

Mathematics

Whole School Scheme of Learning

2020-21



Barley Fields
Primary School

Year	Autumn	Spring	Summer
1	Number: Place Value (within 10) 4 weeks Number: Addition and Subtraction (within 10) 3 weeks Geometry: Shape 2D and 3D 2 weeks Number: Place Value (within 20) 2 weeks Number: Addition and Subtraction (within 20) 2 weeks	Number: Addition and Subtraction (within 20) 3 weeks Measurement: Length and Height 2 weeks Number: Place Value (within 50) 1 week Measurement: Weight and Volume 2 weeks Number: Multiplication and Division 2 weeks	Number: Fractions 2 weeks Geometry: Position and Direction 2 weeks Measurement: Time 2 weeks Number and Place Value: (within 100) 2 weeks Measurement: Money 2 weeks
2	Number: Place value (within 100) 3 weeks Number: Addition and Subtraction 4 weeks Measurement: money 2 weeks	Multiplication and Division 1 week Statistics - Data 2 weeks Geometry: Properties of shape 4 weeks Fractions 3 weeks	Measurement: height and length 2 weeks Measurement: weight 1 week SATS revision 4 weeks Geometry – Position and Direction 1 week Measurement: Time 2 weeks Measurement: Capacity 2 weeks
3	Number – Place value (within 1000) 3 weeks Number – Addition and Subtraction 5 weeks Measurement: Mass and Capacity 1 week Number – Multiplication and division 4 weeks	Number: Multiplication and Division 2 weeks Measurement: Money 2 weeks Statistics – Data 2 weeks Measurement: Length and Perimeter 2 weeks Number: Fractions 2 weeks	Measurement: Time 3 weeks Number: Fractions 3 weeks Geometry: Position and Direction 2 weeks Measurement: Temperature 1 week Measurement Capacity 1 week
4	Number: Place Value (within 10,000) 3 weeks Number: Addition and Subtraction 3 weeks Measurement: Length and Perimeter 2 weeks Measurement: Area 1 week Number: Multiplication and Division 4 weeks	Number: Multiplication and Division 3 weeks Measurement: Time 2 weeks Statistics; Data 2 weeks Number: Fractions 3 weeks	Number: Decimals 3 weeks Geometry: Properties of Shape – angles 2 weeks Geometry: Properties of Shape – symmetry 2 weeks Measurement: Money symmetry 2 weeks Geometry - Position and Direction symmetry 2 weeks
5	Number: Place Value 3 weeks Number: Addition and Subtraction 2 weeks	Geometry: Properties of Shape 3 weeks Number: Multiplication and Division 3 weeks	Number: Fractions 2 weeks Geometry – symmetry 1 week

	Statistics 2 weeks Measurement: Perimeter and Area 3 weeks Number: Multiplication and Division 4 weeks	Geometry: Position and Direction 1 week Number: Fractions 3 weeks	Number: Decimals and Percentages 2 weeks Measurement: Converting Units 2 weeks Number Decimals (adding and subtracting) 2 week Measurement: Volume 1 week Measurement: Time 1 week
6	Number: Place Value 2 weeks Number: Addition, Subtraction 2 weeks Number: Multiplication and Division 2 weeks Geometry: Position and Direction 1 week Number: Fractions 3 weeks Number: Multiples 2 weeks	SATs revision Cycles Geometry – Quadrants Number: Algebra Number: Decimals Number: Percentages Geometry: Properties of shape Statistics Measurement: Converting Units Measurement: Area and Perimeter, Measurement: Volume and Capacity Number: Ratio and Proportion	SATS Revision and Testing Problem Solving and Mathematical Investigations

Intent

At Barley Fields Primary we recognise that Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. We are committed to ensuring that children are able to recognise the importance of Maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in a range of different contexts.

We want all children to enjoy Mathematics and to experience success in the subject, with the ability to reason mathematically.

We aim to provide a high-quality mathematics curriculum so that all children:

- become fluent in the fundamentals of mathematics;
- reason mathematically;
- can solve problems by applying their mathematics. (National Curriculum 2014)

Implementation

We use White Rose Maths from Y1 to Y6 as the basis of our curriculum, which is designed to support teachers in all aspects of their planning whilst delivering a Maths Mastery curriculum effectively.

