

Maths	<p><u>Numbers</u> Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.</p>			
	<p><u>Shape, space and measure</u> Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</p>			

Y1

Number and Place Value
I can count to and past 100, forwards and backwards starting from any number.
I can count and read numbers to 100 in numerals.
I can count and write numbers to 100 in numerals.
I can count in jumps of 2, 5 and 10.
I can identify one more and one less, given a starting number.
I can find and show numbers using objects and pictures including number lines and use: equal to, more than, less than (fewer), most, least.
I can read and write numbers from 1 to 20 in numbers.
I can read and write numbers from 1 to 20 in words.
I can use counting to solve problems with bigger numbers.
Addition and Subtraction
I can read and understand number statements using +, - and =.
I can write number statements using +, - and =.
I can use number bonds up to 20.
I can use subtraction facts up to 20.
I can add one digit and two digit numbers up to 20.
I can subtract one digit and two digit numbers up to 20.
I can answer problems that use addition and subtraction, including missing number problems, using objects and pictures.
Multiplication and Division
I can answer multiplication questions using objects, pictures and other equipment.

I can answer division questions using objects, pictures and other equipment.

Fractions

I can find and name $\frac{1}{2}$ (half) of an object, shape or amount.

I can find and name $\frac{1}{4}$ (quarter) as one of four equal parts of an object, shape or amount.

Measurement

I can solve problems for length and height by telling which objects are longer or shorter/taller or shorter.

I can solve problems for mass and weights by telling which objects are heavier or lighter.

I can solve problems for capacity and volume by telling if a container is empty, half full or full and if there is more in one container than another.

I can solve problems for time. I can tell if something is quicker or slower. I can tell if something happened earlier or later.

I can measure weight or mass and write these measurements down.

I can measure capacity or volume and write these measurements down.

I can measure time in hours, seconds or minutes and write these measurements down.

I can tell how much different coins or notes are worth.

I can tell when things happened by using these words: before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening.

I can talk about dates using the days of the week, weeks, months and years.

I can tell what the time is in hours and half past the hour. I can draw these on a clock face.

I can measure and begin to record length/height.

Properties of Shape

I can recognise and name common 2-D shapes such as rectangles, squares, circles and triangles.

I can recognise and name common 3-D shapes such as cuboids, cubes, pyramids and spheres.

Position and Direction

I can talk about whole, half, quarter and three quarter turns. I can then use this to explain movement, direction and position.

Y2

Interim teacher assessment framework at the end of key stage 1 - mathematics

Working towards the expected standard

- The pupil can demonstrate an understanding of place value, though may still need to use apparatus to support them (e.g. by stating the difference in the tens and ones between 2

numbers i.e. 77 and 33 has a difference of 40 for the tens and a difference of 4 for the ones; by writing number statements such as $35 < 53$ and $42 > 36$).

- The pupil can count in twos, fives and tens from 0 and use counting strategies to solve problems (e.g. count the number of chairs in a diagram when the chairs are organised in 7 rows of 5 by counting in fives).
- The pupil can read and write numbers correctly in numerals up to 100 (e.g. can write the numbers 14 and 41 correctly).
- The pupil can use number bonds and related subtraction facts within 20 (e.g. $18 = 9 + ?$; $15 = 6 + ?$).
- The pupil can add and subtract a two-digit number and ones and a two-digit number and tens where no regrouping is required (e.g. $23 + 5$; $46 + 20$), they can demonstrate their method using concrete apparatus or pictorial representations.
- The pupil can recall doubles and halves to 20 (e.g. pupil knows that double 2 is 4, double 5 is 10 and half of 18 is 9).
- The pupil can recognise and name triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres from a group of shapes or from pictures of the shapes.

Working at the expected standard

- The pupil can partition two-digit numbers into different combinations of tens and ones. This may include using apparatus (e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones).
- The pupil can add 2 two-digit numbers within 100 (e.g. $48 + 35$) and can demonstrate their method using concrete apparatus or pictorial representations.
- The pupil can use estimation to check that their answers to a calculation are reasonable (e.g. knowing that $48 + 35$ will be less than 100).
- The pupil can subtract mentally a two-digit number from another two-digit number when there is no regrouping required (e.g. $74 - 33$).
- The pupil can recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems (e.g. $\Delta - 14 = 28$).
- The pupil can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary (e.g. knowing they can make 7 groups of 5 from 35 blocks and writing $35 \div 5 = 7$; sharing 40 cherries between 10 people and writing $40 \div 10 = 4$; stating the total value of six 5p coins).
- The pupil can identify 1 3, 1 4, 1 2, 2 4, 3 4 and knows that all parts must be equal parts of the whole.
- The pupil can use different coins to make the same amount (e.g. pupil uses coins to make 50p in different ways; pupil can work out how many £2 coins are needed to exchange for a £20 note).
- The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given (e.g. pupil reads the temperature on a thermometer or measures capacities using a measuring jug).
- The pupil can read the time on the clock to the nearest 15 minutes.
- The pupil can describe properties of 2-D and 3-D shapes (e.g. the pupil describes a triangle: it has 3 sides, 3 vertices and 1 line of symmetry; the pupil describes a pyramid: it has 8 edges, 5 faces, 4 of which are triangles and one is a square).

