

Year 1 - Year 6

Maths Key Performance Indicators

We have compiled a booklet to show parents and carers the Key Performance Indicators ranging from Year 1 through to Year 6.

A Key Performance Indicator (KPI) describes what a child should know or be able to do in their year group.

From 2016 schools no longer assess children by levels. Instead children will be described at the end of the year as being below, at or above national standard. Children have to be able to achieve these KPI's in order to have met the standard for their expected age.

The standards and expectations in each year group are now higher than in the previous national curriculum. Our staff have made adjustments to their plans and lessons to meet these new standards.

To view the full standards for each Year group please see:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf

Jo Wragg, Maths Co-Ordinator.

Year 1 Key Performance Indicators

- Counts to and across one hundred, forwards and backwards, beginning with zero or one, or from any given number.
- Counts, reads and writes numbers to one hundred in numerals; counts in multiples of twos, fives and tens.
- Given a number, identifies one more and one less.
- Represents and uses number bonds and related subtraction facts within 20 Fractions (including decimals)
- Recognises, finds and names a half as one of two equal parts of an object, shape or quantity
- Describes and solves practical problems for:
 - Lengths and heights; e.g., long/short, longer/shorter, tall/short, double/half.
 - Mass/weight; e.g., heavy/light, heavier than, lighter than.
 - Capacity and volume; e.g., full/empty, more than, less than, half, half full, quarter.
 - Time; e.g., quicker, slower, earlier, later.
- Tells the time to the hour and half past the hour and draws the hands on a clock face to show these times
- Recognises and names common 2-D and 3-D shapes, including:
 - 2-D shapes; e.g., rectangles (including squares), circles and triangles.
 - 3-D shapes; e.g., cuboids (including cubes), pyramids and spheres.

Year 2 Key Performance Indicators

- Counts in steps of two, three and five from zero and in tens from any number, forward and backward.
- Compares and orders numbers from zero up to one hundred. Uses < > and = signs correctly.
- Uses place value and number facts to solve problems.
- Solves problems with addition and subtraction by:
- Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
- Applying an increasing knowledge of mental and written methods.
- Recalls and uses addition and subtraction facts to twenty and one hundred (Fluently up to twenty.)
- Recalls and uses multiplication and division facts for the two, five and ten multiplication tables, including recognising odd and even numbers.
- Solves problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.
- Recognises, finds, names and writes fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, and set of objects or quantity.
- Solves simple problems in a practical context involving addition and subtraction of money of the same unit including giving change.
- Compares and sorts common 2-D and 3-D shape and everyday objects.
- Uses mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishes between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).
- Asks and answers questions about totalling and comparing categorical data.

Year 3 Key Performance Indicators

- Counts from zero in multiples of four, eight, fifty and one hundred.
- Can work out if a given number is greater or less than ten or one hundred.
- Recognises the place value of each digit in a three-digit number (hundreds, tens and ones).
- Solves number problems and practical problems involving these ideas. Adds and subtracts numbers mentally including:
 - A three-digit number and ones
 - A three-digit number and tens
 - A three-digit number and hundreds
- Recalls and uses multiplication and division facts for the multiplication tables: • Three • Four • Eight
- Writes and calculates mathematical statements for multiplication and division using the multiplication tables that are known including for two-digit number times one-digit numbers, using mental and progressing to formal written methods.
- Counts up and down in tenths; recognises that tenths arise from dividing an object into ten equal parts and in dividing one-digit numbers or quantities by ten.
- Recognises, finds and writes fractions of discrete set of objects; unit fractions and non unit fractions with small denominators.
- Recognises and shows, using diagrams, equivalent fractions with small denominators.
- Measures, compares, adds and subtracts lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).
- Adds and subtracts amounts of money to give change, using both £ and p in practical contexts.
- Tells and write the time from an analogue clock and 12-hour and 24-hour clocks.
- 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.
- Interprets and presents data using bar charts, pictograms and tables.

Year 4 Key Performance Indicators

- Counts in multiples of six, seven, nine, 25 and 1,000.
 - Counts backwards through zero to include negative numbers.
 - Orders and compares numbers beyond 1,000.
 - Rounds any number to the nearest 10, 100 or 1,000.
 - Solves addition and subtraction two-step problems in context, deciding which operations and methods to use and why.
 - Recalls multiplication and division facts for multiplication tables up to 12×12 .
 - Recognises and shows, using diagrams, families of common equivalent fractions.
 - Counts up and down in hundredths; recognises that hundredths arise when dividing an object by 100 and dividing tenths by 10.
 - Rounds decimals with one decimal place to the nearest whole number
 - Solves simple measure and money problems involving fractions and decimals to two decimal places.
 - Converts between different units of measure e.g. kilometre to metre; hour to minute.
- Compares and classifies geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
 - Identifies lines of symmetry in two dimensional shapes presented in different orientations.
 - Plots specified points and draws sides to complete a given polygon.
 - Solves comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Year 5 Key Performance Indicators

- Reads, writes, orders and compares numbers to at least 1,000,000 and determines the value of each digit.
- Interprets negative numbers in context, counts forwards and backwards with positive and negative whole numbers including through zero.
- Adds and subtracts whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction) Numbers mentally with increasingly large numbers (e.g. $12,462 - 2,300 = 10,162$)
- Identifies multiples and factors including finding all factor pairs of a number and common factors of two numbers.
- Solves problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.
- Solves problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
- Compares and orders fractions whose denominators are all multiples of the same number.
- Reads and writes decimal numbers as fractions e.g. $0.71 = 71/100$
- Reads, writes, orders and compares numbers with up to three decimal places.
- Solves 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.
- Converts between different units of metric measure (e.g. 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).
- Draws given angles and measures them in degrees (°).
- Distinguishes between regular and irregular polygons based on reasoning about equal sides and angles.
- Reads and interprets information in tables, including timetables.

Year 6 Key Performance Indicators.

- Rounds any whole number to a required degree of accuracy.
- Uses negative numbers in context and calculates intervals across zero. Multiplies multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication.
- Divides numbers up to four digits by a two digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.
- Solves addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- Uses estimation to check answers to calculations and determines, in the context of a problem, an appropriate degree of accuracy.
- Uses written division methods in cases where the answer has up to two decimal places.
- Solves problems which require answers to be rounded to specified degrees of accuracy.
- Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts.
- Solves problems involving the calculation of percentages e.g. of measures and calculations such as 15 per cent of 360, and the use of percentages for comparison.
- Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples.
- 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.
- Compares and classifies geometric shapes based on their properties and sizes and finds unknown angles in any triangles, quadrilaterals and regular polygons.
- 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. Calculates and interprets the mean as an average.