Our use of a mastery approach incorporates three key elements concrete, pictorial and abstract, in helping children explore and demonstrate mathematical ideas, enrich their learning experience and deepen their understanding.

Together, these elements help cement knowledge so pupils truly understand what they've learnt.

All pupils, when introduced to a key new concept, have the opportunity to build competency by taking this approach. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS profile document.

Mathematics development involves providing children with opportunities to practise and improve their skills in counting numbers, calculating simple addition and subtraction problems, and to describe shapes, spaces, and measures.

We continually observe and assess children against these areas using age-related objectives, and plan the next steps in their mathematical development in response to this. There are opportunities for children to encounter Maths throughout the EYFS provision – through planned activities and the self-selection of easily accessible quality maths resources.

Impact

A mathematical concept or skill has been *mastered* when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. This includes:

- Quick recall of facts and procedures
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics

We measure our impact of our curriculum through:

- A reflection on standards achieved against the planned outcomes;
- Termly assessment Progress in Understanding Mathematics;
- Pupil discussions about their learning.

For further details regarding skills and concept progression please refer to the progression ladders documentation

Year One – LTP Maths

Autumn 13 weeks	<p>Number: Place Value 4 weeks</p> <p><i>counting, ordering and comparing numbers within 10</i></p>	<p>Number: Addition and Subtraction (within 10) 3 weeks</p> <p><i>Introducing parts and wholes, number bonds within 10, fact families for addition, introduction to subtraction, counting back, finding the difference</i></p>	<p>Geometry: Shape 2D and 3D 2 weeks</p> <p><i>Recognise and name shapes, sorting shapes, creating patterns with shape</i></p>	<p>Number: Place Value (within 20) 2 weeks</p> <p><i>Counting forwards and backwards to 20, using tens and ones to make numbers to 20, comparing and ordering numbers to 20</i></p>	<p>Number: Addition and Subtraction (within 20) 2 weeks</p> <p><i>Add by counting on within 20, number bonds to 20, add by making tens, subtraction – not crossing 10, subtraction – crossing 10, comparing number sentences</i></p>	
Spring 10 weeks	<p>Number: Addition and Subtraction (within 20) 3 weeks</p> <p><i>Consolidate addition and subtraction skills – counting on and back across 10s boundary</i></p>		<p>Measurement: Length and Height 2 weeks</p> <p><i>Compare lengths and heights, measure with non-standard units, introduce using a cm ruler to measure, adding and subtracting length problems</i></p>	<p>Number: Place Value (within 50) 1 week</p> <p><i>Counting to 50, represent and compare numbers to 50, order numbers to 50</i></p> <p><i>Count in 2s, 5s and 10s to 50</i></p>	<p>Measurement: Weight, Capacity and Volume 2 weeks</p> <p><i>Introduction to weight and mass, comparing and measuring mass, introduction to capacity and volume, measuring and comparing capacity</i></p>	<p>Number: Multiplication and Division 2 weeks</p> <p><i>Counting in 2s, 5s and 10s, making equal groups, adding equal groups, making arrays, doubling numbers, practical sharing and grouping</i></p>
Summer 12 weeks	<p>Number: Fractions 2 weeks</p> <p><i>Making and finding half, wholes and quarters</i></p>	<p>Geometry: Position and Direction 2 weeks</p> <p><i>Describing turns and position of objects</i></p>	<p>Measurement: Time 2 weeks</p> <p><i>Before and after, days of the week, o'clock and half past, comparing periods of time</i></p>	<p>Number and Place Value: (within 100) 2 weeks</p> <p><i>Counting to 100 by making 10s. counting to 100 forwards and back, introduction to the 100 square, partitioning numbers, comparing and ordering numbers to 100, one more and one less within 100</i></p>	<p>Measurement: Money 2 weeks</p> <p><i>Recognising coins and notes, counting with coins</i></p>	<p>Consolidation and assessment</p>

