



Teachers use these key performance indicators to keep track of children's' progress.

Key performance indicator	Performance standard
<p>Number and place value</p> <p>Counts to and across 100, forwards and backwards, beginning with 0 or one, or from any given number</p> <p>Counts, reads and writes numbers to 100 in numerals; counts in multiples of twos, fives and tens</p> <p>Given a number, identifies one more and one less</p> <p>Addition and subtraction</p> <p>Represents and uses number bonds and related subtraction facts within 20</p> <p>Fractions (including decimals)</p> <p>Recognises, finds and names a half as one of two equal parts of an object, shape or quantity</p> <p>Measurement</p> <p>Compares, describes and solves practical problems for:</p> <ol style="list-style-type: none"> 1. lengths and heights eg long/short, longer/shorter, tall/short, double/half; 2. mass/weight eg heavy/light, heavier than, lighter than; 3. capacity and volume eg full/empty, more than, less than, half, half full, quarter; and 4. time eg quicker, slower, earlier, later. <p>Tells the time to the hour and half past the hour and draws the hands on a clock face to show these times</p> <p>Properties of shape</p> <p>Recognises and names common 2-D and 3-D shapes, including:</p> <ol style="list-style-type: none"> 1. 2-D shapes eg rectangles (including squares), circles and triangles; 2. 3-D shapes eg cuboids (including cubes), pyramids and spheres. 	<p>With reference to the KPIs</p> <p>By the end of Y1, a child should be fluent with whole numbers and counting</p> <p>A child has a developing knowledge of addition and subtraction using concrete objects and pictorial representations</p> <p>A child can describe and compare different quantities such as length, mass and capacity/volume.</p> <p>A child is beginning to recognise simple fractions</p> <p>A child is beginning to tell the time</p> <p>Children should read and spell mathematical vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1</p>



Key performance indicator	Performance standard
<p>Number and place value</p> <p>Counts in steps of two, three, and five from 0, and in tens from any number, forward and backward</p> <p>Compares and orders numbers from 0 up to 100</p> <p>Uses < > and = signs correctly</p> <p>Uses place value and number facts to solve problems</p> <p>Addition and subtraction</p> <p>Solves problems with addition and subtraction by:</p> <ol style="list-style-type: none"> 1. using concrete objects and pictorial representations, including those involving numbers, quantities and measures; and 2. applying an increasing knowledge of mental and written methods. <p>Recalls and uses addition and subtraction facts to 20 and 100:</p> <ol style="list-style-type: none"> 1. fluently up to 20. <p>Multiplication and division</p> <p>Recalls and uses multiplication and division facts for the two, five and 10 multiplication tables, including recognising odd and even numbers</p> <p>Solves problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</p> <p>Fractions (including decimals)</p> <p>Recognises, finds, names and writes fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$ of a length, shape, set of objects or quantity</p>	<p>With reference to the KPIs</p> <p>By the end of Y2 a child should be mentally fluent with whole numbers, counting and place value. A child should know the number bonds to 20 and be precise in using and understanding place value</p> <p>Using practical resources, a child can work with numerals, words and the four operations (eg concrete objects and measuring tools)</p> <p>Using a range of measures, a child can recognise, describe, draw, compare and sort different shapes and use the related vocabulary</p> <p>A child can describe and compare different quantities such as length, mass, capacity/volume, time and money</p> <p>A child can read and spell mathematical vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1</p>



Key performance indicator	Performance standard
<p>Number and place value</p> <p>Counts from 0 in multiples of four, eight, 50 and 100</p> <p>Can work out if a given number is greater or less than 10 or 100</p> <p>Recognises the place value of each digit in a three-digit number (hundreds, tens, and ones)</p> <p>Solves number problems and practical problems involving these ideas</p> <p>Addition and subtraction</p> <p>Adds and subtracts numbers mentally including:</p> <ul style="list-style-type: none"> • a three-digit number and ones; • a three-digit number and tens; and • a three-digit number and hundreds. <p>Multiplication and division</p> <p>Recalls and uses multiplication and division facts for the multiplication tables:</p> <ul style="list-style-type: none"> • three; • four; and • eight. <p>Writes and calculates mathematical statements for multiplication and division using the multiplication tables that are known including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</p> <p>Fractions (including decimals)</p> <p>Counts up and down in tenths; recognises that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</p>	<p>With reference to the KPIs</p> <p>By the end of Y3, a child will be developing written and mental methods using the four operations including number facts and the concept of place value, and performing calculations with whole numbers</p> <p>A child can:</p> <ul style="list-style-type: none"> • solve a range of number and place value problems; • compare different shapes with reference to its angles; • use measuring instruments, making reference to their units of measure; • tell the time accurately; • recall the majority of the multiplication tables; and • read and spell mathematical vocabulary correctly and confidently, using growing word reading knowledge and knowledge of spelling. <p>A child is able to read and write simple fractions and decimals</p>

