negative numbers in context, and calculate intervals across zero '</li> <li>• solve number and practical problems that involve all of the above.</li> </ul>	<ul style="list-style-type: none"> <li>• multiply multi -digit numbers up to 4 digits by a two -digit whole number using the formal written method of long multiplication</li> <li>• divide numbers up to 4 digits by a two -digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>• divide numbers up to 4 digits by a two -digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li> <li>• perform mental calculations, including with mixed operations and large numbers</li> <li>• identify common factors, common multiples and prime numbers</li> <li>• use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>• solve addition and subtraction multi -step problems in contexts, deciding which operations and methods to use and why</li> <li>• use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• draw 2-D shapes using given dimensions and angles</li> <li>• recognise, describe and build simple 3-D shapes, including making nets</li> <li>• compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>• recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> </ul>
		<p style="text-align: center;"><b>Geometry: Position &amp; Direction</b></p> <ul style="list-style-type: none"> <li>• describe positions on the full coordinate grid (all four quadrants)</li> <li>• draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li> </ul>
		<p style="text-align: center;"><b>Statistics</b></p>
		<ul style="list-style-type: none"> <li>• interpret and construct pie charts and line graphs and use these to solve problems</li> <li>• calculate and interpret the mean as an average.</li> </ul>
<b>Number: Fractions</b>		
<ul style="list-style-type: none"> <li>• use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>• compare and order fractions, including fractions <math>&gt; 1</math></li> <li>• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> </ul>		

- multiply simple pairs of proper fractions, writing the answer in its simplest form [for example,  $1/4 \times 1/2 = 1/8$ ]
- divide proper fractions by whole numbers [for example,  $1/3 \div 2 = 1/6$ ]
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,  $3/8$ ]
- identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
- multiply one -digit numbers with up to two decimal places by whole numbers
- use written division methods in cases where the answer has up to two decimal places
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- solve problems which require answers to be rounded to specified degrees of accuracy
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

**Measurement**

- solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
- use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
- convert between miles and kilometres
- recognise that shapes with the same areas can have different perimeters and vice versa
- recognise when it is possible to use formulae for area and volume of shapes
- calculate the area of parallelograms and triangles  
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>].

**Algebra**

- use simple formulae generate and describe linear number sequences
- express missing number problems algebraically
- find pairs of numbers that satisfy an equation with two unknowns
- enumerate possibilities of combinations of two variables.

**Ration and proportion**

- solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 3601 and the use of percentages for comparison
- solve problems involving similar shapes where the scale factor is known or can be found
- solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.