Year Two – LTP Maths

Autumn 13 weeks	Number Place Value within 100 3 Weeks <i>Counting forwards and backwards within 100, tens and ones using part whole, using a place value chart, comparing and ordering numbers within 100, counting in 2s, 5s, 10s and 3's</i>		Number Addition and Subtraction 4 weeks <i>Addition and subtraction bonds to 20, tens bonds to 100, add and subtract one from a number, 10 more and 10 less, add and subtract 10s, add a 2 digit and 1-digit number- crossing 10, subtract a 1-digit number from a 2-digit number – crossing 10, add two 2-digit numbers not crossing ten, subtract a 2-digit number from a 2-digit number not crossing ten, add 3 1-digit numbers</i>	Measurement Money 2 weeks <i>Count money – notes and coins, select money and make amounts, compare money, find totals, find the difference, find change</i>	Number Multiplication and Division 4 weeks <i>Make equal groups, redistribute to make equal groups, add equal groups and make arrays Recognise equal groups, add equal groups, multiplication sentences using the x symbol, use arrays, make doubles, 2x table, 5x table, 10x table</i>		
	Spring 10 weeks	Number Multiplication and Division 1 weeks <i>Make equal groups - sharing and grouping, dived by 2, odd and even numbers</i>	Statistics Data 2 weeks <i>Create and interpret Tally charts and Pictograms create and read, block diagrams</i>	Geometry: Properties of shape 4 weeks <i>Recognise and sort 2D and 3D shapes, count sides and vertices on 2D shapes, draw shapes Recognise lines of symmetry Count faces, edges and vertices on 3D shapes</i>		Number Fractions 3 weeks <i>Working with parts and wholes, recognising and finding halves and quarters of amounts Recognising and finding thirds Unit and non-unit fractions, equivalences of halves and quarters, counting in fractions and problem solving with fractions</i>	
Summer 12 weeks		Measurement: length 2 weeks <i>Compare, order and measure length using cm and m Solve problems using length and 4 operations</i>	Measurement – Weight and Mass 1 Week <i>measure and compare mass, measure using grams and kilograms</i>	SATS preparation 4 weeks		Geometry Position and Direction 1 week <i>Describe position and movement, problems solve with direction and position</i>	Measurement – Time 2 Weeks <i>Telling the time to ½ hour, ¼ hour and o'clock, hours and days understanding durations of time</i>

Year Three – LTP Maths

Autumn 13 weeks	<p>Number: Place Value 3 weeks</p> <p><i>Representing numbers to 1000, 100's, 10s, 1s, number lines to 1000, order and compare numbers to 100, count in 50s</i></p>	<p>Number – addition and subtraction 5 weeks</p> <p><i>Add and subtract multiples of 100, add and subtract 1m, add and subtract up to three digits in a variety of contexts and crossing the 10s and 100s, add and subtract 100, mixed addition and subtraction problems</i></p>		<p>Measurement Mass 1 Week</p> <p><i>measure and compare mass, measure using grams and kilograms, add and subtract using mass</i></p>	<p>Number Multiplication and Division 4 weeks</p> <p><i>Multiplication using the symbol, arrays, 2x, 5x and 10x tables Making equal groups by dividing/sharing, dividing by 2, 5 and 10 Multiplying by 3, 4 and 8</i></p>	
Spring 10 weeks	<p>Multiplication and Division 2 weeks</p> <p><i>Consolidate 2, 4 and 8 timetables multiply 2 digits by 1 digit divide 2 digits by 1 digit divide 100 into 2, 4, 5 and 10 equal parts divide with a remainder scaling</i></p>	<p>Measures Money 2 weeks</p> <p><i>Count money £ and p, convert money amounts into £ and p Add and subtract money, give change</i></p>	<p>Statistics Data 2 weeks</p> <p><i>Make and interpret data from tally charts and pictograms Draw and interpret bar charts Interpret information from tables</i></p>	<p>Measurement Length and Perimeter 2 weeks</p> <p><i>Measure and compare lengths, recognise equivalent lengths mm, m and cm, add and subtract lengths What is perimeter, calculate and measure perimeter of compound shapes</i></p>		<p>Number Fractions 2 weeks</p> <p><i>Recognise and find halves and quarters of amounts Recognising and finding thirds Unit and non-unit fractions, equivalences of halves and quarters, counting in fractions and problem solving with fractions</i></p>
Summer 12 weeks	<p>Measurement – Time 3 Weeks</p> <p><i>Months and years, hours in a day, telling the time to 5-minute intervals, using am and pm, 24-hour clock, measuring time in seconds, using start and end times to calculate duration</i></p>	<p>Fractions 3 weeks</p> <p><i>Making a whole, Recognise and count in tenths Position fractions on a number line, fractions of a set of objects, equivalent fractions, compare and order fractions Add and subtract fractions with the same denominator</i></p>	<p>Geometry Position and Direction 2 weeks</p> <p><i>Turns and angles, right angles in shapes, horizontal and vertical lines, parallel and perpendicular lines, create 3 D shapes</i></p>	<p>Measurement Temperature 1 week</p> <p><i>Understand what temperature measures, measure temperature in °C</i></p>	<p>Measurement Capacity 1 Week</p> <p><i>Measure amounts using ml and litres, add and subtract capacity</i></p>	<p>Consolidation and assessment</p>

