Mathematics Curriculum Summary

The aim of the Maths curriculum is to create confident mathematicians who can problem solve, apply creativity, pursue their own investigations and have an enjoyment of playing with numbers, shape and mathematical concepts. It is taught by means of a spiral curriculum whereby certain topics are constantly revisited but at an ever higher level. We aim to cover all of the material included in the National Numeracy strategy. Given the high ability levels of many of our pupils we are very much aware of the need to extend children by providing challenging material that increases their depth of understanding, their enjoyment of the subject and their ability to rise to a challenge.

Key Skills and Content

Kindergarten (KG)
The KG Mathematics curriculum is based on the EYFS Framework, 'Development Matters'.
- x say and use names in order in familiar contexts;
- x count reliably up to ten objects;
- x recognise numerals 1 to 9;
- x use developing mathematical ideas and methods to solve practical problems;
- x in practical activities and discussion begin to use the vocabulary involved in adding and subtracting;
- x use language such as 'more' or 'less' to compare two numbers;
- x find one more or one less than a number from one to ten, using objects;
- x begin to relate addition to combining two groups of objects and subtraction to 'taking away';
- x use language such as 'greater', 'smaller', 'lighter' or 'heavier' to compare two quantities;
- x talk about, recognise and recreate simple patterns;
- x use language such as 'circle' or 'bigger' to describe the shape and size of solids and flat shapes.

Transition 1 (T1)
- x

Transition 2 (T2)

x   C

- x Compare durations of events [for example to calculate the time taken by particular events or tasks].
- x Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- x Understand and use right angles
- x Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
- x Interpret and present data using bar charts, pictograms and tables

Form 2

- x Count in multiples of 6, 7, 9, 25 and 1000 and, find 1000 more or less than a given number and recognise the place value of each digit in a four-digit number
- x count backwards through zero to include negative numbers
- x Read, write, order and compare numbers beyond 1000
- x Round any number to the nearest 10, 100 or 1000
- x Solve number and practical problems
- x 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.
- x Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- x Estimate and use inverse operations to check answers to a calculation
- x Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
- x Recall multiplication and division facts for multiplication tables up to 12×12
- x Use place value, known and derived facts to multiply and divide mentally
- x Multiply two-digit and three-digit numbers by a one-digit number
- x Recognise and show, using diagrams, families of common equivalent fractions
- x Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- x Recognise and write decimal equivalents of any number of tenths or hundredths
- x Recognise and write decimal equivalents
- x Round decimals with one decimal place to the nearest whole number
- x compare numbers with the same number of decimal places up to two decimal places
- x Convert between different units of measure
- x Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres and find the area of rectilinear shapes
- x Estimate, compare and calculate different measures, including money in pounds and pence
- x Read, write and convert time between analogue and digital 12 and 24-hour clocks
- x Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- x Identify acute and obtuse angles and compare and order angles up to two right angles by size
- x Identify lines of symmetry in 2-D shapes presented in different orientations
- x Complete a simple symmetric figure with respect to a specific line of symmetry.
- x Describe positions on a 2-D grid as coordinates in the first quadrant
- x Describe movements between positions as translations of a given unit to the left/right and up/down
- x Plot specified points and draw sides to complete a given polygon
- x Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
- x Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Form 3

- x Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- x Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- x Understand and use negative numbers
- x Round any number up to 1 000 000 and use this to check calculations
- x Solve number problems and practical problems

x   Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

- x Understand and use algebra to solve problems including generating and describe linear number sequences and expressing missing number problems
- x Solve problems involving the calculation and conversion of units of measure
- x Use, read, write and convert between units of measurement, converting measurements of length, mass, volume and time
- x Recognise that shapes with the same areas can have different perimeters and vice versa and recognise when it is possible to use formulae for area and volume of shapes
- x Calculate the area of parallelograms and triangles
- x Draw 2D shapes using given dimensions and angles
- x Recognise, describe and build simple 3D shapes, including making nets
- x Compare and classify geometric shapes
- x Illustrate and name parts of circles, including radius, diameter and circumference
- x Recognise angles where they meet at a point, on a straight line, or are vertically opposite, and find missing angles
- x Describe positions on the full coordinate grid (all four quadrants)
- x

- x   Change freely between related standard units
- x   Use scale factors, scale diagrams and maps
- x   Use ratio notation, including reduction to simplest form
- x   Relate the language of ratios and the associated calculations to the arithmetic of fractions and to linearfunctions
- x   Solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics
- x   Solve problems involving direct proportio(e)3 (m)2.8 iorUs pf001 Tw 0 -1.9 (t)-3.4 (e)3 ng dre6.2 (t)-3.3 ((p)-6.2

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