



The Federation of Winklebury Infant and Junior Schools

Key Performance Indicators

Maths

This book provides details of the Key Performance Indicators (KPIs) for maths in each year group.

In order to meet age-related expectations your child must be able to do all the KPIs relevant to his/her year group in school, by the end of the academic year.

Year R

In order to meet the Early Learning Goal in Numbers at the end of Year R, your child must be able to:

- 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
- Use quantities and objects to add and subtract two single-digit numbers and count on or back to find the answer
- Solve problems, including doubling, halving and sharing

In order to meet the Early Learning Goal in Shape, Space and Measure at the end of Year R, your child must be able to:

- Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems
- Recognise, create and describe patterns.
- Explore characteristics of everyday objects and shapes and use mathematical language to describe them

Year 1

In order to meet age-related expectations at the end of Year 1, your child must be able to:

- Count to and across 100, forwards and backwards, beginning with 0 or 1
- Count to and across 100, forwards and backwards, beginning with any given number
- Count, read and write numbers to 100 in numerals
- Count in multiples of 2
- Count in multiples of 5
- Count in multiples of 10
- Identify one more than a given number
- Identify one less than a given number
- Represent and use addition number bonds to 20
- Represent and use subtraction number facts to 20
- Recognise, find and name $\frac{1}{2}$ as 1 of 2 equal parts of an object or shape
- Recognise, find and name $\frac{1}{2}$ of a quantity
- Compare, describe and solve practical problems for length and height
- Compare, describe and solve practical problems for mass/weight
- Compare, describe and solve practical problems for capacity and volume
- Compare, describe and solve practical problems for time
- Tell the time to the hour and half past
- Draw the hands on a clock face to show the time to an hour and half past
- Recognise and name common 2D shapes including rectangles (including squares), circles and triangles
- Recognise and name common 3D shapes including cuboids (including cubes), pyramids and spheres

Year 2

In order to meet age-related expectations at the end of Year 2, your child must be able to:

- Count in steps of 2, 3 and 5 from 0
- Count in 10s from any number forwards and backwards
- Compare and order numbers from 0 to 100
- Use $<$, $>$ and $=$
- Use place value and number facts to solve problems
- Solve addition and subtraction problems involving numbers, quantities and measures using concrete objects and pictorial representation
- Solve addition problems using mental and written methods
- Solve subtraction problems using mental and written methods
- Recall and use addition and subtraction facts up to 20 fluently
- Recall and use addition and subtraction facts up to 100
- Recall and use multiplication and division facts for the 2, 5 and 10 times tables
- Solve problems involving multiplication using materials, arrays, repeated addition, mental methods and multiplication facts
- Solve problems involving division using materials, arrays, repeated addition, mental methods and division facts
- Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit including giving change
- Compare and sort common 2D shapes and everyday objects
- Compare and sort common 3D shapes and everyday objects
- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line
- Distinguish between rotation as a turn and in terms of right angles for quarter, half and three quarter turns (clockwise and anti-clockwise)
- Ask and answer questions about totalling and comparing categorical data

Year 3

In order to meet age-related expectations at the end of Year 3, your child must be able to:

- Count from 0 in multiples of 4 and 8
- Count from 0 in multiples of 50 and 100
- Find 10 and 100 more or less of any number
- Recognise the place value of each digit in a three-digit number
- Solve number problems and practical problems using place value
- Add numbers mentally - a 3-digit number and 1s, 10s and 100s
- Subtract numbers mentally - a 3-digit number and 1s, 10s and 100s
- Recall and use multiplication and division facts for the 3, 4 and 8 times table
- Write and calculate mathematical statements for multiplication and division using the multiplication tables that are known including for 2-digit numbers times 1-digit numbers using mental methods
- Write and calculate mathematical statements for multiplication and division using the multiplication tables that are known including for 2-digit numbers times 1-digit numbers using written methods
- Count up and down in tenths
- Recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10
- Recognise, find and write fractions of a discrete set of objects (unit fractions and non-unit fractions with small denominators)
- Recognise and show, using diagrams, equivalent fractions with small denominators
- Measure, compare, add and subtract lengths (m/cm/mm), mass (kg/g) and volume/capacity (l/ml)
- 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 and 12-hour and 24-hour clocks
- Identify right angles, recognise that 2 right angles make a half-turn, 3 right angles make $\frac{3}{4}$ of a turn and 4 right angles make a complete turn
- Identify if an angle is greater than or less than a right angle
- Interpret and present data using bar charts, pictograms and tables