Year Four – LTP Maths

Autumn 13 weeks	<p style="text-align: center;">Number: Place Value 3 weeks</p> <p><i>Numbers to 10,000, rounding to nearest 10 and 100, counting in 1000s and representing numbers to 10,000</i></p> <p><i>Portioning numbers into 1000s, 100s, 10s and 1s</i></p> <p><i>Finding 1, 10 and 100 more/less</i></p> <p><i>Compare 4-digit numbers and order numbers up to 4 digits</i></p> <p><i>Negative numbers</i></p> <p><i>Roman numerals</i></p>	<p style="text-align: center;">Number: Addition and Subtraction 3 weeks</p> <p><i>Add and subtract to up to 4 digits crossing 10 and 100</i></p> <p><i>Add two 4-digit numbers with one exchange</i></p> <p><i>Subtract 3- and 4-digit numbers with and without exchanging</i></p> <p><i>Consolidate efficient calculation strategies for addition and subtraction</i></p>	<p style="text-align: center;">Measurement: Length and Perimeter 2 weeks</p> <p><i>Recognise and calculate equivalent lengths using mm, cm and m</i></p> <p><i>Understand and measure in km</i></p> <p><i>Add and subtract lengths</i></p> <p><i>Measure perimeter on a grid, calculate the perimeter of rectangles and rectilinear shapes</i></p>	<p style="text-align: center;">Measures Area 1 week</p> <p><i>What is area, calculate area by counting</i></p> <p><i>squat=res, make and compare the area of shapes</i></p>	<p style="text-align: center;">Number: Multiplication and Division 4 weeks</p> <p><i>Multiplication by 10, 100</i></p> <p><i>Division by 10 and 100</i></p> <p><i>Multiply and divide by 1</i></p> <p><i>3x table, Multiply and divide by 3</i></p> <p><i>6x table, multiply and divide by 6</i></p> <p><i>9x table, multiply and divide by 9</i></p> <p><i>7x table, multiply and divide by 7</i></p>	
Spring 10 weeks	<p style="text-align: center;">Multiplication and Division 3 weeks</p> <p><i>Multiply 2 digits by 1 digit, 3 digits by 1 digit</i></p> <p><i>Divide 2 digits by 1 digit, divide 3 digits by 1 digit</i></p>		<p style="text-align: center;">Measurement Time 2 weeks</p> <p><i>Tell the time to 5 minutes, use am and pm and understand the 24-hour clock</i></p> <p><i>Know days, weeks, months and years</i></p> <p><i>Convert analogue to digital time – 12 hours</i></p> <p><i>Convert analogue to digital time – 24 hours</i></p>	<p style="text-align: center;">Statistics 2 Weeks</p> <p><i>Interpret information from a range of charts – bar, pictogram and tally</i></p> <p><i>Introduce line graphs and interpret data from line graphs</i></p>	<p style="text-align: center;">Fractions 3 weeks</p> <p><i>Recognise equivalent fractions, recognise fractions greater than 1 and count in fractions</i></p> <p><i>Add fractions</i></p> <p><i>Subtract fractions</i></p> <p><i>Subtract fractions from whole amounts</i></p> <p><i>Find a fraction of a set/quantity</i></p>	
Summer 12 weeks	<p style="text-align: center;">Decimals 3 weeks</p> <p><i>Recognise tenths and hundredths and tenths as decimals, on a place value grid and on a number line</i></p> <p><i>Divide 1-digit numbers by 10, divide 2-digit numbers by 10</i></p> <p><i>Recognise 100ths, as decimals and on a place value grid</i></p> <p><i>Making a whole, read and write decimals and compare decimal amounts</i></p> <p><i>Order decimals</i></p> <p><i>Round decimals to the nearest whole number</i></p> <p><i>Recognise halves and quarters as decimal amounts</i></p>	<p style="text-align: center;">Geometry Angles 2 weeks</p> <p><i>Recognise turns and angles</i></p> <p><i>Recognise right angles in shapes, compare, order and identify different types of angles</i></p>	<p style="text-align: center;">Geometry Symmetry 2 weeks</p> <p><i>Recognise horizontal and vertical symmetry, identify lines of symmetry in familiar shapes and patterns, complete symmetrical pictures and figures</i></p>	<p style="text-align: center;">Measurement – Money 2 Weeks</p> <p><i>Covert pounds and pence, add with money, subtract with money.</i></p> <p><i>Find change from amounts and use addition and subtraction to problem solve with money</i></p>	<p style="text-align: center;">Geometry Position and Direction 1 week</p> <p><i>Describe position and movement using grids, move shapes and objects using positional and directional vocabulary</i></p>	<p style="text-align: center;">Consolidation 2 weeks</p>

