

Maths Progression – Alton Park Junior School

Intent:

By the end of Year 6, pupils at Alton Park Junior School will:

Aspiration – have a positive attitude towards mathematics and understand how it can help shape their future;

Learning - have a secure understanding of the mathematical concepts required to achieve well in the next stage of their education. They will be confident and competent with:

- The mental and written strategies required to build knowledge and solve problems accurately and efficiently
- number: number, place value, the four operations
- fractions (including decimals and percentages)
- ratio and proportion
- algebra
- measurement
- geometry – properties of shapes, position, and direction
- statistics

Tenacity - be resilient learners and use a growth mindset towards mathematics;

Opportunity - use mathematics in real life contexts and recognise its importance in every-day life;

Nurture – succeed and enjoy mathematics and acquire the skills necessary to support their future needs.

Yearly Overview 2023-2024

| | Year 3 | Year 4 | Year 5 | Year 6 |
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| Autumn Term 1 | Place Value (3 weeks) Adding and subtracting (3 weeks) Assessment week – W/C 2nd October | Place Value (4 weeks) Adding and subtracting (2 weeks) Assessment week – W/C 2nd October | Place Value (3 weeks) Adding and subtracting (3 weeks) Assessment week – W/C 2nd October | Place Value (2 weeks) Addition, subtraction, multiplication and division (4 weeks) Assessment week – W/C 18th September |
| Autumn Term 2 | Place Value (2 weeks) Adding and subtracting (4 weeks) Money (1 week) | Place Value (2 weeks) Adding and subtracting (4 weeks) Position and direction (1 week) | Multiplication and division (5 weeks) Addition and subtraction – mental strategies (2 weeks) | Addition, subtraction, multiplication and division (2 weeks) Fractions (2 weeks) Fractions, decimals and percentages (3 week) Assessment week – W/C 20th November |
| Spring Term 1 | Place value / adding and subtraction problem solving and consolidation (1 week) Multiplication and division A (4 weeks) Shape (1 week) Assessment week – W/C 5th February | Place value / adding and subtraction problem solving and consolidation (1 week) Multiplication and division A (3 weeks) Shape (2 weeks) Assessment week – W/C 5th February | Place value / adding and subtraction problem solving and consolidation (1 week) Multiplication and division (2 weeks) Position and direction (1 week) Shape (2 weeks) Assessment week – W/C 5th February | Four operations - problem solving (1 week) Conversions (1 week) Statistics (2 weeks) Consolidation (1 week) Four operations - (1 week) Assessment week – W/C 22nd January |
| Spring Term 2 | Shape (1 week) Multiplication and division B (2 weeks) Fractions A (2 weeks) | Multiplication and division B (2 weeks) Fractions (3 weeks) | Fractions A / B (4 weeks) Negative numbers and Statistics (1 week) | Algebra (1 week) Shape, area and perimeter (1 week) Position and direction (1 week) Fractions, decimals and percentages (1 week) Algebra (1 week) Assessment week – W/C 11th March |
| Summer Term 1 | Arithmetic – mental and written (1 week) Fractions B (3 weeks) Length and perimeter (2 weeks) | Arithmetic – mental and written (1 week) Decimals A (2 weeks) Length and perimeter (2 week) Time (1 week) | Arithmetic – mental and written (1 week) Decimals and percentages (3 weeks) Perimeter and area (2 weeks) | Shape (1 week) Consolidation (4 weeks) National Assessment week - W/C 13th May |
| Summer Term 2 | Arithmetic – mental and written (1 week) Mass and capacity (2 weeks) Time (2 weeks) Statistics (1 week) Assessment week – W/C 10th June | Arithmetic – mental and written (1 week) Decimals B (2 weeks) Area (1 week) Money (1 week) Statistics (1 week) Assessment week – W/C 10th June | Arithmetic – mental and written (1 week) Decimals (3 weeks) Volume (1 week) Converting units (1 week) Assessment week – W/C 10th June | Ratio (1 week) Shape (1 week) Statistics (1 week) Area, perimeter and volume (1 week) Themed projects, consolidation and problem solving (2 weeks) |