Year 4

In order to meet age-related expectations at the end of Year 4, your child must be able to:

- Count in multiples of 6, 7 and 9
- Count in multiples of 25 and 1000
- Count backwards through 0 to include negative numbers
- Order and compare numbers beyond 1000
- Round any number to the nearest 10, 100 or 1000
- Solve addition 2-step problems in context
- Solve subtraction 2-step problems in context
- Recall multiplication facts for multiplication tables up to 12×12
- Recall division facts for multiplication tables up to 12×12
- 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 100 and dividing tenths by 10
- Round decimals with one decimal place to the nearest whole number
- Solve simple measure and money problems involving fractions
- Solve simple measure and money problems involving decimals to 2 decimal places
- Convert between different units of measure e.g. km to m, hour to min
- Compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes
- Identify lines of symmetry in 2D shapes presented in different orientations
- Plot specified points and draw sides to complete a given polygon
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Year 5

In order to meet age-related expectations at the end of Year 5, your child must be able to:

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
- Interpret negative numbers in context, count forwards and backwards in whole numbers through 0
- Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)
- Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)
- Work mentally with increasingly large numbers (e.g. $12,462 - 2,300 = 10,162$)
- Identify multiples and factors, including finding all factor pairs of a number and common factors of 2 numbers
- Solve problems involving multiplication and division including using a knowledge of factors and multiples
- Solve problems involving multiplication and division including using a knowledge of squares and cubes
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
- Compare and order fractions whose denominators are all multiples of the same number
- Read and write decimal numbers as fractions e.g. $0.71 = 71/100$
- Read, write, order and compare numbers with up to 3 decimal places
- 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
- Convert between different units of metric measure (e.g. km and m, cm and m, cm and mm, g and kg, l and ml)
- Measure and calculate the perimeter of composite rectilinear shapes in cm and m
- Calculate and compare the area of rectangles (including squares) using standard units
- Draw given angles
- Measure angles in degrees
- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
- Complete, read and interpret information in tables, including timetables

Year 6

In order to meet age-related expectations at the end of Year 6, your child must be able to:

- Round any whole number to a required degree of accuracy
- Use negative numbers in context
- Calculate intervals across 0
- Multiply multi-digit numbers up to 4-digits by a 2-digit whole number using the formal written method of long multiplication
- Divide multi-digit numbers up to 4-digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why
- Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
- Use written division methods in cases where the answer has up to 2 decimal places
- Solve problems which require answers to be rounded to a specified degree of accuracy
- Recall and use equivalences between simple fractions, decimals and percentages in different contexts
- Solve problems involving the calculation of percentages and the use of percentages for comparison
- Solve problems including unequal sharing and grouping using knowledge of fractions and multiplies
- Use simple formulae
- Use, read, write and convert between standard units of length, mass, volume and time, using decimal notation up to 3 decimal places
- Compare and classify geometric shapes based on their properties and sizes
- Find unknown angles in any triangle, quadrilateral or regular polygon
- Draw and translate simple shapes on the co-ordinate plan
- Reflect simple shapes in the axes on co-ordinates
- Interpret pie charts and lines graphs and use these to solve problems
- Calculate and interpret the mean as an average

If you have any questions about any of the Key Performance Indicators in this booklet, please talk to your child's class teacher.