# Bricknell Primary School

# Mathematics Long Term Plan 2022 - 2023

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics and a sense of enjoyment and curiosity about the subject.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains but pupils should make rich connections across mathematical ideas to develop core mathematical skills, fluency and applying mathematical reasoning and competence in solving increasingly sophisticated problems.

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.

Within maths, pupils will develop a deep understanding of Key Concepts and Second Order Concepts. These key concepts have been carefully considered and identified as the core knowledge and skills required to successfully achieve in maths. The key concepts are revisited and developed as the pupils move through the school to ensure their knowledge and skills are firmly embedded within their long term memory. These key concepts compliment work carried out across the school in line with the Aspiration Curriculum. The expectation is that, by the end of primary school, children will know and understand these key concepts and will give them a solid foundation ready to enter the maths curriculum at KS3.

In addition to the key concepts, the subject leaders have identified subject specific second order concepts. These can be used across all aspects of a subject to organise the substantive knowledge and skills taught.

**Key Concepts** :

- Number and Place Value
- Addition and Subtraction
- Multiplication and Division
- Fractions, Decimals and Percentages
- Geometry
- Statistics
- Shape
- Measures

**Second Order Concepts:** These can be used across all aspects of a subject to organise the substantiative knowledge taught.

- Arithmetic Skills
- Fluency
- Application
- Reasoning and Problem Solving

Upon the needs of each class, teachers will use their professional judgement as to whether they need to change the amount of time spent on each topic. Across each year group's long term plan, there is an example provided for the provision of 'Fast Maths'. Once again, teachers use their professional judgement to set questions which allow children to build on their previous knowledge and cover key arithmetic skills for their year group.

## As Mathematicians in Nursery, we will learn …..

| | |
|---|---|
| **Key Vocabulary** | Count, numbers, 2D shapes, 3D shapes, number line, subtract, take away, add, equals, more, fewer, money, time, big, small, tall, short, heavy, light, empty, full weight, measure, capacity. |

**Nursery Long Term Plan**

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Baseline | | | Number and Place Value | | | Addition and Subtraction | Number and Place Value | | Addition and Subtraction | | Measurement |
| **Spring** | Addition and Subtraction | Number and Place Value | | | Addition and Subtraction | | | Geometry : Shape and Space | | | Consolidation | |
| **Summer** | Geometry : Numerical Patterns | | Addition and Subtraction | | Number and Place Value | Geometry : Numerical Patterns | | | Number and Place Value | | | Consolidation |

## As Mathematicians in EYFS, we will learn …..

| | |
|---|---|
| **Prior Knowledge** | Children count reliably with numbers from 1-5, place them in order and say which number is one more or one less than a given number. Using quantities and objects, children add and subtract single digit numbers and count on or back to find the answer. Children begin to solve problems including doubling, halving and sharing. Children use every day language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects. Children recognise, create and describe patterns. Children use mathematical language to describe everyday objects and shapes. |
| **Key Vocabulary** | Count, numbers, 2D shapes, 3D shapes, number line, subtract, take away, add, equals, more, fewer, money, time, big, small, tall, short, heavy, light, empty, full weight, measure, capacity. |

**EYFS Long Term Plan**

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Baseline | | | Number and Place Value | | | Addition and Subtraction | Number and Place Value | | Addition and Subtraction | | Measurement : Time |
| **Spring** | Addition and Subtraction | Number and Place Value | | | Addition and Subtraction | | | Geometry : Shape and Space | | | Consolidation | |
| **Summer** | Geometry : Numerical Patterns | | Addition and Subtraction | Number and Place Value | Geometry : Numerical Patterns | | | | Measurement : Length, Weight and Volume | | | Consolidation |

## As Mathematicians in Year 1, we will learn …..

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| **Prior Knowledge** | Children count reliably with numbers from 1-10, place them in order and say which number is one more or one less than a given number. Using quantities and objects, children add and subtract two single digit numbers and count on or back to find the answer. Children solve problems including doubling, halving and sharing. Children use every day language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. Children recognise, create and describe patterns. Children use mathematical language to describe everyday objects and shapes. |
| **Key Vocabulary** | Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line. Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer, less than, most, least, count back, how many left, how much less is. Groups of, lots of, times, array, altogether, multiply, count. Share, share equally, one each, two each, group, groups of, lots of, arrays. |

## Year 1 Long Term Plan

**Year 1 Mathematics Overview**

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Fast Maths - practical approach Numbers within 10 | | | | | | Fast Maths - practical approach Numbers within 10 | | | | | |
| | Place Value (within 10) | | | | | | Addition and Subtraction (within 10) | | | | Shape | |
| **Spring** | Fast Maths Numbers within 10 | | | | | | Fast Maths Numbers within 20 | | | | | |
| | Place Value (within 20) | | | Addition and Subtraction (within 20) | | | Place Value (within 50) | | Time | | Money | |
| **Summer** | Fast Maths Numbers within 20 | | | | | | Fast Maths Numbers within 50 Counting in 2s, 5s and 10 | | | | | |
| | Multiplication and Division | | | Fraction | | Position and direction | Place Value (within 100) | | Length and Height | | Mass and volume | |

