Caring, curious, courageous

Key Objectives: Maths

Year 1

	Objective	Child speak objective
Number and Place Value	**Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.**	*I can count up and down from 0 to 100 and more*
	Count, read and write numbers to 100 in numerals.	*I can count, read and write numbers up to 100.*
	Count in multiples of twos, fives and tens.	*I can count in 2 or 5 or 10.*
	Given a number, identify one more and one less.	*When you show me a number, I can tell you what is one more and one less.*
Addition Subtraction	**Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.**	*I know and can use the maths symbols + - and = in a number sentence*
	Represent and use number bonds and related subtraction facts within 20.	*I know my number bond facts to 20 - such as 1+5 = 6 and 5 = 6 - 1.*
	Add and subtract one-digit and two-digit numbers to 20, including zero.	*I add and subtract numbers up to 20 - such as 5+5 or 12-8.*
Multiplication Division	**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**	*I answer maths multiplication or division problems with help from an adult and using objects to see what the problem means.*
Fractions	**Recognise, find and name a half as one of two equal parts of an object, shape or quantity.**	*I know that a half is one of two equal parts, and I find half of a shape or a set of objects by sharing the shape or set into two equal parts.*
	Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	*I find a quarter of a shape or a set of objects by sharing the shape or set into four equal parts.*

Measurement	**Compare, describe and solve practical problems for lengths and heights [for example, long or short, longer or shorter, tall or short, double or half].**	*I use words such as long or short, longer or shorter, tall or short, double or half to describe my maths work when I am measuring.*
	Compare, describe and solve practical problems for mass or weight [for example, heavy or light, heavier than, lighter than].	*When weighing, I use the words heavy or light, heavier than, lighter than to explain my work.*
	Compare, describe and solve practical problems for capacity and volume [for example, full or empty, more than, less than, half, half full, quarter].	*When working with capacity, I use the words full or empty, more than, less than, half, half full and quarter to explain my work.*
	Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later].	*I can answer questions about time, such as Who is quicker? or What is earlier?*
	Recognise and know the value of different denominations of coins and notes.	*I know that coins have different values and have ordered and compared them.*
	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	*I can tell the time and draw hands on a clock for to the hour and half past the hour times.*
Shape	**Recognise and name common 2-D and 3-D shapes, including 2-D shapes [for example, rectangles (including squares), circles and triangles].**	*I can name common 2-D shapes such as rectangles, squares, circles and triangles.*
	Recognise and name common 2-D and 3-D shapes, including 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	*I can name some 3-D shapes such as cuboids and cubes, pyramids and spheres.*
Position	**Describe position, direction and movement, including whole, half, quarter and three-quarter turns.**	*I can describe my position, direction and movement, including whole turns, half turns, quarter turns and three-quarter turns.*

Year 2

	Objective	Child speak objective
Number and Place Value	**Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.**	*I can count forward and backward in steps of 2, 3, and 5 from 0, and make jumps in tens from any number.*
	Recognise the place value of each digit in a two-digit number (tens, ones).	*I know what each digit means in two-digit numbers such as 24.*
	Compare and order numbers from 0 up to 100.	*I can order numbers up to 100 and tell you which numbers are bigger or smaller.*
	Use greater than, less than and = signs	*I use the greater than, less than and equals signs in maths and know what they mean.*
	Use place value and number facts to solve problems.	*I solve problems using number facts such as 18+2=20 and what I know about the value of digits in a number.*
Addition Subtraction	**Solve problems with addition and subtraction applying their increasing knowledge of mental and written methods.**	*I can solve addition and subtraction problems and work out how I answer it on paper or show you how I did it in my head by explaining step by step.*
	Solve problems with addition and subtraction recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.	*I answer problems with addition and subtraction using my number facts to 20 and other number facts up to 100.*
	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	*I can check my answers or solve missing number problems by doing an inverse check.*
Multiplication Division	**Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.**	*I know my 2 and 5 and 10 times tables by heart and can tell whether a number is odd or even.*
	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	*I can solve multiplication and division problems using times table facts and objects or pictures to help me.*
Fractions	**Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.**	*I can find 1/3 or 1/4 or 2/4 or 3/4 of a shape, length or set of objects.*

Measurement	**Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.**	*I have solved money problems such as how much change do I get from 50p if I buy an apple for 35p?*
	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.	*I can 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.*
Shape	**Compare and sort common 2-D and 3-D shapes and everyday objects.**	*I can compare 2-D and 3-D shapes with everyday objects around me.*
Position	**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).**	*I can describe my position, direction and movement, including describing turns as quarter, half and three-quarter turns in clockwise and anti-clockwise directions.*
Statistics	**Ask and answer questions about totalling and comparing categorical data**	*I work on sorting objects and can answer questions about the groups of objects I have sorted*

