

Year 1 End of year MATHS expectations.

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|--|---|--|--|--|---|---------------------|--------------------------------|
| NUMBER - Number and place value | | | | | | | |
| Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number | Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens | Given a number, identify one more and one less | 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 | Read and write numbers from 1 to 20 in numerals and words | | | |
| NUMBER - Addition and subtraction | | | | | | | |
| Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs | Represent and use number bonds and related subtraction facts within 20 | Add and subtract one-digit and two-digit numbers to 20, including zero | Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. | | | | |
| NUMBER - Multiplication and division | | | | NUMBER - Fractions | | | |
| 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/parent | | | | Recognise, find and name a half as one of two equal parts of an object, shape or quantity | Find and name a half as one of two equal parts of an object | | |
| MEASUREMENT | | | | | | | |
| <i>Compare, describe and solve practical problems for:</i> | | | | | <i>Measure and begin to record the following:</i> | | |
| Lengths and heights: for example, long/short, longer/shorter, tall/short, double/half | Mass/weight: for example, heavy/light, heavier than, lighter than | Capacity and Volume: for example, full/empty, more than, less than, half, half full, quarter | Time: for example, quicker, slower, earlier, later | Lengths and heights | Mass/weight | Capacity and volume | Time (hours, minutes, seconds) |
| <i>Children should be taught to:</i> | | | | | | | |
| 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. | | | |
| GEOMETRY - Properties of shapes | | | | GEOMETRY - Position and direction | | | |
| Recognise and name common 2-D and 3-D shapes, including: | | | | Describe position, direction and movement, including whole, half, quarter and three-quarter turns. | | | |
| 2D shapes: for example, rectangles, squares, circles and triangles | 3D shapes: for example, cuboids, cubes, pyramids and spheres | | | | | | |

Year 2 End of year MATHS expectations.

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|--|---|---|--|--|--|--|---|---|
| NUMBER - Number and place value | | | | | | | | |
| Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward | Recognise the place value of each digit in a two-digit number (tens, ones) | Identify, represent and estimate numbers using different representations, including the number line | Compare and order numbers from 0 up to 100; use <, > and = signs | Read and write numbers to at least 100 in numerals and in words | Use place value and number facts to solve problems. | | | |
| NUMBER - Addition and subtraction | | | | | | | | |
| Solve problems with addition and subtraction | | | | Add and subtract numbers using concrete objects, pictorial representations and mentally including | | | | |
| Using concrete objects and pictorial representations, including those involving numbers, quantities and measures | Applying their increasing knowledge of mental and written methods | Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 | A two-digit number and ones | A two-digit number and tens | Two two-digit numbers | Adding three one-digit numbers | How that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot | Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. |
| NUMBER - Multiplication and division | | | | | NUMBER - Fractions | | | |
| Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers | Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs | Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity | Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ | | | |
| MEASUREMENT | | | | | | | | |
| Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels | Compare and order lengths, mass, volume/capacity and record the results using >, < and = | Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value | Find different combinations of coins that equal the same amounts of money | Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change | Compare and sequence intervals of time | 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 | Know the number of minutes in an hour and the number | |
| GEOMETRY - Properties of shapes | | | | GEOMETRY - Position and direction | | | | |
| Identify and describe the properties of 2D shapes, including the number of sides and vertices | Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces | Identify the 2D shapes of the surface of 3D shapes, e.g. a cylinder has two circle faces. | Compare and sort common 2D and 3D shapes and everyday objects | Order and arrange combinations of mathematical objects in patterns and sequences | 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). | | | |
| STATISTICS | | | | | | | | |
| Interpret and construct simple pictograms, tally charts, block diagrams and simple tables | Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity | Ask and answer questions about totalling and comparing categorical data | | | | | | |

Year 3 End of year Maths expectations.