Year Five – LTP Maths

Autumn 13 weeks	<p>Number: Place Value 3 weeks</p> <p><i>Numbers to 100,000, rounding to 10,000, 1000, 100 and 10</i></p> <p><i>Compare and order numbers to 100,000</i></p> <p><i>Round numbers within 100,000</i></p> <p><i>Numbers to a million</i></p> <p><i>Count in 10,100s,1000s, 10,000 and 100,000</i></p> <p><i>Understand and use negative numbers</i></p> <p><i>Read and recognise amounts in Roman numerals</i></p>	<p>Number: Addition and Subtraction 2 weeks</p> <p><i>Add and subtract to up to 4 digits crossing 10 and 100 and using exchanging</i></p> <p><i>Add two 4-digit numbers with one exchange</i></p> <p><i>Subtract 3- and 4-digit numbers with and without exchanging</i></p> <p><i>Consolidate efficient calculation strategies for addition and subtraction</i></p>	<p>Statistics 2 weeks</p> <p><i>Interpret information from a range of charts and tables</i></p> <p><i>Read and interpret line graphs, create line graphs and use line graphs to solve problems</i></p> <p><i>Read and interpret tables including two-way tables and time tables</i></p>	<p>Measures Area and Perimeter 2 weeks</p> <p><i>Measure perimeter on a grid, rectangles and rectilinear shapes</i></p> <p><i>Calculate the area by counting squares</i></p> <p><i>Calculate the area of rectangles, compound shapes and irregular shapes</i></p>	<p style="text-align: center;">Number Multiplication and Division 4 weeks</p> <p><i>Understand and identify multiples and factors and prime numbers</i></p> <p><i>Recognise and investigate square numbers and cube numbers</i></p> <p style="text-align: center;"><i>Multiply by 10, 100 and 1000</i></p> <p style="text-align: center;"><i>Divide by 10, 100 and 1000</i></p> <p><i>Recognise multiples of 10, 100 and 1000</i></p>			
Spring 10 weeks	<p style="text-align: center;">Geometry Properties of Shape 3 Weeks</p> <p><i>Identify, compare and order angles</i></p> <p><i>Measure angles in degrees and develop skills in using a protractor</i></p> <p><i>Draw lines and angles accurately</i></p> <p><i>Calculate angles on a straight line</i></p> <p><i>Calculate angles around a point</i></p> <p><i>Recognise and describe features or triangles and quadrilaterals</i></p> <p><i>Calculate lengths and angles in shapes</i></p> <p><i>Recognise and identify regular and irregular polygons</i></p>		<p style="text-align: center;">Number Multiplication and Division 3 weeks</p> <p><i>Consolidate multiplication skills using a formal method to 4 digits</i></p> <p><i>Consolidate division skills using a formal method – up to division of a 4-digit number by a single digit number</i></p> <p><i>Divide with remainders</i></p>		<p>Geometry Position and Direction 1 week</p> <p><i>Describe identify position in the first quadrant</i></p> <p><i>Translate position using coordinates</i></p>	<p style="text-align: center;">Number Fractions 3 weeks</p> <p><i>Recognise equivalent fractions, recognise fractions greater than 1</i></p> <p><i>Convert improper fractions to mixed numbers and vice versa</i></p> <p><i>Compare and order mixed fractions less than 1</i></p> <p><i>Compare and order fractions greater than 1</i></p> <p><i>Add and subtract fractions (including 3 or more fractions)</i></p>		
Summer 12 weeks	<p style="text-align: center;">Number Fractions 2 weeks</p> <p><i>Multiply unit and non-unit fractions by an integer</i></p> <p><i>Calculate fractions of a quantity or an amount</i></p> <p><i>Fraction problem solving</i></p>	<p style="text-align: center;">Geometry Symmetry 1 week</p> <p><i>Identify lines of symmetry in a range of contexts</i></p> <p><i>Reflect shapes using coordinates</i></p>	<p style="text-align: center;">Number Decimals and Percentages 2 weeks</p> <p><i>Recognise decimals to two dp recognise decimals as fractions</i></p> <p><i>Understand and use 1000th</i></p> <p><i>Round decimals to different decimal places</i></p> <p><i>Order and compare decimals</i></p> <p><i>Understand percentages</i></p> <p><i>Link percentages to fractions and decimals</i></p>	<p style="text-align: center;">Measurement Converting Units 2 weeks</p> <p><i>Convert a range of measures</i></p> <p style="text-align: center;">Km -m</p> <p style="text-align: center;">Kg -g</p> <p style="text-align: center;">Litres and ml</p> <p><i>Understand metric units</i></p> <p><i>Understand imperial units</i></p>	<p style="text-align: center;">Number: Decimals 2 weeks</p> <p><i>Adding and subtracting decimals within 1</i></p> <p><i>Adding and subtracting decimals with the same number of dp and with different numbered dp</i></p> <p><i>Decimal sequences</i></p> <p><i>Multiply and divide decimals by 10, 100 and 1000</i></p>	<p style="text-align: center;">Measurement Volume 1 week</p> <p><i>What is volume</i></p> <p><i>Compare the volume of objects and containers</i></p> <p><i>Estimate volume and capacity</i></p>	<p style="text-align: center;">Measurement Time 1 week</p> <p><i>Convert units of time</i></p> <p><i>Interpret information from timetables</i></p>	<p style="text-align: center;">Consolidation 1 week</p>

