

Year 1 Mathematics – End of Year Expectations

<p>Place value</p>	<ul style="list-style-type: none"> The pupil can <i>count (forwards and backwards)</i>, read and write numbers up to 100 in numerals and identify one more and less than any number (E.g. $__$ is one less than 87, one less than 76 is $__$) The pupil can count in 2s, 5s and 10s forwards and backwards (E.g. 30, 40, 50, $__$, 70 or 16, 14, 12, $__$, 8, 6)
<p>Addition and subtraction</p>	<ul style="list-style-type: none"> The pupil can represent and use number bonds and related subtraction facts within 20 (E.g. I know $6 + 4 = 10$, so I also know $4 + 6 = 10$, $10 - 6 = 4$ and $10 - 4 = 6$) The pupil can add and subtract one-digit and two-digit numbers to 20, including 0 (E.g. $5 + 3 = __$, $__ = 10 + 7$, $9 = 19 - __$, $7p - 1p = 10p - __$) The pupil can solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, including and missing number problems (E.g. Sam has 14 chocolate buttons, Mia has 3. How many do they have altogether? $__ - 7 = 6$)
<p>Multiplication and division</p>	<ul style="list-style-type: none"> The pupil can 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 (E.g. There are 10 pencils in each box. How many boxes will there be in 3 boxes or Fran has 25 flowers and Ben wants to put 5 in each vase. How many vases does he need?)
<p>Fractions</p>	<ul style="list-style-type: none"> The pupil can recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity The pupil can recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity
<p>Time</p>	<ul style="list-style-type: none"> The pupil can tell the time to the hour and half past the hour and draw the hands on a clock face to show these times The pupil can recognise and use language relating to dates, including days of the week and months
<p>Money</p>	<ul style="list-style-type: none"> The pupil can recognise and know the value of different denominations of coins and note
<p>Shape</p>	<ul style="list-style-type: none"> Recognise and name common 2-D and 3-D shapes (E.g. circle, square, rectangle, triangle, cube, cuboid, sphere, cylinder, cone, pyramids)

Year 2 Mathematics – End of Year Expectations

Place value	<ul style="list-style-type: none"> The pupil can partition two-digit numbers into different combinations of tens and ones (<i>E.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones</i>) The pupil can subtract mentally a two-digit number from another two-digit number when there is no regrouping required (<i>e.g. $74 - 33 = \underline{\quad}$</i>).
Addition and subtraction	<ul style="list-style-type: none"> The pupil can add 2 two-digit numbers within 100 (<i>E.g. $48 + 35$</i>) 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 (<i>E.g. knowing that $48\text{cm} + 35\text{cm}$ will be less than 100cm or 1 metre</i>) The pupil can recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems (<i>E.g. $\Delta - 14 = 28$</i>)
Multiplication and division	<ul style="list-style-type: none"> 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 (<i>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</i>)
Fractions	<ul style="list-style-type: none"> The pupil can identify $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{4}$ and knows that all parts must be equal parts of the whole
Weight and Volume	<ul style="list-style-type: none"> 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 (<i>E.g. pupil reads the temperature on a thermometer or measures capacities using a measuring jug</i>)
Time	<ul style="list-style-type: none"> The pupil can read the time on the clock to the nearest 15 minutes
Money	<ul style="list-style-type: none"> The pupil can use different coins to make the same amount (<i>E.g. The pupil uses coins to make 50p in different ways; The pupil can work out how many £2 coins are needed to exchange for a £20 note</i>)
Geometry – Shape	<ul style="list-style-type: none"> The pupil can describe properties of 2D and 3D shapes (<i>E.g. the pupil describes a triangle: it has 3 sides, 3 vertices and 1 line of symmetry. E.g. The pupil describes a pyramid: it has 8 edges, 5 faces, 4 of which are triangles and one is a square.</i>)