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|--|---|--|--|--|---|--|
| NUMBER - Number and place value | | | | | | |
| Count from 0 in multiples of 4, 8, 50 and 100; 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) | Compare and order numbers up to 1000 < > = | Identify, represent and estimate numbers using different representations | Read and write numbers up to 1000 in numerals and in words | Solve number problems and practical problems involving these ideas. | |
| NUMBER - Addition and subtraction | | | | | | |
| Add and subtract mentally | | | Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction | Estimate the answer to a calculation and use inverse operations to check answers | Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | |
| A three digit number and ones e.g. 251 + 6 251 - 6 | A three digit number and tens e.g. 326 + 30 326 - 40 | A three digit number and hundreds e.g. 714 + 200 458 - 300 | | | | |
| NUMBER - Multiplication and division | | | | | | |
| Recall and use multiplication and division facts for the 3, 4 and 8 multiplication 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 | | | 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, e.g. 3 hats and 4 coats - how many different outfits? Or 12 cakes shared equally between 4 children | | |
| NUMBER - Fractions | | | | | | |
| 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 | Recognise, find and write fractions of a discrete set of objects: unit fractions, e.g. $\frac{1}{5}$, $\frac{1}{3}$ and non-unit fractions, e.g. $\frac{3}{4}$, $\frac{5}{8}$ with small denominators | Recognise and show, using diagrams, equivalent fractions with small denominators | Add and subtract fractions with the same denominator within one whole, e.g. $\frac{1}{7} + \frac{3}{7} = \frac{4}{7}$ | Compare and order unit fractions, and fractions with the same denominators | Solve problems that involve fractions | |
| MEASUREMENT | | | | | | |
| Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) | Measure the perimeter of simple 2D shapes | Add and subtract amounts of money to give change, using both £ and p in practical contexts | Tell and write the time from an analogue clock, including using roman numerals from I to XII, and 12-hour and 24-hour clocks | Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight | Know the number of seconds in a minute and the number of days in each month, year and leap year | Compare durations of events e.g. to calculate the time taken by particular events or tasks |
| GEOMETRY - Properties of shapes | | | | | | |
| Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them | Recognise angles as a property of shape or a description of a turn | Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle | | | Identify horizontal and vertical lines and pairs of perpendicular and parallel lines | |
| STATISTICS | | | | | | |
| Interpret and present data using bar charts, pictograms and tables | | | | 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 | | |

Year 4 End of year MATHS expectations.

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|--|--|--|---|--|--|--|---|--|
| NUMBER - Number and place value | | | | | | | | |
| Count in multiples of 6, 7, 9, 25 and 1000 | Find 1000 more or less than a given number | Count backwards through zero to include negative numbers | Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) | Order and compare numbers beyond 1000 < > = | Identify, represent and estimate numbers using different representations | Round any number to the nearest 10, 100 or 1000 | Solve number and practical problems that involve all of the ←previous skills and with increasingly large positive numbers | 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 |
| NUMBER - Addition and subtraction | | | | | | | | |
| Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate | | | | Estimate and use inverse operations to check answers to a calculation | | Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. | | |
| NUMBER - Multiplication and division | | | | | | | | |
| Recall <u>ALL</u> multiplication and division facts for multiplication tables up to 12 × 12 | | Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers | | Recognise and use factor pairs and commutativity in mental calculations | Multiply two-digit and three-digit numbers by a one-digit number using formal written layout | 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 | | |
| NUMBER - Fractions | | | | | | | | |
| Recognise and show, using diagrams, families of common equivalent fractions | | Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten | 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 | | Add and subtract fractions with the same denominator | Recognise and write decimal equivalents of any number of tenths or hundredths, e.g. $\frac{3}{10} = 0.3$ $\frac{3}{100} = 0.03$ | | |
| Recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ | | 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 | Round decimals with one decimal place to the nearest whole number | 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 | | |
| MEASUREMENT | | | | | | | | |
| Convert between different units of measure, e.g. kilometre to metre; hour to minute | | Measure and calculate the perimeter of a rectilinear figure (shapes with straight sides - rectangles, squares) in centimetres and metres | Find the area of rectilinear shapes (shapes with straight sides) by counting squares | Estimate, compare and calculate different measures, including money in pounds and pence | Read, write and convert time between analogue and digital 12- and 24-hour clocks | Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days | | |
| GEOMETRY - Properties of shapes | | | | | GEOMETRY - Position and direction | | | |
| Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes | | Identify acute and obtuse angles and compare and order angles up to two right angles by size | Identify lines of symmetry in 2D shapes presented in different orientations | Complete a simple symmetric figure with respect to a specific line of symmetry | Describe positions on a 2D grid as coordinates in the first quadrant | Describe movements between positions as translations of a given unit to the left/right and up/down | Plot specified points and draw sides to complete a given polygon | |
| STATISTICS | | | | | | | | |
| Interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs | | | | Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs | | | | |

Year 5 End of year MATHS expectations.

