

Mathematics

Years 1 - 6

Year 1 MATHS

KEY*		
Y1e	Entering	A child is just starting to work on that year group's objectives
Y1w	Within	A child has achieved a significant number of objectives within that year group
Y1s	Secure	A child has achieved the vast majority of objectives within that year group and MUST be secure in number.

NUMBER, PLACE, VALUE	ADDITION SUBTRACTION	MULTIPLICATION DIVISION	FRACTIONS		MEASUREMENT	SHAPE	POSITION
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	Read and write numbers from 1 to 20 in numerals and words.	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Recognise, find and name a half as one of two equal parts of an object, shape or quantity.		Compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half].	Recognise and name common 2-D and 3-D shapes, including 2-D shapes [for example, rectangles (including squares), circles and triangles].	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
Count, read and write numbers to 100 in numerals.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.		Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.		Compare, describe and solve practical problems for mass/weight [for example, heavy/light, heavier than, lighter than].	Recognise and name common 2-D and 3-D shapes, including 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	
Count in multiples of twos, fives and tens.	Represent and use number bonds and related subtraction facts within 20.				Compare, describe and solve practical problems for capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].		
Given a number, identify one more and one less.	Add and subtract one-digit and two-digit numbers to 20, including zero.				Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later].		
Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$.				Measure and begin to record lengths and heights.		
					Measure and begin to record mass/weight.		
					Measure and begin to record capacity and volume.		
					Measure and begin to record time (hours, minutes, seconds).		
					Recognise and know the value of different denominations of coins and notes.		
					Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].		
					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 the hands on a clock face to show these times.		

Year 2 MATHS

KEY*		
Y2e	Entering	A child is just starting to work on that year group's objectives
Y2w	Within	A child has achieved a significant number of objectives within that year group
Y2s	Secure	A child has achieved the vast majority of objectives within that year group and MUST be secure in number.

NUMBER, PLACE, VALUE	ADDITION SUBTRACTION	MULTIPLICATION DIVISION	FRACTIONS		MEASUREMENT	SHAPE	POSITION	STATISTICS
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.	Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.		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.	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	Order and arrange combinations of mathematical objects in patterns and sequences.	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
Recognise the place value of each digit in a two-digit number (tens, ones).	Applying their increasing knowledge of mental and written methods.	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.	Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.		Compare and order lengths, mass, volume/capacity and record the results using symbols for greater than, less than and =.	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
Identify, represent and estimate numbers using different representations, including the number line.	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.			Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.	Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid].		Ask and answer questions about totalling and comparing categorical data.
Compare and order numbers from 0 up to 100.	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones.	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.			Find different combinations of coins that equal the same amounts of money.	Compare and sort common 2-D and 3-D shapes and everyday objects.		
Use greater than, less than and = signs.	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens.				Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.			
Read and write numbers to at least 100 in numerals and in words.	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including two two-digit numbers.				Compare and sequence intervals of time.			
Use place value and number facts to solve problems.	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including adding three one-digit numbers.				Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.			
	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.				Know the number of minutes in an hour and the number of hours in a day.			
	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.							

Year 3 MATHS

KEY*		
Y3e	Entering	A child is just starting to work within that year group's objectives
Y3w	Within	A child has achieved a significant number of objectives within that year group
Y3s	Secure	A child has achieved the vast majority of objectives within that year group and MUST be secure in number.