Year 3

	Objective	Child speak objective
Number and Place Value	**Find 10 or 100 more or less than a given number.**	*I can find 10 or 100 more or less than a given number.*
	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	*I know what each digit means in three-digit numbers such as 204.*
	Solve number problems and practical problems involving working with and estimating numbers up to 1000 in a variety of units.	*I can solve number problems, working with numbers up to 1000 and in different units of measurement.*
Addition Subtraction	**Add and subtract numbers mentally, including three-digit number and ones.**	*I can add and subtract numbers in my head, including questions such as 432 - 7.*
	Add and subtract numbers mentally, including three-digit number and tens.	*I can add and subtract numbers in my head, including questions such as 432 - 70.*
	Add and subtract numbers mentally, including three-digit number and hundreds.	*I can add and subtract numbers in my head, including questions such as 432 - 300.*
	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	*I can use written methods to add or subtract two three-digit numbers.*
Multiplication Division	**Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables**	*I know my 3, 4 and 8 times tables.*
	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.	*I can answer multiplication and division questions such as 16 x 5 or 45 divided by 9.*
Fractions	**Count up and down in tenths.**	*I can 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.	*I know that tenths can be found by dividing an object or shape into ten equal parts or by dividing numbers by 10.*
	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	*I can find a fraction (such as 2/5 or 3/4) of a set of objects.*
	Recognise and show, using diagrams, equivalent fractions with small denominators.	*I can show that some fractions have the same value - such as 1/2, 3/6 and 5/10 or 1/3 and 3/9.*

Measurement	**Measure, compare, add and subtract: lengths (m, cm, mm); mass (kg, g); volume, capacity (l, ml).**	*I can measure and compare in these units: lengths (m, cm, mm), weight (kg, g) and capacity (l, ml).*
	Add and subtract amounts of money to give change, using both £ and p in practical contexts	*I can work on money problems, adding and subtracting amounts of money and working out how much change is left. I use both £ and p in my problems.*
	Estimate and read time with increasing accuracy to the nearest minute.	*I can tell the time accurately to the nearest minute.*
Shape	**Recognise angles as a property of shape or a description of a turn**	*I know an angle is used to measure how far something turns. An angle is also the point in a 2-D shape. I can recognise a right angle*
	Identify whether angles are greater than or less than a right angle	*I can tell whether an angle is greater than or less than a right angle.*
Statistics	**Interpret and present data using bar charts, pictograms and tables.**	*I can answer questions about bar charts, pictograms and tables and make my own bar charts, pictograms and tables.*

Year 4

	Objective	Child speak objective
Number and Place Value	**Count in multiples of 6, 7, 9, 25 and 1000.**	*I can count in multiples of 6, 7, 9, 25 and 1000.*
	Count backwards through zero to include negative numbers.	*I can count backwards to negative numbers below zero.*
	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).	*I know what each digit means in four-digit numbers such as 2024.*
	Round any number to the nearest 10, 100 or 1000.	*I can round a number to the nearest 10, 100 or 1000.*
Addition Subtraction	**Estimate and use inverse operations to check answers to a calculation.**	*I can estimate an answer and check my answer using inverse operations.*
	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	*I can solve longer addition and subtraction problems and explain all the steps I took and why I worked things out as I did.*
Multiplication Division	**Recall multiplication and division facts for multiplication tables up to 12 × 12.**	*I know all my times table up to the 12 times tables.*
	Recognise and use factor pairs and commutativity in mental calculations.	*I know what factor pairs are how I can multiply numbers in any order and use my knowledge to work out questions in my head.*
	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	*I can multiply a two-digit or a three-digit number by a one-digit number using written methods.*
Fractions	**Recognise and show, using diagrams, families of common equivalent fractions.**	*I can show in drawings why a number of fractions equal each other (such as 3/5 and 6/10) and are called equivalent fractions.*
	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	*I can count up and down in hundredths and know that a hundredth is made by dividing an object by one hundred and a tenth is made by dividing an object by ten.*
	Round decimals with one decimal place to the nearest whole number.	*I can round decimals with one decimal place to the nearest whole number.*

Measurement	**Convert between different units of measure [for example, kilometre to metre; hour to minute].**	*I can convert one unit of measurement to another, such as kilometre to metre, hour to minute and cm to mm.*
	Read, write and convert time between analogue and digital 12- and 24-hour clocks.	*I can read, write and convert time between clocks with hands (analogue clocks) and digital 12- and 24-hour clocks.*
Shape	**Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.**	*I can group 2-D shapes based on their properties (such as the number of sides) and sizes.*
	Identify lines of symmetry in 2-D shapes presented in different orientations.	*I can find all the lines of symmetry in 2-D shapes.*
Position	**Describe movements between positions as translations of a given unit to the left/right and up/down.**	*I can move (translate) a point on a grid by a given set of jumps either up/down or left/right.*
	Plot specified points and draw sides to complete a given polygon.	*I can plot points using coordinates and join up the points to create a shape.*
Statistics	**Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.**	*I can solve comparison, sum and difference problems using information in bar charts, pictograms, tables and other graphs.*