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|--|---|--|--|---|---|
| NUMBER - Number and place value | | | | | |
| Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit | Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 | Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero | Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 | Solve number problems and practical problems that involve all of the ←previous skills | Read roman numerals to 1000 (M) and recognise years written in roman numerals |
| NUMBER - Addition and subtraction | | | | | |
| Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) | Add and subtract numbers mentally with increasingly large numbers | Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy | | Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | |
| NUMBER - Multiplication and division | | | | | |
| Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers | Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers | Establish whether a number up to 100 is prime and recall prime numbers up to 19 | 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 | Multiply and divide numbers mentally drawing upon known 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 |
| Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 | Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) | Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes | Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign | Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates | |
| NUMBER - Fractions including decimals and percentages | | | | | |
| Compare and order fractions whose denominators are all multiples of the same number | Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths | Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements, e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$ | Add and subtract fractions with the same denominator and denominators that are multiples of the same number | Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | Read and write decimal numbers as fractions, e.g. $0.71 = \frac{71}{100}$ |
| Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents | Round decimals with two decimal places to the nearest whole number and to one decimal place | Read, write, order and compare numbers with up to three decimal places | Solve problems involving number up to three decimal places | 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 $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{2}{5}$ and those fractions with a denominator of a multiple of 10 or 25 |

Year 5 End of year MATHS expectations.

| MEASUREMENT | | | | | | |
|---|---|---|---|--|---|---|
| Convert between different units of metric measure, e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre | Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints | Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres  | 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 | Estimate volume, e.g. using 1cm ³ blocks to build cuboids (including cubes) and capacity (filling a container with water) | Solve problems involving converting between units of time | Use all four operations to solve problems involving measure, e.g. length, mass, volume, money using decimal notation, including scaling |
| GEOMETRY - Properties of shapes | | | | | | |
| Use the properties of rectangles to deduce related facts and find missing lengths and angles | Distinguish between regular and irregular polygons based on reasoning about equal sides and angles | Identify 3D shapes, including cubes and other cuboids, from 2D representations | Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles | | | |
| Draw given angles, and measure them in degrees (°) | Identify angles at a point and one whole turn (total 360°) | Angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) | Other multiples of 90° | | | |
| GEOMETRY - Position and direction | | | | | | |
| 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 | | | | | | |
| STATISTICS | | | | | | |
| Solve comparison, sum and difference problems using information presented in a line graph | Complete, read and interpret information in tables, including timetables | | | | | |

Year 6 End of year MATHS expectations.

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|--|--|---|---|---|
| NUMBER - Number and place value | | | | |
| Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit | Round any whole number to a required degree of accuracy | Use negative numbers in context, and calculate intervals across zero | Solve number and practical problems that involve all of the above | |
| NUMBER - Addition, subtraction, multiplication and division | | | | |
| 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 long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context | Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context | Perform mental calculations, including with mixed operations and large numbers | |
| Identify common factors, common multiples and prime numbers | Use their knowledge of the order of operations to carry out calculations involving the four operations | Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why | Solve problems involving addition, subtraction, multiplication and division | Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy |
| NUMBER - Fractions including decimals and percentages | | | | |
| Use common factors to simplify fractions; use common multiples to express fractions in the same denomination | Compare and order fractions, including fractions > 1 | Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions | | |
| Multiply simple pairs of proper fractions, writing the answer in its simplest form, e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ | Divide proper fractions by whole numbers, e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$ | Associate a fraction with division and calculate decimal-fraction equivalents, e.g. $\frac{3}{8} = 3 \div 8 = 0.375$ | 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 | |
| Multiply one-digit numbers with up to two decimal places by whole numbers | Use written division methods in cases where the answer has up to two decimal places | Solve problems which require answers to be rounded to specified degrees of accuracy | Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts | |
| RATIO AND PROPORTION | | | | |
| Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts | Solve problems involving the calculation of percentages, e.g. of measures, and such as 15% of 360; and the use of percentages for comparison | Solve problems involving similar shapes where the scale factor is known or can be found | Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples | |
| ALGEBRA | | | | |
| Use simple formulae | Generate and describe linear number sequences | Express missing number problems algebraically | Find pairs of numbers that satisfy an equation with two unknowns | Enumerate possibilities of combinations of two variables |

Year 6 End of year MATHS expectations.

| MEASUREMENT | | | | |
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| Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate | 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 | Convert between miles and kilometres | Recognise that shapes with the same areas can have different perimeters and vice versa | |
| Recognise when it is possible to use formulae for area and volume of shapes | Calculate the area of parallelograms and triangles | 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, e.g. mm ³ and km ³ | | |
| GEOMETRY - Properties of shapes | | | | |
| Draw 2D shapes using given dimensions and angles | Recognise, describe and build simple 3D shapes, including making nets | Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons | Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius | Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles |
| GEOMETRY - Position and direction | | | | |
| Describe positions on the full coordinate grid (all four quadrants) | | Draw and translate simple shapes on the coordinate plane, and reflect them in the axes | | |
| STATISTICS | | | | |
| Interpret and construct pie charts and line graphs and use these to solve problems | | Calculate and interpret the mean as an average | | |