Maths Curriculum 2023-2024 (please see the *White Rose progression document* for a detailed breakdown of each unit)

| | Year 3 | Year 4 | Year 5 | Year 6 |
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| Autumn Term | <p><u>Place Value</u> Revisit - Pupils will consolidate their understanding of numbers to 100 and the place value of two-digit numbers. Pupils will learn to: represent, partition, compare and order numbers to 1,000, count in multiples of 50 and 100 and find 1, 10 and 100 more or less than a given number.</p> <p><u>Addition and Subtraction</u> Revisit - Pupils will consolidate their understanding of number bonds to 10, 20 and 100, adding and subtracting 1s and 10s and adding and subtracting two, 2-digit numbers. Pupils will learn to: add and subtract 1s, 10s and 100s from 3-digit numbers and add and subtract two 3-digit numbers using the column method with exchange.</p> <p><u>Money</u> Revisit – Pupils will revisit counting money in pounds and pence. Pupils will learn to: convert pounds and pence, add and subtract using money and find change.</p> | <p><u>Place Value</u> Revisit - Pupils will consolidate their understanding of numbers to 1,000. Pupils will learn to: represent, partition, compare and order numbers to 10,000, find 1, 10, 100 and 1000 more or less than a given number, round numbers to the nearest 10, 100 and 1000 and use Roman Numerals to represent numbers up to 100.</p> <p><u>Addition and Subtraction</u> Revisit - Pupils will consolidate their understanding of adding and subtracting 3-digit numbers with exchange. Pupils will learn to: add and subtract 1s, 10s, 100s and 1000s and add and subtract 4-digit numbers with more than one exchange.</p> <p><u>Position and Direction</u> Pupils will learn to: describe position using coordinates, plot coordinates and draw, translate and describe 2-D shapes on a grid.</p> | <p><u>Place Value</u> Revisit - Pupils will consolidate their understanding of numbers to 10,000. Pupils will learn to: read, write, partition, compare and order numbers to 1,000,000, round up to and within 1,000,000, find 10, 100, 1,000, 10,000, 100,000 more or less than a given number and use Roman Numerals to represent numbers up to 1,000.</p> <p><u>Addition and Subtraction</u> Revisit - pupils will revisit adding and subtracting 4-digit numbers with exchange. Pupils will learn to: add and subtract numbers with more than four digits using the column method. They will apply their knowledge to a range of multi-step problems.</p> <p><u>Multiplication and Division</u> Revisit - pupils will continue to revisit the times-tables up to 12 x 12 Pupils will learn to: understand common multiples, common factors, and multiply and divide by 10, 100 and 1000, use written methods to multiply up to a 4-digit number by a 1-digit number, and a 2-digit number by a 4-digit number, solve problems with multiplication, use short division to divide a 4-digit number by a 1-digit number and divide with remainders.</p> <p><u>Addition and Subtraction</u> Revisit - Pupils will revisit mental addition and subtraction strategies, such as doubling and halving and rounding and adjusting.</p> | <p><u>Place Value</u> Revisit - Pupils consolidate their understanding of numbers to 1,000,000. Pupils will learn to: read, write, compare and order numbers up to 10,000,000, compare, order and round integers and decimals, multiply and divide by 10, 100 and 1000 and strengthen their understanding of negative numbers.</p> <p><u>Addition, Subtraction, Multiplication & Division (incl. decimals)</u> Revisit - Pupils will consolidate their understanding of mental and written methods for addition, subtraction, multiplication and division. Pupils will learn to: Add, subtract, multiply and divide decimal and reason from known facts, use long multiplication (4 x 2 digits) and short division (dividing by 2 digits), order operations and solve multi-step problems.</p> <p><u>Fractions</u> Revisit - Pupils will revisit equivalent fractions. Pupils will learn to: find fractions of shapes and amounts and develop their knowledge of converting between improper and mixed number fractions, add and subtract fractions, including mixed numbers and multiply and divide fractions.</p> <p><u>Fractions, decimals and percentages</u> Revisit - Pupils will revisit the relationship between fractions, decimals and percentages and find equivalents. Pupils will learn to: find percentages of amounts.</p> |

