

Curriculum Provisions

Subject - Maths

Key Stage 2

Year 5 Curriculum 2014 is divided into nine topic areas sub-divided into units with natural progression from one unit to the next.

Number and Place Value 1 - 2 Number and Place Value is replaced in the third term with Financial Capability	Addition and Subtraction 1-3 Multiplication and Division 1-3	FDP 1-3 Mental Calculations 1 -3	Geometry 1 - 3 Measures 1-3
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Number is divided into five different topic areas with each topic revisited throughout the year. Pupils will extend their understanding and knowledge of place value by explaining what each digit represents in numbers up to one million. They will partition, round and order whole and decimals numbers. Pupils will use decimal notation in context such as money and measure. Their knowledge of number is used to do inverse operations to estimate and check calculations. Pupils will continue to learn times table facts and mental strategies.

Geometry: pupils will recognise shapes from their properties and understand how shapes are grouped together i.e. quadrilaterals. Pupils read and plot co-ordinates in the first quadrant and recognise parallel and perpendicular lines in grids and shapes. Pupils identify names of angles and understand the numbers of degrees in angles, as well as full and half turns. They will identify missing angles in triangles, straight lines and full turns.

Addition and subtraction/Multiplication and division: concentrates on the calculation methods being used for all operations which will lead to the formal standard method. Pupils will increase their knowledge of the methods, giving them confidence to use decimal numbers up to 3 decimal places.

Measure: pupils understand and calculate area and perimeter of shape using the appropriate units of measurement. Later in the year they will be introduced to calculating the volume of 3d shapes. Pupils will learn skills to convert between measures which will include imperial to metric. Also, pupils will use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.

Financial Capability: the aim of this unit is to consolidate key skills through the context of money, whilst preparing children for their financial future. The unit will include considering possible consequences of taking financial risks and will make pupils aware of

FDP - Fractions/Decimals/Percentages: these units cover all aspects related to FDP. In the first two terms, pupils will concentrate on fractions, then decimals, and in the third term look at the connections between FDP. The skills will include ordering,

<p>deductions from earnings and the reasons for these. The unit will also look at manageable and unmanageable debt.</p>	<p>quantities of number related to FDP, adding and subtracting fractions and equivalent fractions, looking at common denominators.</p>
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Year 6 curriculum has not changed this year. It is taught in unit blocks throughout the year, with natural progression from one unit to the next.

<p>Unit 1, 2 and 3 include <u>Block A:</u> Counting, Partitioning and Calculating <u>Block B:</u> Securing Number Facts, Understanding Shape</p>	<p><u>Block C:</u> Handling Data and Measures <u>Block D:</u> Calculating, Measuring and Understanding Shape <u>Block E:</u> Securing Number Facts, Calculation and Relationships</p>
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<p><u>Using and Applying:</u> The emphasis is on further developing the skills of problem-solving. Pupils identify and use appropriate operations, including combinations of these, to solve word problems in a variety of contexts. In Year 6, pupils tabulate systematically the information in a problem or puzzle, identifying and recording the steps or calculations needed to solve it, using symbols where appropriate. They intercept solutions in the original context of a problem and check their accuracy.</p>	<p><u>Number and the Number System:</u> Pupils use knowledge of place value to multiply and divide integers and decimals by 10, 100, 1000. They use known times table factors, derive related multiplications and division facts, involving decimals. Pupils use efficient written methods for all four operations to include decimals. They order a mixed set of numbers including decimals. Pupils find equivalent fractions and fractions of numbers and shapes. Pupils find simple percentages of whole numbers. They begin to solve problems involving ratio and proportion.</p>
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<p><u>Shape, Space and Measure:</u> Pupils select and use standard metric units and convert between units using decimals to 2 place. They describe, identify and visualise parallel and perpendicular edges or faces, using these properties to classify 2 D and 3 D shapes. Pupils solve multi-step problems involving measures; choosing and using appropriate calculations strategies at each stage, which includes calculator skills.</p>	<p><u>Handling Data:</u> Pupils suggest, plan and develop lines of enquiry. They construct frequency tables, bar charts with grouped discrete data and line graphs. They interpret results, draw conclusions and review methods, identifying further questions to ask. Pupils find the mode, median and mean of a set of data and use the vocabulary of probability.</p>
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Key Stage 3

Year 7

Year 8

Year 7 and 8 curriculum is divided into four topic areas which are sub-divided into units with natural progression from one unit to the next.

Number 1-5 Pupils consolidate and extend mental methods of calculations working with decimals, fractions and percentages, squares and square roots, accompanied, where appropriate, by suitable jottings. They learn how to use the equivalence of simple fractions, decimals & percentages & find the outcome of a given percentage increase or decrease. Pupils extend understanding of ratio & divide a quantity into two or more parts in a given ratio.

Number 1-5: Pupils consolidate number work from Year 7 using more practical examples. Pupils will be introduced to understanding rounding to significant figures.

Algebra 1-5: Pupils use letter symbols to represent unknown numbers or variables. They simplify linear expressions by collecting like terms and multiple a single terms over a bracket. Also, pupils generate terms of sequences using term to term and position to term definitions. They learn to identify the nth term rule of a linear equation. Pupils begin to use formulae from mathematics and other subjects; substitute integers into simple linear expressions and formulae and, in simple cases, derive formula.

Algebra 1-5 Pupils will be introduced to expanding brackets using positive and negative rules. Pupils also begin to recognise that equations of the form $y=mx+c$ corresponds to straight line graphs. They learn to interpret graphs arising from real life situations, including distance time graphs. Pupils will be familiar with formulas and introduce to rearranging the subject of the formula. Some pupils will also gain an understanding of Pythagoras Theorem and will begin to use trigonometry to solve geometric problems.

Geometry and Measure 1-5: Pupils use a compass to construct a midpoint and perpendicular bisector of a line segment. Pupils read and interpret scales on arrange of measuring instruments. Pupils use their existing understanding of the area of a triangle. Pupils learn how to calculate the volume and surface area of cuboid and other prisms. Pupils will be introduced to making simple scale drawings.

Geometry and Measure 1-5: Pupils understand angle proofs, such as the sum of interior angles in a triangle, quadrilateral and polygons. Also, properties of angles of parallel and intersecting lines of triangles and other polygons. Pupils gain experience of using a compass to make standard constructions, including triangles given angle and side information. Pupils will use geometry reasoning to identify missing angles on parallel line. Pupils enlarge 2d shapes, given a centre of enlargement and scale factor.

Statistics 1-3: Pupils understand and use the probability scale from 0 to 1. They find and justify probabilities based on equally likely outcomes in simple contexts. Pupils plan and conduct a survey. They calculate the mean, median, mode and range from a frequency table. Also, the modal class for grouped

Statistics 1-3: Pupils design a survey or experiment to capture the necessary data from one of more sources. They determine the sample size and degree of accuracy needed, design trial and if necessary, refine data collection sheets. They communicate interpretations and

data. Pupils will be able to plot a scatter graph and read and plot a stem and leaf diagram.

results of a statistical enquiry using selected tables, graphs and diagrams using ICT skills appropriately.