

Wadsworth Field Primary School –Maths Progression Map

Key Stage One

Year 1	Year 2
Number: Place Value (within 10/within 20) Number: Addition & Subtraction (within 10) Geometry: Shape Number: Addition & subtraction (within 20) Number: Addition & subtraction (within 20) Number: Place Value (within 50), including multiples of 2, 5, 10 Measurement: Length/height/weight & volume Number: Multiplication & Division - reinforcing multiples of 2, 5 & 10 Number: Fractions Geometry: Position and direction Measurement: Money & time	Number: Place Value Number: Addition & Subtraction Measurement: Money Number: Multiplication & Division Number: Multiplication & Division Statistics Geometry: Properties of Shape Number: Fractions Measurement: Length & height Geometry: position and direction Problem solving Measurement: Time Measurement: Mass, capacity and temperature Investigations
Place Value	
Counting	
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from a given number	Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.
Count numbers to 100 in numerals; count in multiples of twos, fives and tens	
Represent	
Identify and represent numbers using objects and pictorial representations	
Read and write numbers to 100 in numerals	Read and write numbers to at least 100 in numerals and in words
Read and write numbers from 1 to 20 in numerals and words	Identify, represent and estimate numbers using different representations, including the number line
Use & Compare	
Give a number, identify one more and one less	Recognise the place value of each digit in a two-digit number (tens, ones)
	Compare and order numbers from 0 up to 100
	Use <, > and = signs
Problems & Rounding	
	Use place value and number facts to solve problems
Addition & Subtraction	
Recall, Represent, Use	
Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	
Represent and use number bonds and related subtraction facts within 20	Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100
	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
Calculations	

Add and subtract one-digit and two-digit numbers to 20, including zero	Add and subtract numbers using concrete objects, pictorial representations and mentally, including: <ul style="list-style-type: none"> ➤ a two-digit number and ones ➤ a two-digit number and tens ➤ two two-digit numbers ➤ adding three one-digit numbers
Solve Problems	
Solve one-step problems that involve addition and subtraction: <ul style="list-style-type: none"> ➤ using concrete objects and pictorial representations ➤ missing number problems such as $7 = ? - 9$ 	Solve problems with addition and subtraction: <ul style="list-style-type: none"> ➤ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ➤ applying their knowledge of mental and written methods

Multiplication and Division	
Recall, Represent, Use	
	Recall and use multiplication and division facts for the 2, 5 and 20 multiplication tables, including recognising odd and even numbers
	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
Calculations	
	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs
Solve Problems	
Solve one-step problems involving multiplication and division, by using concrete objects, pictorial representations and arrays, with support from the teacher	Solve one-step problems involving multiplication and division, by using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts
Fractions	
Recognise and write	
Recognise, find and name a half as one of two equal parts of an object, shape or quantity	Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	
Compare	
	Recognise the equivalence of $\frac{2}{4}$ $\frac{1}{2}$ or
Calculations	
	Write simple fractions e.g. $\frac{1}{2}$ of $6 = 3$
Algebra (algebraic thinking = missing number objectives)	
Solve one-step problems that involve addition and subtraction: <ul style="list-style-type: none"> ➤ using concrete objects and pictorial representations ➤ missing number problems such as $7 = ? - 9$ 	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
Measurement	
Using measures	
Compare, describe and solve practical problems for: <ul style="list-style-type: none"> ➤ lengths and heights (long (er)/short (er), tall/short, double/half) ➤ mass and weight (heavy/light, heavier than, lighter than) ➤ capacity and volume (full/empty, more than, less than, half, half full, quarter) ➤ time (quicker/slower, earlier/later) 	
Measure and begin to record the following: <ul style="list-style-type: none"> ➤ lengths & heights ➤ mass/weight ➤ capacity and volume ➤ time (hours, minutes, seconds) 	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
	Compare and order lengths, mass, volume/capacity and record the results using >, < and =

Money	
Recognise and know the value of different denominations of coins and notes	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
	Find different combinations of coins that equal the same amounts of money
	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Time	
Sequence events in chronological order using language (e.g. before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)	Compare and sequence intervals of time
Recognise and use language relating to dates including days of the week, weeks, months and years	
Tell the time to the hour and half past the hour and draw hands on a clock face to show these times	Tell and write the time in five minutes, including quarter past/to the hour and draw hands on a clock face to show these times
	Know the number of minutes in an hour and the number of hours in a day
Geometry	
2-D Shapes	
Recognise and name common 2-D shapes e.g. rectangles (including squares) circles and triangles	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
	Identify 2-D shapes on the surface of 3-D shapes
	Compare and sort common 2-D shapes and everyday objects
3-D Shapes	
Recognise and name common 3-D shapes e.g. cuboids (including cubes), pyramids and spheres	Recognise and name common 3-D shapes e.g. cuboids (including cubes), pyramids and spheres
	Compare and sort common 3-D shapes and everyday objects
Position & Direction	
Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)
Statistics	
	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
	Ask and answer questions about totalling and comparing categorical data