Working at greater depth within the expected standard

- The pupil can reason about addition (e.g. pupil can reason that the sum of 3 odd numbers will always be odd).
- The pupil can use multiplication facts to make deductions outside known multiplication facts (e.g. a pupil knows that multiples of 5 have one digit of 0 or 5 and uses this to reason that 18×5 cannot be 92 as it is not a multiple of 5).
- The pupil can work out mental calculations where regrouping is required (e.g. $52 - 27$; $91 - 73$).

<ul style="list-style-type: none"> The pupil can solve more complex missing number problems (e.g. $14 + - 3 = 17$; $14 + \Delta = 15 + 27$).
<ul style="list-style-type: none"> The pupil can determine remainders given known facts (e.g. given $15 \div 5 = 3$ and has a remainder of 0, pupil recognises that $16 \div 5$ will have a remainder of 1; knowing that $2 \times 7 = 14$ and $2 \times 8 = 16$, pupil explains that making pairs of socks from 15 identical socks will give 7 pairs and one sock will be left).
<ul style="list-style-type: none"> The pupil can solve word problems that involve more than one step (e.g. which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?).
<ul style="list-style-type: none"> The pupil can recognise the relationships between addition and subtraction and can rewrite addition statements as simplified multiplication statements (e.g. $10 + 10 + 10 + 5 + 5 = 3 \times 10 + 2 \times 5 = 4 \times 10$).
<ul style="list-style-type: none"> The pupil can find and compare fractions of amounts (e.g. $\frac{1}{4}$ of £20 = £5 and $\frac{1}{2}$ of £8 = £4 so $\frac{1}{4}$ of £20 is greater than $\frac{1}{2}$ of £8).
<ul style="list-style-type: none"> The pupil can read the time on the clock to the nearest 5 minutes.
<ul style="list-style-type: none"> The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given.
<ul style="list-style-type: none"> The pupil can describe similarities and differences of shape properties (e.g. finds 2 different 2-D shapes that only have one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices but can describe what is different about them).

Y3

Number and Place Value
I can count from 0 in multiples of 4, 8, 50 and 100 and can find 10 or 100 more or less than a given number.
I can recognise the place value of each digit of a number with hundreds, tens and units.
I can compare and order numbers up to 1000.
I can find, show and estimate numbers using objects and pictures.
I can read and write numbers up to 1000 in numbers and words.
I can solve number and word problems.
Addition and Subtraction
I can add and subtract numbers in my head, including a three digit number and ones.
I can add and subtract numbers in my head, including a three digit number and tens.
I can add and subtract numbers in my head, including a three digit number and hundreds.
I can add and subtract numbers with up to three digits using formal column methods.
I can estimate the answer to a calculation and use this and inverse operations to check answers.
I can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Multiplication and Division

I can recall and use multiplication and division facts for the 3, 4 and 8 times tables.

I can calculate multiplication and division problems, both mentally and in writing, using the times tables, including two digit numbers times one digit numbers.

I can solve problems, including missing number problems, involving multiplication and division, including factors and ratio.

Fractions

I can count up and down in tenths, and know that tenths are made by dividing an object into 10 equal parts and dividing one-digit numbers or quantities by 10.

I can write and find fractions for a set of data and can recognise fractions with small denominators.

I can find and use fractions as numbers e.g. $\frac{1}{4}$ of 8 = 2 and $\frac{3}{4}$ of 8 = 6.

I can identify and show equivalent fractions.

I can add and subtract fractions with the same denominator within one whole.

I can compare and order fractions with the same denominator.

I can solve fraction problems.

Measurement

I can measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume and capacity (l/ml).

I can measure the perimeter of simple 2-D shapes.

I can add and subtract money, giving change and using pounds and pence. I can do this with real coins and notes.

