Y5 Maths Curriculum - Parent Guide

The aim of this document is to give an at-a-glance guide to how maths is taught at Chelmondiston and how it progresses through topics. In each of the major topic areas (Number, Measurement, Geometry and Statistics), the curriculum has been broken down into key areas. For each of these areas, you can see which National Curriculum objectives are covered in Year 5 and when this objective is first introduced as well as any prior learning.

Place Value		**Prior Learning**
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Autumn 1	• Count in multiples of 6, 7, 9, 25 and 1000 • Count backwards through zero to include negative numbers • Identify, represent and estimate numbers using different representations • Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value • Find 1000 more or less than a given number • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Order and compare numbers beyond 1000 • Round any number to the nearest 10, 100 or 1000 • Solve number and practical problems that involve all of the above and with increasingly large positive numbers
Count forwards and backwards with positive and negative whole numbers, including through zero	Autumn 1	
Read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit	Autumn 1	
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	Autumn 1	
Order and compare numbers to at least 1 000 000 and determine the value of each digit	Autumn 1	
Interpret negative numbers in context	Autumn 1	
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	Autumn 1	
Solve number problems and practical problems that involve all of the above	Autumn 1	
Addition and Subtraction		**Prior Learning**
Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Autumn 2	• Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where
Add and subtract numbers mentally with increasingly large numbers	Autumn 2	

Solve addition and subtraction multi- step problems in contexts, deciding which operations and methods to use and why	Autumn 2	appropriate • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Autumn 2	
Multiplication and Division		**Prior Learning**
Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	Autumn 2	• Recall multiplication and division facts for multiplication tables up to 12 × 12 • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • Recognise and use factor pairs and commutativity in mental calculations • Multiply two digit and three digit numbers by a one digit number using formal written layout • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects
Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Autumn 2	
Establish whether a number up to 100 is prime and recall prime numbers up to 19	Autumn 2	
Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	Autumn 2	
Multiply numbers up to 4 digits by a one- or two- digit number using a formal written method, including long multiplication for two-digit numbers	Autumn 2	
Multiply and divide numbers mentally drawing upon known facts	Autumn 2	
Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	Autumn 2	
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	Autumn 2	
Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	Spring 1	
Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Spring 1	
Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Spring 1	
Fractions		**Prior Learning**

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Autumn 2	• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Recognise and show, using diagrams, families of common equivalent fractions • Add and subtract fractions with the same denominator • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$]	Autumn 2	
Compare and order fractions whose denominators are all multiples of the same number	Autumn 2	
Add and subtract fractions with the same denominator and denominators that are multiples of the same number	Spring 1	
Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Spring 1	
Decimals and Percentages		**Prior Learning**
Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$]	Spring 1	• Recognise and write decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$. • Round decimals with one decimal place to the nearest whole number • Compare numbers with the same number of decimal places up to two decimal places • Solve simple measure and money problems involving fractions and decimals to two decimal places
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Spring 1	
Round decimals with two decimal places to the nearest whole number and to one decimal place	Spring 1	
Read, write, order and compare numbers with up to three decimal places	Spring 1	
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	Spring 1	
Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$ and $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	Spring 1	
Measurement		**Prior Learning**
Convert between different units of metric measure	Spring 2	• Convert between different units of

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Spring 2	measure [for example, kilometre to metre; hour to minute] • Estimate, compare and calculate different measures
Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	Summer 2	
Money		**Prior Learning**
Use all four operations to solve problems involving measure [for example, money]	Summer 1	• Estimate, compare and calculate different measures, including money in pounds and pence
Time		**Prior Learning**
Solve problems involving converting between units of time	Spring 2	• Read, write and convert time between analogue and digital 12- and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
Perimeter, area and volume		**Prior Learning**
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Spring 2	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • Find the area of rectilinear shapes by counting squares
Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	Spring 2	
Estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]	Summer 2	
Geometry		**Prior Learning**
Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Summer 1	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and
Use the properties of rectangles to deduce related facts and	Summer 1	

find missing lengths and angles		sizes • Identify lines of symmetry in 2-D shapes presented in different orientations
Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Summer 1	
Angles and Lines		**Prior Learning**
Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	Summer 1	• Identify acute and obtuse angles and compare and order angles up to two right angles by size • Identify lines of symmetry in 2-D shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry
Draw given angles, and measure them in degrees	Summer 1	
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°) • other multiples of 90°	Summer 1	
Position and Direction		**Prior Learning**
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	Summer 1	• Describe positions on a 2-D grid as coordinates in the first quadrant • Describe movements between positions as translations of a given unit to the left/right and up/down • Plot specified points and draw sides to complete a given polygon
Statistics		**Prior Learning**
Complete, read and interpret information in tables, including timetables	Spring 2	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Solve comparison, sum and difference problems using information presented in a line graph	Spring 2	