<p>Recognises, finds and writes fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</p> <p>Recognises and shows, using diagrams, equivalent fractions with small denominators</p> <p>Measurement</p> <p>Measures, compares, adds and subtracts lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p>Adds and subtracts amounts of money to give change, using both £ and p in practical contexts</p> <p>Tells and writes the time from an analogue clock and 12-hour and 24-hour clocks</p> <p>Identifies right angles, recognises that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identifies whether angles are greater than or less than a right angle</p> <p>Statistics</p> <p>Interprets and presents data using bar charts, pictograms and tables</p>	
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Key performance indicator	Performance standard
<p>Number and place value</p> <p>Counts in multiples of six, seven, nine, 25 and 1,000</p> <p>Counts backwards through zero to include negative numbers</p> <p>Orders and compares numbers beyond 1,000</p> <p>Rounds any number to the nearest 10, 100 or 1,000</p> <p>Addition and subtraction</p> <p>Solves addition and subtraction two-step problems in context, deciding which operations and methods to use and why</p> <p>Multiplication and division</p> <p>Recalls multiplication and division facts for multiplication tables up to 12 x 12</p> <p>Fractions (including decimals)</p> <p>Recognises and shows, using diagrams, families of common equivalent fractions</p> <p>Counts up and down in hundredths; recognises that hundredths arise when dividing an object by 100 and dividing tenths by 10</p> <p>Rounds decimals with one decimal place to the nearest whole number</p> <p>Solves simple measure and money problems involving fractions and decimals to two decimal places</p> <p>Measurement</p> <p>Converts between different units of measure eg kilometre to metre; hour to minute</p>	<p>With reference to the KPIs</p> <p>By the end of Y4, a child should be fluent with whole numbers and the four operations, including number facts and the concept of place value</p> <p>A child will be developing efficient written and mental methods and performing calculations accurately with increasingly large whole numbers</p> <p>A child can:</p> <ul style="list-style-type: none"> • solve a range of problems including those with simple fractions and decimal place value; • draw shapes with accuracy using mathematical reasoning and analyse shapes and their properties, confidently describing the relationships between them; • use measuring instruments accurately, making connections between measure and number; • recall the multiplication tables up to and including the 12-multiplication table and show precision and fluency in the work; and • read and spell mathematical vocabulary correctly and confidently using a growing word reading knowledge and a knowledge of spelling.

<p>Geometry: properties of shape</p> <p>Compares and classifies geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <p>Identifies lines of symmetry in two dimensional shapes presented in different orientations</p> <p>Geometry: position and direction</p> <p>Plots specified points and draws sides to complete a given polygon</p> <p>Statistics</p> <p>Solves comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</p>	
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Key performance indicator	Performance standard
<p>Number and place value</p> <p>Reads, writes, orders and compares numbers to at least 1,000,000 and determines the value of each digit</p> <p>Interprets negative numbers in context, counts forwards and backwards with positive and negative whole numbers including through zero</p> <p>Addition and subtraction</p> <p>Adds and subtracts whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)</p> <p>Numbers mentally with increasingly large numbers (eg $12,462 - 2,300 = 10,162$)</p> <p>Multiplication and division</p> <p>Identifies multiples and factors including finding all factor pairs of a number and common factors of two numbers</p> <p>Solves problems involving multiplication and division including using a knowledge of factors and multiples, squares and cubes</p> <p>Solves problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p> <p>Fractions (including decimals)</p> <p>Compares and orders fractions whose denominators are all multiples of the same number</p> <p>Reads and writes decimal numbers as fractions eg $0.71 = 71/100$</p> <p>Reads, writes, orders and compares numbers with up to three decimal places</p>	<p>With reference to the KPIs</p> <p>By the end of Y5, a child should be fluent in formal written methods for addition and subtraction. Using a developing knowledge of formal methods of multiplication and division, a child should be able to solve problems including properties of numbers and arithmetic</p> <p>A child can:</p> <ul style="list-style-type: none"> • make connections between fractions, decimals and percentages; • classify shapes with geometric properties and use the vocabulary needed to describe them; and • read, spell and pronounce mathematical vocabulary correctly.

Solves 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

Converts between different units of metric measure (eg kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)

Measures and calculates the perimeter of composite rectilinear shapes in centimetres and metres

Calculates and compares the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²)

Geometry: Properties of shape

Draws given angles and measures them in degrees (°)

Distinguishes between regular and irregular polygons based on reasoning about equal sides and angles

Geometry: position and direction

Covered in Y6

Statistics

Completes, reads and interprets information in tables, including timetables



Key performance indicator	Performance standard
<p>Place value</p> <p>Rounds any whole number to a required degree of accuracy</p> <p>Uses negative numbers in context and calculates intervals across zero</p> <p>Calculation</p> <p>Multiplies multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication</p> <p>Divides numbers up to four digits by a twodigit number using the formal written method of short division where appropriate, interpreting remainders according to the context</p> <p>Solves addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>Uses estimation to check answers to calculations and determines, in the context of a problem, an appropriate degree of accuracy</p> <p>Fractions</p> <p>Uses written division methods in cases where the answer has up to two decimal places</p> <p>Solves problems which require answers to be rounded to specified degrees of accuracy</p> <p>Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts</p> <p>Ratio and proportion</p> <p>Solves problems involving the calculation of percentages eg of measures and calculations such as 15 per cent of 360, and the use of percentages for comparison</p>	<p>With reference to the KPIs</p> <p>By the end of Y6, a child should be fluent in formal written methods for all four operations including long multiplication and division and in working with fractions, decimals and percentages and ratios, and make connections between them</p> <p>A child should be able to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation</p> <p>A child is beginning to use the language of algebra as a tool for solving a variety of problems</p> <p>A child can:</p> <ul style="list-style-type: none"> • Classify shapes with increasingly complex geometric properties and use the vocabulary needed to describe them; and • Read, spell and pronounce mathematical vocabulary correctly.

Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples

Algebra

Uses simple formulae

Measurement

Uses, reads, writes and converts 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

Properties of shape

Compares and classifies geometric shapes based on their properties and sizes and finds unknown angles in any triangles, quadrilaterals and regular polygons

Position and direction

Draws and translates simple shapes on the coordinate plane and reflects them in the axes

Interprets pie charts and line graphs and uses these to solve problems

Statistics

Calculates and interprets the mean as an average