I can tell the time on a clock face. I can do this if it uses Roman numerals from I to XII, and I can use 12-hour or 24-hour clocks.

I can estimate and read the time to the nearest minute. I can record time in seconds, minutes and hours. I can use the words o'clock, a.m., p.m., morning, afternoon, noon and midnight.

I can tell you the number of seconds in a minute and how many days there are in a month, a year, and in a leap year.

I can compare how much time is taken by different events or tasks.

Properties of Shape

I can draw 2-D shapes and make 3-D shapes using modelling materials. I can recognise 3-D shapes in different orientations.

I can recognise angles as properties of shape. I know that angles are a description of a turn.

I can spot right angles. I know that two right angles make a half-turn, three make three quarters of a turn and four make a full turn. I can spot when angles are greater or less than a right angle.

I can spot horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics

I can interpret and present data using bar charts, pictograms and tables.

I can solve one-step and two-step questions e.g. 'How many more?' and 'How many fewer?', using information presented in scaled bar charts, pictograms and tables.

Y4

Number and Place Value

I can count in multiples of 6, 7, 9, 25 and 1000.

I can find 1000 more or less than a given number.

I can count backwards through 0 to include negative numbers.

I can recognise the place value of each digit of a 4 digit number (thousands, hundreds, tens and units).

I can order and compare numbers beyond 1000.

I can identify, represent and estimate numbers using different representations including measures.

I can round numbers to the nearest 10, 100 or 1000.

I can solve number and practical problems that involve large positive numbers.

I can read Roman numerals up to 100 and know that the number system has changed to include 0 and place value.

Addition and Subtraction

I can add and subtract numbers with up to four digits using formal column methods.

I can use estimating and inverse operations to check my answers.

I can solve two step addition and subtraction problems, using different methods, and explain why I used them.

Multiplication and Division

I can recall times tables facts up to 12 x 12.

I can use place value and number facts to multiply and divide mentally, including multiplying by 1 and 0, dividing by 1, and multiplying together 3 numbers.

I can use factor pairs in mental calculations.

I can multiply two digit and three digit numbers by a one digit number using a formal written method.

I can solve problems involving multiplication and addition, including using the distributive law e.g. $3 \times (12 + 14) = 3 \times 12 + 3 \times 14$.

Fractions

I can recognise and show, using diagrams, families of common equivalent fractions.

I can count up and down in hundredths and know that dividing an object by 100 creates hundredths as does dividing tenths by ten.

I can solve problems involving fractions to calculate quantities and fractions to divide quantities.

I can add and subtract fractions with the same denominator.

I can find and write decimal equivalents using tenths and hundredths.

I can find and write decimal equivalents of $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$.

I can divide one and two digit numbers by 10 and 100 and can explain the effect this has on place value.

I can round decimals using tenths to the nearest whole number.

I can compare numbers with the same number of decimal places (up to two decimal places).

I can solve simple money and measure problems involving fractions and decimals up to two decimal places.

Properties of Shape

I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

I can identify acute and obtuse angles. I can compare and order angles up to two right angles by size.

I can identify lines of symmetry in 2-D shapes presented in different orientations.

I can complete a simple symmetric figure with respect to a specific line of symmetry.

I can recognise where angles are greater than two right angles. I know the term straight angle refers to two right angles together.

I can use line symmetry with two lines of symmetry.

Position and Direction

I can plot positions on a 2-D grid as positive number coordinates.

I can describe movements between positions as translations of a given unit to the left/right and up/down.

I can plot points I am given and draw sides to complete a given polygon.

Measurement

I can convert different units of measurement e.g. I can convert kilometres into metres or hours into minutes.

I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.

I can find the area of rectilinear shapes by counting squares.

I can estimate, compare and calculate different measures, including money in pounds and pence.

I can read, write and compare time between analogue and digital 12-hour and 24-hour clocks.

I can solve problems where I need to convert units of time, such as hours to minutes, minutes to seconds, years to months or weeks to days.

Statistics

I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Y5

Number and Place Value

I can read, write, order and compare numbers up to at least 1,000,000 (one million) and say the value of each digit.

I can keep multiplying a number by 10 or 100 up to 1,000,000 and count back.

I can use negative numbers in context when looking at temperature or money, counting forwards and backwards through 0.

I can round numbers up to 1,000,000 to the nearest 10, 100, 1000, 10,000 or 100,000.

I can solve number and practical problems that involve ordering and comparing numbers up to 1,000,000, counting forwards or backwards in steps, using negative numbers, and rounding.