Year 3 Mathematics – End of Year Expectations

Place value	<ul style="list-style-type: none"> The pupil can demonstrate an understanding of: <ul style="list-style-type: none"> Place value up to 999 and recognise the value of each digit and find 10 and 100 more and less than any given number Being able to read, write, compare and order numbers up to 1000 in words and numerals Recognising numbers in different representations (E.g. $254 = 2 \text{ 100s}, 4 \text{ 10s and } 14 \text{ 1s}$)
Addition and subtraction	<ul style="list-style-type: none"> The pupil can add and subtract 1s, 10s and 100s from any 3 digit number The pupil can use formal written methods to add and subtract 3 digit numbers The pupil can solve problems including missing numbers using number facts and place value (E.g. $456 = \underline{\quad} - 30$)
Multiplication and division	<ul style="list-style-type: none"> The pupil can continue to count in multiples 3, 4, 8, 50 and 100 Pupils can use mental strategies progressing to written methods to multiply and divide 2-digit numbers by a 1 digit number using known multiplication facts (E.g. $17 \times 3 = (10 \times 3) + (7 \times 3)$ or $21 \div 3 = 3 \times 7$ therefor $21 \div 3 = 7$) The pupil can solve problems including missing number, positive integer scaling problems and correspondence problems
Fractions	<ul style="list-style-type: none"> The pupil can count up and down in tenths and know that tenths arise from dividing an object or amount in to 10 equal parts The pupil can recognise and use fractions with small denominators and use diagrams to show equivalent fractions with small denominators The pupil can begin to compare, order, add and subtract fractions with the same denominator
Measure	<ul style="list-style-type: none"> The pupil can measure, compare, add and subtract length, mass and capacity using the same measures The pupil can add and subtract amounts of money to give change using both pounds and pence
Perimeter	<ul style="list-style-type: none"> The pupil can measure the perimeter of simple 2D shapes
Time	<ul style="list-style-type: none"> The pupil can tell and write the time to the nearest minute from analogue clock, 12 hour clock and 24 hour clocks The pupil can compare time based on: <ul style="list-style-type: none"> seconds minutes hours The pupil knows the number of seconds in a minute, the number of days in each months, year and leap year The pupil can use vocabulary such as; o'clock, am, pm, morning, afternoon and midnight
Geometry – Shape	<ul style="list-style-type: none"> The pupil can recognise angles as a property of shape The pupil can identify angles which are greater or less than a right angle The pupil can identify horizontal and vertical lines and pairs of perpendicular and parallel lines
Statistics	<ul style="list-style-type: none"> The pupil can interpret and present data using bar charts, pictograms and tables The pupil can solve one and two step problems using information from scaled bar charts, pictograms and tables