NUMBER, PLACE, VALUE	ADDITION SUBTRACTION	MULTIPLICATION and DIVISION	FRACTIONS		MEASUREMENT	SHAPE	STATISTICS
Count from 0 in multiples of 4, 8, 50 and 100.	Add and subtract numbers mentally, including three-digit number and ones.	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	Count up and down in tenths.		Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	Draw 2-D shapes and make 3-D shapes using modelling materials.	Interpret and present data using bar charts, pictograms and tables.
Find 10 or 100 more or less than a given number.	Add and subtract numbers mentally, including three-digit number and tens.	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.	Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.		Measure the perimeter of simple 2-D shapes.	Recognise 3-D shapes in different orientations and describe them.	Solve one step and two step questions using information presented in scaled bar charts and pictograms and tables.
Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	Add and subtract numbers mentally, including three-digit number and hundreds.	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.	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.		Add and subtract amounts of money to give change, using both £ and p in practical contexts.	Recognise angles as a property of shape or a description of a turn.	
Compare and order numbers up to 1000.	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.		Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.		Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.	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, represent and estimate numbers using different representations.	Estimate the answer to a calculation and use inverse operations to check answers.		Recognise and show, using diagrams, equivalent fractions with small denominators.		Estimate and read time with increasing accuracy to the nearest minute.	Identify whether angles are greater than or less than a right angle.	
Read and write numbers up to 1000 in numerals and in words.	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.		Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$].		Record and compare time in terms of seconds, minutes and hours.	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	
Solve number problems and practical problems involving working with and estimating numbers up to 1000 in a variety of units.			Compare and order unit fractions, and fractions with the same denominators.		Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.		
			Solve problems that involve my understanding of fractions.		Know the number of seconds in a minute and the number of days in each month, year and leap year.		
					Compare durations of events [for example to calculate the time taken by particular events or tasks].		

Year 4 MATHS

KEY*		
Y4e	Entering	A child is just starting to work within that year group's objectives
Y4w	Within	A child has achieved a significant number of objectives within that year group
Y4s	Secure	A child has achieved the vast majority of objectives within that year group and MUST be secure in number.

NUMBER, PLACE, VALUE	ADDITION SUBTRACTION	MULTIPLICATION DIVISION	FRACTIONS		MEASUREMENT	SHAPE	POSITION	STATISTICS
Count in multiples of 6, 7, 9, 25 and 1000.	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	Recall multiplication and division facts for multiplication tables up to 12 × 12.	Recognise and show, using diagrams, families of common equivalent fractions.		Convert between different units of measure [for example, kilometre to metre; hour to minute].	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Describe positions on a 2-D grid as coordinates in the first quadrant.	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Find 1000 more or less than a given number.	Estimate and use inverse operations to check answers to a calculation.	Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1.	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.		Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Identify acute and obtuse angles and compare and order angles up to two right angles by size.	Describe movements between positions as translations of a given unit to the left/right and up/down.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Count backwards through zero to include negative numbers.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Use place value, known and derived facts to multiply and divide mentally, including: Dividing by 1.	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.		Find the area of rectilinear shapes by counting squares.	Identify lines of symmetry in 2-D shapes presented in different orientations.	Plot specified points and draw sides to complete a given polygon.	
Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).		Use place value, known and derived facts to multiply and divide mentally, including: multiplying together three numbers.	Add and subtract fractions with the same denominator.		Estimate, compare and calculate different measures, including money in pounds and pence.	Complete a simple symmetric figure with respect to a specific line of symmetry.		
Order and compare numbers beyond 1000.		Recognise and use factor pairs and commutativity in mental calculations.	Recognise and write decimal equivalents of any number of tenths or hundredths.		Read, write and convert time between analogue and digital 12- and 24-hour clocks.			
Identify, represent and estimate numbers using different representations.		Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	Recognise and write decimal equivalents to 1/4, 1/2, 3/4.		Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.			
Round any number to the nearest 10, 100 or 1000.		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.	Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.					
Solve number and practical problems that involve rounding, ordering and exploring negative numbers and with increasingly large positive numbers.			Round decimals with one decimal place to the nearest whole number.					
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.			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.					

Year 5 MATHS

KEY*		
Y5e	Entering	A child is just starting to work within that year group's objectives
Y5w	Within	A child has achieved a significant number of objectives within that year group
Y5s	Secure	A child has achieved the vast majority of objectives within that year group and MUST be secure in number.