I can read Roman numerals up to 1000 and recognise years written in them.

Addition and Subtraction

I can add and subtract numbers with more than 4 digits using written methods.

I can add and subtract 2 and 3 digit numbers in my head.

I can use rounding to check answers to calculations and determine levels of accuracy.

I can solve addition and subtraction problems needing more than one step and can work out which operation and method is the most suitable.

Multiplication and Division

I can find multiples and factors of a number and can identify factors common to 2 different numbers.

I can use vocabulary relating to prime numbers, prime factors and composite numbers.

I can work out if any given number up to 100 is a prime number and can recall prime numbers up to 19.

I can multiply numbers with up to 4 digits by a 1 or 2 digit number using formal written methods.

I can mentally multiply and divide numbers using the times tables.

I can divide numbers with up to 4 digits by a 1 digit number, using formal written methods, and can explain remainders.
I can multiply and divide whole and decimal numbers by 10, 100 and 1000.
I can identify and use square numbers and their notation.
I can identify and use cube numbers and their notation.
I can solve problems involving multiplication and division, including using factors and multiples, squares and cubes.
I can solve problems involving addition, subtraction, multiplication and division, and a combination of these, including understanding the meaning of the equals sign.
I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
Fractions
I can compare and order fractions whose denominators are all multiples of the same number.
I can find and name equivalent fractions of a given fraction, including tenths and hundredths.
I can write equivalent fractions of a given fraction, including tenths and hundredths.
I can identify mixed numbers and improper fractions and convert from one to another such as $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$.
I can add and subtract fractions whose denominators are all multiples of the same number.
I can multiply fractions by whole numbers using objects and pictures.
I can read and write decimal numbers as fractions such as $0.71 = \frac{71}{100}$.
I can identify and use thousandths and can explain how they relate to tenths and hundredths and their decimal equivalents.
I can round numbers with two decimal places.
I can read, write, order and compare numbers with up to three decimal places.
I can solve problems involving numbers with up to three decimal places.
I can identify the percent symbol (%) and how it relates to parts per hundred, hundredths and decimals.
I can solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.
Measurement
I can convert between different forms of metric measurement e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre.
I can understand and compare equivalences between metric units and common imperial units. These might include: inches, pounds or pints.
I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.

I can calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm ²), square metres (m ²), and estimate the area of irregular shapes.
I can estimate volume by using 1cm ³ blocks to build cuboids (including cubes), and capacity by using water and different containers.
I can solve problems where I need to convert between units of time.
I can use all four operations to solve problems involving measure such as length, mass, volume, money, using decimal notation, and scaling.
Properties of Shape
I can identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
I can estimate and compare acute, obtuse and reflex angles. I know that angles are measured in degrees.
I can draw given angles and measure them in degrees.
I can identify angles at a point and one whole turn.
I can identify angles at a point on a straight line and 1/2 a turn (total 180°).
I can identify other multiples of 90°.
I can use the properties of rectangles to find related facts, missing lengths and missing angles.
I can tell the difference between regular and irregular polygons. I can do this using reasoning about equal sides and angles.
Position and Direction
I can identify, describe and represent the position of a shape following a reflection or translation. I can use mathematical vocabulary to explain this and I know that the shape has not changed.
Statistics
I can solve comparison, sum and difference problems using information presented in a line graph.
I can complete, read and interpret information in tables, including timetables.

Y6

Interim teacher assessment framework at the end of key stage 2 - Mathematics
Working at the expected standard
<ul style="list-style-type: none"> The pupil can demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the '7' in 276,541?; find the difference between the largest and smallest whole numbers that can be made from using three digits; $8.09 = 8 + 9 ?$; $28.13 = 28 + + 0.03$). The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation (e.g. $53 - 82 + 47 = 53 +$

$47 - 82 = 100 - 82 = 18$; $20 \times 7 \times 5 = 20 \times 5 \times 7 = 100 \times 7 = 700$; $53 \div 7 + 3 \div 7 = (53 + 3) \div 7 = 56 \div 7 = 8$).

- The pupil can use formal methods to solve multi-step problems (e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?).

- The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as $\frac{1}{5}$ or 0.2 or 20% of the whole cake).

- The pupil can calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as $\frac{7}{21}$ and that this is equal to $\frac{1}{3}$; 15% of 60; $11 \frac{2}{3} + 3 \frac{4}{7}$; $\frac{7}{9}$ of 108; 0.8×70).

- The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).

The pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles).