

Mathematics Curriculum Objectives Year Six

Trinity Primary





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Year 6 Number				
	6.1	6.2	6.3	6.4 + application
Counting	<p>I can count backwards through zero to include negative numbers in 1s, 2s and 10s down to -100 mentally</p> <p>I can count backwards in steps of powers of 10 for any given number up to 10,000</p>	<p>I can count backwards through zero to include negative numbers in 1s, 2s, 5s and 10s down to -100 mentally</p> <p>I can count backwards in steps of powers of 10 for any given number up to 1,000,000</p>	<p>I can find the difference between negative and positive integers e.g. What is the difference between -50 and 15</p>	<p>I can find the difference between negative and positive integers and calculate sums which go through 0 e.g. $25 - 32 = -7$ and $-7 + 25 = 18$</p>
Place Value	<p>I can recognise the place value of each digit in a seven-digit number</p> <p>I can compare numbers with the same number of decimal places up to three decimal places</p> <p>I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000</p> <p>I can round decimals with two decimal places to the nearest whole number</p>	<p>I can make the largest or smallest seven-digit number with a given set of number cards</p> <p>I can compare numbers up to three decimal places and use $<$, $>$ and $=$ signs</p> <p>I can round decimals with two decimal places to one decimal place</p>	<p>I can recognise the place value of each digit in an eight-digit number</p> <p>I can round any whole number to a required degree of accuracy</p> <p>I can round decimals with three decimal places to one or two decimal places</p>	<p>I can round decimals to any number of decimal places</p>
Representing Number	<p>I can read Roman numerals to 1000 (M)</p> <p>I can recognise and use square numbers and the notation for squared (2) up to 10^2</p>	<p>I can recognise years written in Roman numerals</p> <p>I can recognise and use cube numbers, and the notation for cubed (3) up to 5^3</p>	<p>I can recognise and use cube numbers, and the notation for cubed (3) up to 10^3</p>	
Mental +/-	<p>I can add and subtract numbers mentally, including: HTU+TU crossing two 10s or unit barriers e.g. $234 + 89$</p>	<p>I can add and subtract numbers mentally, including: HTU+HTU crossing two 10s or unit barriers e.g. $234 + 189$</p>	<p>I can perform mental calculations, including with mixed operations and large numbers</p>	
Written +/-	<p>I consistently complete column addition and subtraction involving all numbers</p>			



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Problems +/-	<p>I can solve multi-step problems in contexts, deciding which operations and methods to use</p> <p>I can use rounding to check answers to calculations independently</p>			
Number Facts (x/÷)	<p>I can recall division facts for Silver with increasing speed and accuracy</p> <p>I can find all factors of a given number</p> <p>I can say if a number is prime or composite up to 19</p>	<p>I can find common factors of 2 numbers and prime factors of 1 number</p> <p>I can say if a number is prime or composite up to 30</p>	<p>I can identify common factors, common multiples and prime numbers</p> <p>I can find common factors of 3 numbers and prime factors of 2 numbers</p> <p>I can say if a number is prime or composite up to 50</p>	<p>I can solve problems involving common factors, and prime factors</p> <p>I can say if a number is prime or composite up to 100</p>
Mental (x/÷)	<p>I am scoring 30+ Platinum level times tables</p>	<p>I am scoring 40+ Platinum level times tables</p>	<p>I am scoring 50+ Platinum level times tables</p> <p>I can perform mental calculations, including with mixed operations and large numbers</p>	<p>I am completing Countdown Maths with increasing speed and accuracy</p>
Written (x/÷)	<p>I can use formal written multiplication for TU x TU and HTU x U</p> <p>I can use bus shelter division for THTU ÷ U with remainders</p>	<p>I can use formal written multiplication for HTU x TU</p> <p>I can use long division for HTU ÷ TU without remainders</p>	<p>I can use formal written multiplication for HTU x HTU</p> <p>I can use long division for HTU ÷ TU with remainders</p> <p>I can multiply a decimal number by a whole number using formal written multiplication e.g. 3.7 x 6</p>	<p>I can use formal written multiplication for THTU x THTU</p> <p>I can use bus shelter and long division for division representing remainders as decimals or fractions</p>