NUMBER, PLACE, VALUE	ADDITION SUBTRACTION	MULTIPLICATION DIVISION	FRACTIONS		MEASUREMENT	SHAPE	POSITION	STATISTICS
Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Compare and order fractions whose denominators are all multiples of the same number.		Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	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.	Solve comparison, sum and difference problems using information presented in a line graph.
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.	Add and subtract numbers mentally with increasingly large numbers.	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.		Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.		Complete, read and interpret information in tables, including timetables.
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Establish whether a number up to 100 is prime and recall prime numbers up to 19.	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements greater than 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1\ 1/5$].		Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Draw given angles, and measure them in degrees ($^{\circ}$).		
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	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.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.		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.	Identify angles at a point and one whole turn (total 360 $^{\circ}$).		
Solve number problems and practical problems that involve numbers up to 1000000, negative numbers, rounding or jumping in steps.		Multiply and divide numbers mentally drawing upon known facts.	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.		Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water].	Identify angles at a point on a straight line and a turn (total 180 $^{\circ}$).		
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.		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.	Read and write decimal numbers as fractions [for example, $0.71 = 71/100$].		Solve problems involving converting between units of time.	Identify other multiples of 90 $^{\circ}$.		
		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.		Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Use the properties of rectangles to deduce related facts and find missing lengths and angles.		
		Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).	Round decimals with two decimal places to the nearest whole number and to one decimal place.			Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		
		Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Read, write, order and compare numbers with up to three decimal places.					
		Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	Solve problems involving number up to three decimal places.					
		Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	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 $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25.					

Year 6 MATHS										
KEY*										
Y6e	Entering	A child is just starting to work within that year group's objectives								
Y6w	Within	A child has achieved a significant number of objectives within that year group								
Y6s	Secure	A child is at the expected NATIONAL level and has achieved the vast majority of objectives within that year group and be secure in NUMBER								
T1	Transition 1	A child has achieved ALL the objectives and working above their year group and undergoing Year 7 transition.								
T2	Transition 2									
NUMBER, PLACE, VALUE	ADDITION SUBTRACTION	MULTIPLICATION DIVISION	FRACTIONS		MEASUREMENT	SHAPE	POSITION	STATISTICS	RATIO	ALGEBRA
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.	Solve addition and subtraction multistep problems in context deciding which operations and methods to use, and why.	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.		Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	Draw 2-D shapes using given dimensions and angles.	Describe positions on the full coordinate grid (all four quadrants).	Interpret and construct pie charts and line graphs and use these to solve problems.	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	Use simple formulae.
Round any whole number to a required degree of accuracy.	Perform mental calculations including mixed operations and large numbers	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.	Compare and order fractions, including fractions greater than 1.		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.	Recognise, describe and build simple 3-D shapes, including making nets.	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Calculate and interpret the mean as an average.	Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.	Generate and describe linear number sequences.
Use negative numbers in context, and calculate intervals across zero.	Use estimations to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	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.	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.		Convert between miles and kilometres.	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.			Solve problems involving similar shapes where the scale factor is known or can be found.	Express missing number problems algebraically.
Solve number and practical problems that involve large numbers, rounding and negative numbers.		Perform mental calculations, including with mixed operations and large numbers.	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$].		Recognise that shapes with the same areas can have different perimeters and vice versa.	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.			Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	Find pairs of numbers that satisfy an equation with two unknowns.
		Identify common factors, common multiples and prime numbers.	Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$].		Recognise when it is possible to use formulae for area and volume of shapes.	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.				Enumerate possibilities of combinations of two variables.
		Use their knowledge of the order of operations to carry out calculations involving the four operations.	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$].		Calculate the area of parallelograms and triangles.					
		Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	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.		Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units [for example, mm ³ and km ³].					
		Solve problems involving addition, subtraction, multiplication and division.	Multiply one-digit numbers with up to two decimal places by whole numbers.							
		Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	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.							
			Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.							