Year 4 Mathematics – End of Year Expectations

Place value	<ul style="list-style-type: none"> The pupil can demonstrate an understanding of: <ul style="list-style-type: none"> Negative numbers (E.g. what is 4 more than -6, what is the next number in this sequence? 12, 7, 2, __?) Place value up to 9,999 (E.g. what is the value of the digit 5 in the number 6542) Decimals up to 2 decimal places (E.g. find the difference between 0.6 and 0.73)
Addition and subtraction	<ul style="list-style-type: none"> The pupil can solve addition and subtraction problems with up to 4 digits using a formal written method (E.g. $7912\text{cm} + 329\text{cm} = \underline{\quad}, \underline{\quad} + 242 = 1105$, $654 + 3125 = 561 + \underline{\quad}$) The pupil can use estimation and inverse to check answers (E.g. estimate $4512 + 1221 = \underline{\quad}$ as $4500 + 1200 = 5700$, and check $6751 - 2134 = 4617$ by completing the addition calculation $4617 + 2134 = 6751$)
Multiplication and division	<ul style="list-style-type: none"> The pupil can recall the multiplication and division facts for multiplication tables up to 12×12 (E.g. $7 \times \underline{\quad} = 84$, $99 \div \underline{\quad} = 9$) The pupil can solve problems involving multiplying 2- and 3-digit numbers by a single digit using formal written layout and can recognise and use factor pairs (E.g. $7 \times 312 = \underline{\quad}$; $6 \times 3 \times 0 \times 1 \times 9 = \underline{\quad}$; How many factor pairs can you think of for the number 24?)
Fractions	<ul style="list-style-type: none"> The pupil can solve problems around fractions including adding and subtracting fractions with the same denominator and recognising families of common equivalent fractions (E.g. $2/7 + 5/7 = 1/7 + \underline{\quad}$, $3/8$ of 24 = $\underline{\quad}$, $2/7 + \underline{\quad} = 1$; John has $2/5$ of a bar and Amy $3/10$. Who has the most? Why?)
Decimals	<ul style="list-style-type: none"> The pupil can recognise decimal equivalents of tenths, hundredths (E.g. $0.4 = \underline{\quad} + 2/10$; $\pounds 2.45 + 123 \text{ pence} + 81 \text{ pence} = \underline{\quad}$) The pupil can find the effect of dividing 1- or 2-digit numbers by 10 and 100 (E.g. $7 \div 10 = \underline{\quad}$, $\underline{\quad} \div 100 = 0.13$)
Area	<ul style="list-style-type: none"> The pupil can calculate the area and perimeter of rectilinear shapes and convert between different units of measure (E.g. 3 hours = 180 minutes, 6780 meters = 6km 780 meters)
Time	<ul style="list-style-type: none"> The pupil can solve problems involving reading, writing and converting time between analogue and digital 12- and 24-hour clocks (E.g. A digital clock reads 18:30. What is the time? Show it on a clock face.)
Geometry – Shape	<ul style="list-style-type: none"> The pupil can compare and classify geometric shapes (E.g. classify isosceles, equilateral and scalene triangles) The pupil can identify and compare different angles (acute and obtuse) and identify lines of symmetry in 2D shapes
Geometry – Position and Direction	<ul style="list-style-type: none"> Describe movements and positions on a 2-D grid as coordinates in the first quadrant
Statistics	<ul style="list-style-type: none"> Interpret and present discrete and continuous data and solve problems using information provided in a range of graphs (line graphs, bar charts)

Year 5 Mathematics – End of Year Expectations

<p>Place value</p>	<ul style="list-style-type: none"> The pupil can read, write, order, round and compare numbers to at least 1,000,000 and determine the value of each digit. (E.g. what is the value of the digit 5 in the number 654 321) The pupil can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. (E.g. what is 4 more than -6, what is the next number in this sequence? 12, 7, 2, __, __?) Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. (E.g. what is 10 less than 9000?)
<p>Addition and subtraction</p>	<ul style="list-style-type: none"> The pupil can solve multi step addition and subtraction problems with more than 4 digits/decimals to three places, including using formal written methods (where appropriate) (e.g. $77\,912\text{cm} + 2\,329\text{cm} = \underline{\quad}, \underline{\quad} + 1242 = 12105$, $54.345 + 25.456 = 40 + \underline{\quad}$) The pupil can use estimation and inverse to check answers (e.g. estimate $4512 + 1221 = \underline{\quad}$ as $4500 + 1200 = 5700$, and check $6751 - 2134 = 4617$ by completing the addition calculation $4617 + 2134 = 6751$)
<p>Multiplication and division</p>	<ul style="list-style-type: none"> The pupil can instantly recall the multiplication and division facts for up to 12×12 to find all factor pairs of a number, and common factors of two numbers (E.g. What are the common factors of 24 and 40, how many factors has 25 got? $\underline{\quad} \times 7 = 84$, $108 \div \underline{\quad} = 9$) The pupil can solve problems involving multiplying numbers up to 4 digits by a one- or two-digit number using a formal written method (and make the choice when to use formal written method) (E.g. 2462×63, 2462×10) The pupil can solve problems involving dividing numbers up to 4 digits by a one-digit number using a formal written method (and make the choice when to use formal written method) (E.g. $2464 \div 8$, $2464 \div 10$)
<p>Fractions, decimals and percentages</p>	<ul style="list-style-type: none"> The pupil can use equivalent fractions in order to compare, add, subtract and order fractions whose denominators are all multiples of the same number (E.g. $2/7 + 5/14 = 1/14 + \underline{\quad}$, $3/8$ of 24 is greater or less than $2/4$, John has $2/5$ of a bar and Amy $3/10$. Who has the most? Why?) The pupil can recognise mixed numbers and improper fractions and convert from one form to the other (E.g. $2\frac{1}{4} = 9/4$) The pupil can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (I have 6 quarters of an apple – how much have I got altogether as a mixed number?) The pupil can read, write, order and compare decimal numbers. Convert decimals to fractions (E.g. $0.71 = 71/100$, $0.007 = 7/1000$) The pupil can write percentages as a fraction with denominator 100, and 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. (E.g. $2/5$ is $\underline{\quad}\%$ and $0.\underline{\quad}$)
<p>Measurement</p>	<ul style="list-style-type: none"> The pupil can solve problems and convert between different units of metric measure/units of time (E.g. 3 hours = 180 minutes, 6780 meters = 6km 780 meters) The pupil can calculate the perimeter and area of composite rectilinear shapes in centimetres and metres
<p>Shape</p>	<ul style="list-style-type: none"> The pupil can identify 3-D shapes, including cubes and other cuboids, from 2-D representations The pupils can estimate, measure and draw given angle
<p>Position and Direction</p>	<ul style="list-style-type: none"> The pupil can 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
<p>Statistics</p>	<ul style="list-style-type: none"> The pupil can solve comparison, sum and difference problems using information presented in a line graph and complete, read and interpret information in tables, including timetables (line graphs, bar charts)