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Problems (x/÷)	<p>I can solve problems involving knowledge of factors and multiples i.e. Which numbers are factors of both 12 and 9?/Which numbers are multiples of both 25 and 2?</p> <p>I can solve multi-step problems involving all operations (x÷+-)</p>	<p>I can solve problems involving knowledge of square and cube numbers i.e. What is the largest square/cube number no bigger than fifty?</p>	<p>I can use BIDMAS when solving calculations involving the four operations</p>	<p>I can use BIDMAS when solving calculations including indices e.g. $3 + (4^2 \div 4)$</p>
Fractions	<p>I can convert between improper fractions and mixed numbers e.g. $5/4 = 1\frac{1}{4}$</p> <p>I can count up and down in hundredths and tenths from any given number</p>	<p>I can convert between improper fractions and mixed numbers with more difficult multiples where simplifying is required e.g. $6/4 = 1\frac{2}{4} = 1\frac{1}{2}$</p>		
Comparing Fractions	<p>I can compare and order fractions whose denominators are all multiples of the same number between 1 and 6 times tables (1/3, 6/9)</p> <p>I can recognise and show families of all equivalent fractions by multiplying denominators and numerators by the same number</p>	<p>I can compare and order fractions whose denominators are all multiples of the same number for all times tables (3/7, 6/21)</p>	<p>I can compare and order fractions using common multiples e.g. 2/5 and 4/6</p> <p>I can use common factors to simplify fractions e.g. $20/60 = 2/6 = 1/3$</p>	<p>I can use common factors (including 7s, 8s and 9s) to simplify fractions</p>
Fractional Quantities	<p>I can find fractions of quantities or objects with larger denominators mentally</p>	<p>I can find fractions of quantities or objects with increasingly large denominators i.e. 6/120 of 360</p>		



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Fraction Calculations	<p>I can add and subtract fractions whose denominators are multiples of the same number e.g. $\frac{2}{3} + \frac{4}{9} = \frac{6}{9} + \frac{4}{9} = \frac{10}{9}$</p> <p>I can multiply proper fractions by whole numbers e.g. $\frac{2}{3} \times 3 = \frac{2}{3} \times \frac{3}{1} = \frac{6}{3}$</p>	<p>I can add and subtract fractions whose denominators are multiples of the same number and simplify answers e.g. $\frac{2}{3} + \frac{4}{9} = \frac{6}{9} + \frac{4}{9} = \frac{10}{9} = 1 \frac{1}{9}$</p> <p>I can multiply proper and improper fractions by whole numbers e.g. $\frac{4}{3} \times 3 = \frac{4}{3} \times \frac{3}{1} = \frac{12}{3}$</p>	<p>I can add and subtract mixed numbers where the denominators are the same e.g. $1 \frac{3}{5} + \frac{2}{5}$</p> <p>I can multiply simple pairs of proper fractions, writing the answer in its simplest form</p> <p>I can divide proper fractions by whole numbers</p>	<p>I can add and subtract mixed numbers where one denominator is a multiple of the other e.g. $1 \frac{3}{5} + \frac{6}{10}$</p> <p>I can divide one fraction by another</p>
Decimals as Fractional Amounts	<p>I can recognise and write decimal equivalents of any number of hundredths or tenths</p> <p>I can convert between unit fractions and decimals e.g. $\frac{1}{4}$s, $\frac{1}{2}$s, $\frac{1}{3}$s $\frac{1}{5}$s, $\frac{1}{20}$s and $\frac{1}{25}$s</p> <p>I can multiply and divide any number by 10 and 100</p>	<p>I can convert between fractions and decimals whose denominators are factors of 100 e.g. $\frac{12}{25} = \frac{48}{100} = 0.48$</p> <p>I can multiply and divide any number by 10, 100 and 1000</p>	<p>I can convert between fractions and decimals where simplifying is required first e.g. $\frac{12}{16} = \frac{3}{4} = 0.75$</p>	<p>I can use a calculator to convert between any fractions and decimals</p>
Percentages	<p>I can recognise the per cent symbol (%) and know that it can be written as a fraction of 100 e.g. $22\% = \frac{22}{100}$</p> <p>I can convert between fractions, decimals and percentages equivalent to $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{3}$, $\frac{2}{3}$</p>	<p>I can convert between fractions, decimals and percentages whose denominators are factors of 100 e.g. $\frac{4}{25} = \frac{16}{100} = 16\% = 0.16$</p>	<p>I can find 25%, 50%, 75% and multiples of 10% of quantities</p> <p>I can convert between fractions, decimals and percentages whose denominators are factors of 100 with increasing speed e.g. $\frac{4}{25} = \frac{16}{100} = 16\% = 0.16$</p>	<p>I can find any percent of a quantity by dividing by 100 first</p> <p>I can convert between fractions, decimals and percentages using a calculator</p>