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| <p>Spring Term</p> | <p><u>Place Value</u> Revisit - Pupils will consolidate their understanding of numbers to 1000.</p> <p><u>Multiplication and Division A</u> Revisit - Pupils will consolidate their understanding of equal groups for adding and sharing, the 2, 5 and 10 times-tables and dividing by 2, 5 and 10. Pupils will learn to: multiply and divide by 3, 4 and 8 and develop their recall of the 3, 4 and 8 times-tables.</p> <p><u>Shape</u> Revisit - Pupils will consolidate their understanding of 2-D and 3-D shapes and their properties. Pupils will learn to: identify and compare acute, right and obtuse angles, recognise and describe 2-D and 3-D shapes and use mathematical vocabulary such as horizontal, vertical, parallel and perpendicular.</p> <p><u>Multiplication and Division B</u> Revisit - Pupils will revisit the 2, 5, 10, 3, 4 and 8 times tables. Pupils will learn to: multiply a 2-digit number by a 1-digit number with and without exchanges and divide a 2-digit number by a 1-digit number using partitioning and both with and without remainders.</p> | <p><u>Place Value</u> Revisit - Pupils will consolidate their understanding of numbers to 10,000.</p> <p><u>Multiplication and Division A</u> Revisit - Pupils will consolidate their understanding of the 3, 4 and 8 times tables. Pupils will learn to: multiply and divide by 6, 9, 7, 11 and 12 and develop their recall of these times-tables, multiply by 1 and 0, divide a number by 1 and itself and multiply 3 numbers.</p> <p><u>Shape</u> Revisit - Pupils will consolidate their understanding of shape properties and ordering and comparing angles. Pupils will learn to: identify and describe scalene, isosceles and equilateral triangles, polygons and quadrilaterals.</p> <p><u>Multiplication and Division B</u> Revisit - Pupils will revisit the 2, 5, 10, 3, 4, 8, 6, 9, 7, 11, 12 times-tables. Pupils will learn to: find and use factor pairs, multiply and divide by 10 and 100 and multiply and divide 3-digit numbers by a 1-digit number.</p> <p><u>Fractions</u> Revisit – Pupils will consolidate their understanding of unit and non-unit fractions and simple equivalents. Pupils will learn to: partition, compare and order mixed number fractions, convert between</p> | <p><u>Place Value</u> Revisit - Pupils will consolidate their understanding of numbers to 1,000,000.</p> <p><u>Multiplication and Division</u> Revisit - Pupils will consolidate their understanding of the times-tables up to 12x12 and revisit written strategies for multiplication and subtractions. Pupils will learn to: recognise and describe prime, square and cube numbers.</p> <p><u>Position and Direction</u> Pupils will learn to: solve problems with coordinates, translate with coordinates and reflect in horizontal and vertical lines.</p> <p><u>Shape</u> Revisit - Pupils will use their mathematical vocabulary to identify and describe 2-D shapes. Pupils will learn to: use degrees to estimate, measure and draw angles using a protractor, identify regular and irregular polygons and create 3-D shapes.</p> <p><u>Fractions</u> Revisit – Pupils will revisit equivalent fractions. Pupils will learn to: find fractions equivalent to a range of non-unit fractions, convert between improper and mixed number fractions and vice versa, compare and order fractions less than and greater than 1 and add and subtract fractions with the same denominator.</p> | <p><u>Four Operations</u> Revisit - Pupils will revisit elements of the addition, subtraction, multiplication and division curriculum to solve single and multi-step problems.</p> <p><u>Converting Units</u> Revisit - Pupils will revisit measures through practical application. Pupils will learn to: convert between metric units and other forms, such as currency and imperial.</p> <p><u>Statistic</u> Pupils will learn to: create, read and interpret a range of graphs and find the mean as an average.</p> <p><u>Consolidation</u> Revisit - pupils will revisit a range of learning, including the written application of the four operations and fractions, decimals and percentages.</p> <p><u>Four Operations</u> Revisit - Pupils will revisit elements of the addition, subtraction, multiplication and division curriculum and use it to solve problems focused on money and measure.</p> <p><u>Algebra</u> Pupils will learn to: use symbols and letters to represent the unknown</p> <p><u>Shape, area and perimeter</u> Revisit - Pupils will revisit their knowledge of 2-D and 3-D shapes and their properties. Pupils will learn to: compare and classify geometric shapes, calculate area and perimeter and recognise nets of 3D shapes.</p> |
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| | <p><u>Fractions A</u> Revisit – Pupils will revisit finding a half, quarter and third and recognising unit and non-unit fractions. Pupils will learn to: recognise both unit and non-unit fractions and different denominators and numerators, compare and order unit and non-unit fractions and find equivalent fractions.</p> | <p>improper fractions and mixed number, extend their knowledge of equivalent fractions and add and subtract fractions.</p> | <p><u>Negative Numbers</u> Pupils will learn to: Understand negative numbers, count through zero in 1s and multiples, and compare, order and find the difference between negative numbers.</p> <p><u>Statistics</u> Pupils will learn to: draw, read and interpret line graphs and tables and read and interpret timetables.</p> | <p><u>Position and direction</u> Pupils will learn to: read and plot points in four quadrants, translate shapes and reflect them in different axes.</p> <p><u>Fractions, decimals and percentages</u> Revisit - Pupils will revisit elements of the fractions, decimals and percentages curriculum and strengthen their understanding of equivalents and adding, subtracting, multiplying and dividing a range of fractions and decimals.</p> <p><u>Algebra</u> Pupils will learn to: use simple formula and find pairs of numbers which satisfy equations.</p> |
| Summer Term | <p><u>Four Operations</u> Revisit - Pupils will revisit elements of the addition, subtraction, multiplication and division curriculum to strengthen their knowledge and understanding of mental and written strategies.</p> <p><u>Fractions B</u> Pupils will learn to: Add and subtract fractions and apply their understanding of unit and non-unit fractions to objects.</p> <p><u>Length and Perimeter</u> Revisit – Pupils will consolidate their understanding of measuring in metres and centimetres. Pupils will learn to: measure in millimetres, find and compare equivalent lengths between units of measure, add and subtract lengths and begin to find the perimeter of objects.</p> | <p><u>Four Operations</u> Revisit - Pupils will revisit elements of the addition, subtraction, multiplication and division curriculum to strengthen their knowledge and understanding of mental and written strategies.</p> <p><u>Decimals A</u> Pupils will learn to: recognise tenths and hundredths as a fraction and decimal and divide a 1 and 2-digit number by 10 and 100.</p> <p><u>Length and Perimeter</u> Revisit – Pupils will consolidate their understanding of measuring in millimetres and metres and compare equivalent lengths. Pupils will learn to: measure in kilometres and metres and find equivalent lengths, find the perimeter of a range of regular polygons and find missing lengths.</p> | <p><u>Four Operations</u> Revisit - Pupils will revisit elements of the addition, subtraction, multiplication and division curriculum to strengthen their knowledge and understanding of mental and written strategies.</p> <p><u>Decimals and percentages</u> Revisit – Pupils will revisit tenths and hundredths as a fraction and decimal. Pupils will learn to: find equivalent fractions and decimals, understand the place value of thousandths, order and compare decimals, round decimals to the nearest decimal place, understand the relationship between fractions, decimals and percentage and find equivalents.</p> <p><u>Perimeter and Area</u> Revisit – Pupils will revisit finding the perimeter of regular polygons and make shapes with different areas. Pupils will learn to:</p> | <p><u>Shape:</u> Pupils will learn to: recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find angles.</p> <p><u>Consolidation</u> Pupils will revisit a range of learning, including mental and written application of the four operations, fractions, decimals and percentages and converting units.</p> <p><u>Ratio</u> Pupils will learn to: use ratio language and the ratio symbol, relate ratio to fractions, use scale factors and solve ratio related problems.</p> <p><u>Shape</u> Pupils will learn to: Draw 2-D shapes using given dimensions and angles.</p> |