Year Six – LTP Maths

Autumn 13 weeks	Number Place Value 2 weeks <i>Read, write and order numbers to 1,000,000</i> <i>Compare and order any numbers to 1,000,000</i> <i>Round numbers to 10, 100 and 1000</i> <i>Understand and use negative numbers in context and abstractly</i>		Number Addition and Subtraction 2 weeks <i>Add and subtract whole numbers with more than 4 digits</i> <i>Understand inverse operations (+ and -)</i> <i>Solve multistep addition and subtraction problems</i> <i>Add and subtract integers</i>		Number Multiplication and Division 3 weeks <i>Multiply up to 4 digits by a two-digit number using formal methods</i> <i>Divide 4 digits by 1 digit including with remainders</i> <i>Use formal method for Short division</i> <i>Use formal method for long division</i>		Geometry Position and Direction 1 week		Number Multiplication 2 weeks <i>Understand and identify common multiples, factors and prime numbers (to 100)</i> <i>Recognise and investigate square and cube numbers</i> <i>Understand the order of operations when solving problems</i>		Number Fractions 3 weeks <i>Identify equivalent fractions and simply fractions</i> <i>Order fractions on a number line</i> <i>Compare and order fractions with the same denominator and numerator</i> <i>Add and subtract fractions including mixed numbers</i> <i>Multiply fractions by fractions</i> <i>Multiply fractions by integers</i> <i>Divide fractions by integers</i> <i>Find fractions of amounts</i> <i>Use all 4 rules to solve fraction problems</i>	
Spring 10 weeks	SATS revision cycle Geometry 4 Quadrants, translation and Reflection	SATS revision cycle Number <i>Decimals – 4 rules</i>	SATS revision cycle Number <i>Percentages</i>	SATS revision cycle Number <i>FDP</i> <i>equivalence</i>	SATS revision cycle Statistics <i>algebra</i>	SATS revision cycle Measures <i>measures</i>	SATS revision cycle Geometry <i>shape</i>	SATS revision cycle Geometry <i>Area and perimeter</i>	SATS revision cycle Measures Volume and Capacity	SATS revision cycle Ratio and Proportion		
Summer 12 weeks	SATs Revision 4 weeks				SATS	2 weeks		2 weeks		Transition week	2 weeks	

National Curriculum

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Key Stage One

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower Key Stage Two

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12-multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper Key Stage Two

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a

variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.