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Ratio & Proportion			<p>I can find equivalent ratios where one part is a multiple of the other e.g. $6:10 = ?:100$</p>	<p>I can solve problems involving ratios eg. There are 3 apples for every 7 bananas. If there are 21 bananas how many apples are there?</p> <p>I can find new totals given a change in one part of a ratio e.g. There are 3 apples for every 7 bananas. If there are 21 bananas how much fruit is there?</p>
Algebra			<p>I can describe linear number sequences involving all operations</p> <p>I can extend a number sequence when given the rule</p> <p>I can express missing number problems algebraically</p> <p>I can find pairs of numbers that satisfy an equation with two unknowns e.g. $a + b = 34$, what could the variables be?</p>	<p>I can write an expression to describe the nth term of an arithmetic sequence</p> <p>I can substitute into simple formulae to generate a number sequence</p>



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Year 6 Geometry, Measuring and Statistics				
	6.1	6.2	6.3	6.4 + application
Measures	<p>I can convert between different units of metric measure</p> <p>I can estimate lengths; mass; volume/capacity using all measurements</p> <p>I know approximate equivalences between cm and inches, kg and pounds and litres and pints</p>	<p>I can solve problems which involve simple conversion e.g. Ralph has eaten 128g of sweets, Darren has eaten 1.2kg of sweets. Who has eaten the most?</p>	<p>I can solve problems which involve conversions up to two decimal places</p> <p>I can convert between miles and kilometres</p>	<p>I can solve problems which involve conversions up to three decimal places</p>
Perimeter & Area	<p>I can find the perimeter and area of composite rectilinear shapes (cm/m/cm²/m²) when the length of all sides are given</p>	<p>I can find the perimeter and area of composite rectilinear shapes with missing sides</p>	<p>I can calculate the area of parallelograms and triangles</p> <p>I can find the volume of shapes made of cubes by counting cubes</p>	<p>I can find the volume of cubes and cuboids using a formulae for volume (L x W x H)</p>
Time	<p>I can solve problems involving converting between units of time</p> <p>I can solve interval problems taking times from timetables/TV guides using a blank timeline over an hour to <i>the minute</i> i.e. how many minutes from 9:17 to 12:00</p>		<p>I am secure at reading, converting and finding intervals of time</p>	
2D Shapes			<p>I can draw 2-D shapes using given dimensions and angles</p> <p>I can name the radius, diameter and circumference of a circle</p>	<p>I know that the diameter is twice the radius</p>
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3D Shapes	I can identify which nets make cubes and cuboids	I can identify which 3D shape can be made from any given net	I can make my own net for cubes, cuboids, pyramids and square-based pyramids	I can make my own net for prisms
Angles	<p>I can identify acute, obtuse and reflex angles</p> <p>I can compare and order any angle</p> <p>I can measure given angles in degrees ($^{\circ}$)</p> <p>I know angles on a straight line add up to 180°</p> <p>I know angles in a triangle add up to 180°</p> <p>I know angles around a point add up to 360°</p>	<p>I can draw given angles using a protractor</p> <p>I can find missing angles on a straight line</p> <p>I can find missing angles in a triangle</p> <p>I can find missing angles around a point</p>	<p>I can find missing angles when two or more angles are missing e.g. triangle on a straight line</p> <p>I know angles in quadrilateral add up to 360°</p> <p>I can find missing angles in a quadrilaterals</p>	<p>I use angle rules to find missing angles in different shapes and composite shapes</p> <p>I can find missing angles in a regular polygon</p>



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Position & Direction	<p>I can draw and translate simple shapes on the first quadrant</p> <p>I can reflect a shape horizontally or vertically</p>	<p>I can draw and translate simple shapes across four quadrants</p>	<p>I can draw and translate simple shapes across four quadrants with 2 or more movements e.g. 2 right, 3 up</p> <p>I can reflect a shape horizontally, vertically and diagonally</p> <p>I can read and plot coordinates in all four quadrants</p>	<p>I can draw and translate simple shapes across four quadrants and write their new coordinates</p>
	6.1	6.2	6.3	6.4 + application
Interpreting Data	<p>I can interpret and construct simple line graphs where answers fall between scales</p>	<p>I solve 2 stage problems using line graphs e.g. how long did it take Darren to run between 3 o'clock and 5 o'clock?</p>	<p>I can interpret pie charts when the fraction or percentage of a slice is given e.g. the pie chart represents 240 people, the red section is $\frac{1}{5}$, how many people does this represent?</p> <p>I can find the mean of a set of data</p>	<p>I can interpret pie charts when the fraction or percentage of a slice is not given e.g. the pie chart represents 240 people, look at the red section, estimate the fraction, how many people does this represent?</p> <p>I can create my own pie chart from a set of data</p> <p>I can find the mean of a set of data when presented in a line graph</p>



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Extracting Info From Data	I can solve comparison, sum and difference problems using information presented in a line graph		I can solve comparison, sum and difference problems using information presented in a pie chart	
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