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| | <p><u>Mass and Capacity</u> Revisit – Pupils will revisit measuring mass in grams and kilograms. Pupils will learn to: find equivalent masses and compare, add and subtract masses, measure capacity and volume in millilitres and litres, find equivalents and add and subtract capacity and volume.</p> <p><u>Time</u> Revisit – Pupils will revisit telling the time to o'clock, half past, quarter past, quarter to and to the nearest five minutes. Pupils will learn to: recognise Roman Numerals to 12, read the time to the nearest minute and use am and pm, develop their knowledge of units of time such as minutes, hours, days, months and years and find start and end times.</p> <p><u>Statistics</u> Pupils will learn to: draw and interpret pictograms and bar charts and collect and represent data.</p> | <p><u>Time</u> Revisit – pupils will revisit reading time to the nearest minute. Pupils will learn to: convert between analogue and digital times and begin to convert between the 12- and 24-hour clock.</p> <p><u>Decimals B</u> Pupils will learn to: make a whole with tenths and hundredths, partition, compare and order decimals, round to the nearest number and find halves and quarters as decimals.</p> <p><u>Area</u> Pupils will learn to: count squares to understand the term area, make shapes with different areas and compare them.</p> <p><u>Money</u> Revisit - pupils will revisit converting between pounds and pence without decimals. Pupils will learn to: write and compare money using decimals and convert between pounds and pence.</p> <p><u>Statistics</u> Pupils will learn to: compare and interpret a range of graphs and draw and interpret line graphs.</p> | <p>find the perimeter of a range of polygons and the area of rectangles and compound shapes.</p> <p><u>Decimals</u> Pupils will learn to: add and subtract decimals and find complements to and across 1 where numbers have both the same and different numbers of decimal places and multiply and divide by 10, 100 and 1000.</p> <p><u>Volume</u> Pupils will learn to: compare and estimate volume and capacity.</p> <p><u>Converting Units</u> Pupils will learn to: convert between metric and imperial units of measure and time.</p> | <p><u>Statistics</u> Pupils will learn to: interpret and construct pie charts.</p> <p><u>Area, perimeter and volume</u> Revisit - pupils will revisit finding the area and perimeter of rectangular shapes. Pupils will learn to: find the area of triangles and parallelograms and find the volume of cuboids.</p> <p><u>Themed projects, consolidation and problem solving</u> Revisit - Pupils will revisit KS2 learning and apply it to a range of contexts, including enterprise.</p> |
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