Year 6 Mathematics – End of Year Expectations

<p>Place value</p>	<ul style="list-style-type: none"> • The pupil can demonstrate an understanding of: <ul style="list-style-type: none"> ○ Place value (<i>E.g. what is the value of the '7' in 276,541?</i>) ○ Large numbers (<i>E.g. find the difference between the largest and smallest whole numbers that can be made from using three digits</i>) ○ Decimals (<i>E.g. $8.09 = 8 + 9?$; $28.13 = 28 + ? + 0.03$</i>)
<p>Addition, subtraction, multiplication and division</p>	<ul style="list-style-type: none"> • The pupil can: <ul style="list-style-type: none"> ○ multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication ○ divide numbers up to 4 digits by a two-digit whole number using the formal written method of short and long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context (<i>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? ; $20 \times 7 \times 5 = 20 \times 5 \times 7 = 100 \times 7 = 700$; $53 \div 7 + 3 \div 7 = (53 + 3) \div 7 = 56 \div 7 = 8$</i>) ○ perform mental calculations, including with mixed operations and large numbers ○ identify common factors, common multiples and prime numbers ○ use their knowledge of the order of operations to carry out calculations involving the 4 operations ○ use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
<p>Fractions, Decimals and Percentage</p>	<ul style="list-style-type: none"> • The pupil can demonstrate an understanding of: <ul style="list-style-type: none"> ○ The relationship between fractions and can express them as equivalent quantities (<i>E.g. one piece of cake that has been cut into 5 equal slices can be expressed as $1/5$</i>) • The pupil can recognise the relationship between decimals and percentages and can express them as equivalent quantities (<i>E.g. one piece of cake that has been cut into 5 equal slices can be expressed as $1/5$ or 0.2 or 20% of the whole cake</i>) • The pupil can calculate using fractions, decimals or percentages (<i>E.g. knowing that 7 divided by 21 is the same as $21/7$ and that this is equal to 13; 15% of 60; $112 + 34$; 79 of 108; 0.8×70</i>)
<p>Area</p>	<ul style="list-style-type: none"> • The pupil can calculate area of a variety of 2D shapes (<i>E.g. squares, rectangles and triangles</i>)
<p>Time</p>	<ul style="list-style-type: none"> • The pupil can calculate with measures (<i>E.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm</i>)
<p>Geometry – Shape</p>	<ul style="list-style-type: none"> • The pupil can recognise, describe and build simple 3-D shapes, including making nets
<p>Geometry – Position and Direction</p>	<ul style="list-style-type: none"> • The pupil can describe positions on the full coordinate grid (all four quadrants) • The pupil can draw and translate simple shapes on the coordinate plane, and reflect them in the axes
<p>Statistics</p>	<ul style="list-style-type: none"> • 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).