Key Stage Two

Year 3	Year 4	Year 5	Year 6
Number: Place Value Number: Addition & Subtraction Number: Multiplication & Division Number: Multiplication & Division Measurement: Money Statistics Measurement: Length and perimeter Number: Fractions Number: Fractions Measurement: Time Geometry: Properties of Shape Measurement: Mass and Capacity	Number: Place Value Number: Addition & Subtraction Measurement: Length and perimeter Number: Multiplication & Division Number: Multiplication & Division Measurement: Area Number: Fractions Number: Decimals Number: Decimals Measurement: Money Measurement: Time Statistics Geometry: Properties of Shape Geometry: Position and Direction	Number: Place Value Number: Addition & Subtraction Statistics Number: Multiplication & Division Measurement: Perimeter & Area Number: Multiplication & Division Number: Fractions Number: Decimals & Percentages Number: Decimals Geometry: Properties of Shape Geometry: Position and Direction Measurement: Converting Units Measurement: Volume	Number: Place Value Number: Addition, Subtraction, Multiplication & Division Number: Fractions Geometry: Position and Direction Number: Decimals Number: Percentages Number: Algebra Measurement: Converting Units Measurement: Perimeter, Area & Volume Number: Ratio Geometry: Properties of Shape Problem Solving Statistics/Investigations
Place Value			
Counting			
Count from 0 in multiples of 4, 8, 50, and 100; find 10 or 100 more or less than a given number	Count in multiples of 6, 7, 9, 25 and 1000	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	
	Count backwards through zero to include negative numbers	Count forwards and backwards with positive and negative whole number, including through zero	
Represent			
Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using different representations	Read, write (order and compare) numbers to at least 1,000,000 and determine the value of each digit	Read, write (order and compare) numbers to at least 1,000,000 and determine the value of each digit
Read and write numbers up to 1000 in numerals and in words	Read roman numerals to 100 (I to C) and know that over time, the numeral system changes to include the concept of zero and place value	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	
Use & Compare			
Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)		

Compare and order numbers up to 1000	Order and compare numbers beyond 1000	(Read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit	(Read, write) order and compare numbers to at least 10,000,000 and determine the value of each digit
	Find 1000 more or less than a given number		

Problems & Rounding			
Solve number problems and practical problems involving these ideas	Solve number and practical problems that involve all of the above and with increasingly larger positive numbers	Solve number problems and practical problems that involve all of the below	Solve number and practical problems that involve all of the below
	Round any number to the nearest 10, 100 or 1000	Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000, 100,000	Round any whole number to a required degree of accuracy
		Interpret negative numbers in context	Use negative numbers in context and calculate intervals across zero
Addition & Subtraction			
Recall, Represent, Use			
Estimate the answer to a calculation and use inverse operations to check answers	Estimate and use inverse operations to check answers to a calculation	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	
Calculations			
Add and subtract numbers mentally, including: ➤ a three-digit number and ones ➤ a three-digit number and tens ➤ a three-digit number and hundreds	Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than four-digits using the formal written methods (columnar addition and subtraction)	Perform mental calculations, including with mixed operations and large numbers
Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction		Add and subtract numbers mentally with increasingly large numbers	Use their knowledge of the order of operations to carry out calculations involving the four operations
Solve Problems			
Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Solve addition and subtraction multi-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	
Multiplication & Division			
Recall, Represent, Use			

Recall and use multiplication and division facts for the 3, 4 & 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to 12x12.	Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers	Identify common factors, common multiples and prime numbers
	Use place value, known and derived facts to multiply and divide mentally, including: <ul style="list-style-type: none"> ➤ multiplying by 0 and 1 ➤ dividing by 1 	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
	· multiplying together three numbers		
	Recognise and use factor pairs and commutativity in mental calculations	Establish whether a number up to 100 is prime & recall prime numbers up to 19	
		Recognise and use square numbers and cube numbers and the notation for squared (²) and cubed (³)	
Calculations			
Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	Multiply numbers up to 4 digits by a one twodigit number using a formal written method, including long multiplication for two-digit numbers	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal method of long multiplication
		Multiply and divide numbers mentally drawing upon known fact	
		Divide numbers up to four-digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	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
		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	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
			Perform mental calculations, including with mixed operations and large numbers
Solve Problems			
Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which 'n' objects are connected to 'm' objects	Solve problems, involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and correspondence problems in which 'n' objects are connected to 'm' objects	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	Solve problems involving addition, subtraction, multiplication and division

		Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
Combined Operations			
		Solving problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Use their knowledge of the order of operations to carry out calculations involving the four operations

Fractions			
Recognise and Write			
Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	
Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators		Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$	
Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
Compare			
Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions		Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
Compare and order unit fractions and fractions with the same denominators		Compare and order fractions whose denominators are all multiples of the same number	Compare and order fractions, including fractions > 1
Calculations			
Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$	Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and denominators that are multiples of the same number	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

		Multiply proper fractions and mixed number by whole numbers, supported by materials and diagram	Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$
			Divide proper fractions by whole numbers e.g. $\frac{1}{2} \div 2 = \frac{1}{4}$
Solve Problems			
Solve problems that involve all of the above	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		

Decimals			
Recognise and Write			
	Recognise and write decimal equivalents of any number of tenths or hundredths	Read and write decimal numbers as fractions e.g. $0.71 = \frac{71}{100}$	Identify the value of each digit in numbers given to three decimal places
	Recognise and write decimal equivalents to $\frac{3}{4}, \frac{1}{2}, \frac{1}{4}$	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
Compare			
	Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	
	Compare numbers with the same number of decimal places up to two decimal places	Read, write, order and compare numbers with up to three decimal places	
Calculations and Problems			
	Find the effect of dividing one or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Solve problems involving numbers up to three decimal places	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

			Solve problems which require answers to be rounded to specified degrees of accuracy
Fractions, Decimals & Percentages			
	Solve simple measure and money problems involving fractions and decimals to two decimal places	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'. Write percentages as a fraction with a denominator 100 and as a decimal	Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction e.g. $0.375 = \frac{3}{8}$
		Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$, those fractions with a denominator of a multiple of 10 or 25	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Ratio & 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 and the use of percentages for comparison
			Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
Algebra			
Solve problems, including missing number problems			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

Measurement			
Using Measures			
Measure, compare, add and subtract lengths (m/cm/mm) mass (kg/g) volume/capacity (l/ml)	Convert between different units of measure e.g. km to m, hours to minutes	Convert between different units of metric measure	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
	Estimate, compare and calculate different measures	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Use, read, write and convert 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 of up to three decimal places
		Use all four operations to solve problems involving measure, using decimal notation, including scaling	Convert between miles and kilometres
Money			
Add and subtract amounts of money to give change, using both £ and p in practical contexts	Estimate, compare and calculate different measures, including money in pounds and pence	Use all four operations to solve problems involving money.	
Time			
Tell and write the time from an analogue clock, including using Roman numerals I to XII and 12 hour and 24 hour clocks	Read, write and convert time between analogue and digital 12 and 24 hour clocks		Use read, write and convert between standard units, converting measures of time from a smaller unit of measure to a larger unit and vice versa
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, am/pm, morning, noon and midnight	Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days	Solve problems involving converting between units of time	
Know the number of seconds in a minute and the number of days in each month, year and leap year			
Compare durations of events			
Perimeter, Area, Volume			
Measure the perimeter of simple 2-D shapes	Measure and calculate the perimeter of rectilinear figure in centimetres and metres	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Recognise that shapes with the same areas can have different perimeters and vice versa

	Find the area of rectilinear shapes by counting squares	Calculate the area of rectangles, including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes	Calculate, estimate and compare volume of cubes and cuboids using standard units including square centimetres (cm ²) and square metres (m ²) and extending to other units (e.g mm ³ and km ³)
		Estimate volume and capacity	Calculate the area of parallelograms and triangles
			Recognise when it is possible to use formulae for area and volume of shapes
Geometry			
2-D Shapes			
Draw 2-D shapes	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and size	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Draw 2-D shapes using given dimensions and angles
	Identify lines of symmetry in 2D shapes presented in different orientations	Use the properties of rectangles to deduce related facts and find missing lengths and angles	Compare and classify geometric shapes based on their properties and sizes
			Illustrate and name parts of circles, using radius, diameter, circumference and know that the diameter is twice the radius
3-D Shapes			
Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them		Identify 3-D shapes including cubes and other cuboids, from 2-D representations	Recognise, describe and build simple 3-D shapes, including making nets
Angles & Lines			
Recognise angles as a property of shape or a description of a turn		Know angles are measured in degrees	Find unknown angles in any triangles, quadrilaterals and regular polygons
Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	Identify acute and obtuse angles and compare and order angles up to two right angles by size	Estimate and compare acute, obtuse and reflex angles	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite and find missing angles
Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Identify lines of symmetry in 2-D shapes presented in different orientations	Draw given angles and measure them in degrees	

	Complete a simple symmetric figure with respect to a specific line of symmetry	Identify: <ul style="list-style-type: none"> ➤ angles at a point and one whole turn ➤ angles at a point on a straight line and a $\frac{1}{2}$ turn ➤ other multiples of 90° 	
Position & Direction			
	Describe positions on a 2-D grid as coordinates in the first quadrant	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	Describe positions on the full coordinate grid (all four quadrants)
	Plot specified points and draw sides to complete a given polygon		
	Describe movements between positions as translations of a given unit to the left/right and up/down		Draw and translate simple shapes on the coordinate plane and reflect them in the axes
Statistics			
Present and interpret			
Interpret and present data using bar charts, pictograms and tables	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Complete, read and interpret information in tables, including timetables	Interpret and construct pie charts and line graphs and use these to solve problems
Solve problems			
Solve one-step and two-step questions using information present in scaled bar charts and pictograms and tables	Solve comparison, sum and difference problems using information present in bar charts, pictograms, tables and other graphs	Solve comparison, sum and difference problems using information present in a line graph	Calculate and interpret the mean as an average