Year 5

	Objective	Child speak objective
Number and Place Value	**Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.**	*I can read, write, order and compare numbers to at least 1 000 000 and know the value of each digit.*
	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	*I can use negative numbers in my work and can count backwards and forwards to and from negative numbers.*
	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	*I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.*
Addition Subtraction	**Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).**	*I can add and subtract whole numbers with more than 4 digits using written methods such as column addition and subtraction.*
	Add and subtract numbers mentally with increasingly large numbers.	*I can add and subtract larger numbers in my head.*
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	*I can solve addition and subtraction multi-step problems, deciding which operations and methods to use and why.*
Multiplication Division	**Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.**	*I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.*
	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.	*I can multiply 4 digit numbers by a one- or two-digit number using a written method, including long multiplication for two-digit numbers.*
	Multiply and divide numbers mentally drawing upon known facts.	*I multiply and divide numbers mentally drawing upon my times table knowledge and other number facts.*
	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.	*I can divide 4 digit numbers by a one-digit number using the written method of short division and find the remainder.*
	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	*I can solve multiplication and division problems using my knowledge of factors and multiples, squares and cubes.*

Fractions	**Compare and order fractions whose denominators are all multiples of the same number.**	*I can compare and order fractions whose denominators are all multiples of the same number.*
	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].	*I know what mixed numbers and improper fractions are and I can convert from one to the other [for example, 2/5 + 4/5 = 6/5 = 1 1/5].*
	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	*I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.*
	Read and write decimal numbers as fractions [for example, 0.71 = 71/100].	*I can read and write decimal numbers as fractions [for example, 0.71 = 71/100].*
	Round decimals with two decimal places to the nearest whole number and to one decimal place.	*I can round decimals with two decimal places to the nearest whole number and to one decimal place.*
	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.	*I work on 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.*
Measurement	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).	*I can convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).*
	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	*I can calculate the perimeter of multi-shape shapes in centimetres and metres.*
	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes.	*I can calculate the area of rectangles in square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes.*
	Solve problems involving converting between units of time.	*I can convert between the units of time.*

Shape	**Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.**	*I can Identify 3-D shapes, including cubes and other cuboids, from 2-D drawings.*
	Draw given angles, and measure them in degrees (°).	*I can draw a given angle (such as 47°), and then measure them in degrees (°).*
	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	*I can find the missing lengths and angles of a rectangle.*
	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	*I know regular shapes have equal sides and angles and irregular shapes do not have equal sides and angles.*
Position	**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.**	*I can reflect or translate a shape on a grid.*
Statistics	**Complete, read and interpret information in tables, including timetables.**	*I can find the information I need from a timetable or large table of data.*

Year 6

	Objective	Child speak objective
Number and Place Value	**Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.**	*I can work with numbers up to 10 000 000 and know what each digit represents.*
	Solve number and practical problems that involve large numbers, rounding and negative numbers.	*I can solve number and practical problems that involve large numbers, rounding and negative numbers.*
Multiplication Division	**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.**	*I can choose to divide 4 digit numbers by a two-digit number using the written method of short division if this is possible.*
	Perform mental calculations, including with mixed operations and large numbers.	*I can multiply, divide, add and subtract large numbers in my head.*
	Use their knowledge of the order of operations to carry out calculations involving the four operations.	*I know that addition, subtraction, multiplication and division should be carried out in a specific order when looking at problems.*
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	*I can solve addition and subtraction multi-step problems, deciding where to add or subtract.*
	Solve problems involving addition, subtraction, multiplication and division.	*I can solve problems involving addition, subtraction, multiplication and division.*
Fractions	**Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.**	*I add and subtract fractions with different denominators and mixed numbers.*
	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8].	*I can multiply fractions such as 1/4 × 1/2 = 1/8.*
	Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6].	*I know how to divide proper fractions by whole numbers [for example, 1/3 ÷ 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].	*I can change a fraction into a decimal - for example, I can change 3/8 to 0.375 by dividing 1 by 8 and multiplying by 3.*

	Multiply one-digit numbers with up to two decimal places by whole numbers.	*I can multiply numbers such as 1.45 by a one-digit number - for example 1.45 x 7.*
	Use written division methods in cases where the answer has up to two decimal places.	*I 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.	*I can solve problems which include rounding to a required accuracy such as the nearest 10, 100 or 10000.*
	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	*I know the decimal value, percentage and fraction of a range of values - such as 0.5, 50 per cent and 1/2.*
Ratio	**Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.**	*I can find the percentage of an amount - such as finding 15 per cent of 360.*
Algebra	**Use simple formulae.**	*I know how to use simple formulae such as n - 10 = 2.*
	Find pairs of numbers that satisfy an equation with two unknowns.	*I can find pairs of numbers that satisfy an equation with two unknowns.*
Measurement	**Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.**	*I solve problems about different units of measure with three decimal places.*
	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.	*I can convert measurements of length, weight, volume and time up to three decimal places in length (for example 0.345kg = 345g).*
Shape	**Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.**	*I can classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.*
	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	*I can work with angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.*