## As Mathematicians in Year 2, we will learn …..

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|---|---|
| **Prior Knowledge** | Children read and write numbers to 100 in numerals, including 1—20 in words. Children recall bonds to 10 and 20 and addition facts within 20. Children count to and across 100 forward and back from any number. Children count in multiples of 1, 2, 5 and 10. Children solve simple one step problems involving addition, using objects, number lines and pictorial representations. Children add with numbers up to 20 and represent and use subtraction facts to 20 and within 20. Children develop ways of recording using pictorial representations alongside practical equipment. Children use numbered number lines to add, by counting on in ones. Children read and write the addition (+) and equals (=) signs within number sentences. Children interpret addition number sentences and solve missing box problems. Children solve one step problems that involve addition and subtraction, using concrete objects and missing number problems. Children solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations arrays. Through grouping and sharing small quantities, children begin to understand, division, and finding simple fractions of objects, numbers and quantities. |
| **Key Vocabulary** | Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sun, tens, ones, partition, addition, column, tens boundary. Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer, less than, most, least, count back, how many left, how much less is, difference, count on, strategy, partition, tens, ones. Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, one, twice, three times. Share, share equally, one each, two each, group, groups of, lots of, arrays., divide, divided by, divided into, division, grouping, number line, left, left over. |

# Year 2 Long Term Plan

## Year 2 Mathematics Overview

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Fast Maths<br>Numbers within 20 facts | | | | | | Fast Maths<br>Numbers within 50 facts | | | | | |
| | Place value | | | | Addition and Subtraction | | | | | Shape | | |
| **Spring** | Fast Maths<br>Add and subtract 10, bonds to 100<br>Related facts<br>Add and subtract two two-digit numbers. | | | | | | Fast Maths<br>Related facts - inverse<br>Add and subtract two two-digit numbers.<br>Times table consolidation | | | | | |
| | Money | | Multiplication and division | | | | | Length and Height | | Mass, capacity and temperature | | |
| **Summer** | Fast Maths<br>Related facts - inverse<br>Add and subtract two two-digit numbers. | | | | | | Fast Maths<br>Related facts - inverse<br>Add and subtract two two-digit numbers. | | | | | |
| | Fractions | | | Time | | | Position and direction | | Statistics | | | |

## As Mathematicians in Year 3, we will learn …..

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|---|---|
| **Prior Knowledge** | Children add two digit numbers and ones, a two digit number and tens, add pairs of two two digit numbers and add three single digit numbers. Children know that adding can be done in any order. Children recall bonds to 20 and bonds of tens to 100. Children count in steps of 2, 3 and 5 and count in tens from any number. Children understand the place value of two digit numbers, (tens and ones). Children compare and order numbers to 100 using <, > and = signs. Children read and write numbers to at least 100 in numerals and words. Children recall and use subtraction facts to 20 fluently and derive and use related facts up to 100. Children subtract using concrete objects, pictorial representations, 100 squares and mentally, including: a two digit number and ones, a two digit number and two two digit numbers. Children show that subtraction of one number from another cannot be done in any order. Children recognise and use inverse relationship between addition and subtraction using this to check calculations and missing number problems. Children solve simple addition and subtraction problems including measures using concrete objects, pictorial representation and also applying their increasing knowledge of mental and written methods. Children count in steps of 2, 3 and 5 from zero and in tens from any number. Children recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables including recognising odd and even numbers. Children calculate mathematical statements for multiplication and division within the multiplication tables and write them using the x, ÷ and = signs. Children show that multiplication of two numbers can be done in any order, (commutative), and division of one number by another cannot. Children solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods and multiplication and division facts including problems in contexts. |
| **Key Vocabulary** | Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, vertical, carry, expanded, compact. Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer, less than, most, least, count back, how many left, how much less is, difference, count on, strategy, partition, tens, ones, exchange, decrease, hundreds, value, digit. Groups of, lots of, times, array, altogether, multiply, count., multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, one, twice, three times, partition, grid method, total, multiple, product, tens, units, value. Share, share equally, one each, two each, group, groups of, lots of, arrays., divide, divided by, divided into, division, grouping, number line, left, left over, inverse, exchange, remainder, multiple. |

# Year 3 Long Term Plan

## Year 3 Mathematics Overview

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Fast Maths<br>Adding an subtracting multiples of 10<br>Add and subtract two two-digit numbers.<br>Times table consolidation x2, x5 and x10 | | | | | | Fast Maths<br>Add and subtract two two-digit numbers.<br>Times table consolidation x2, x5 and x10 | | | | | |
| | Place Value | | | Addition and Subtraction | | | | | Multiplication and Division | | | |
| **Spring** | Fast Maths<br>Mental strategies within 100<br>Add and subtract two three-digit numbers.<br>Recall x2, x5 and x10 consolidation x3, x4 and x8<br>Find a half and a quarter | | | | | | Fast Maths<br>Mental strategies within 100<br>Add and subtract two three-digit numbers.<br>Recall x2, x5 and x10 consolidation x3, x4 and x8 | | | | | |
| | Multiplication and Division | | | Length and perimeter | | | Fractions | | | Mass and capacity | | |
| **Summer** | Fast Maths<br>Mental strategies within 100<br>Add and subtract two three-digit numbers.<br>Recall x2, x5 and x10 consolidation x3, x4 and x8 | | | | | | Fast Maths<br>Mental strategies within 100<br>Add and subtract two three-digit numbers.<br>Recall x2, x5, x10 x3, x4 and x8 | | | | | |
| | Fractions | | Money | | Time | | | shape | | Statistics | | Consolida-tion |

## As Mathematicians in Year 4, we will learn …..

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| **Prior Knowledge** | Children read and write numbers to 1000 in numerals and words. Children add two digit numbers mentally, add a three digit number and ones mentally, add a three digit number and tens mentally and add a three digit number and hundreds mentally. Children estimate answers to calculations using inverse to check answers. Children solve problems including missing number problems, using number facts, place value and more complex addition. Children recognise place value of each digit in three digit numbers. Children continue to practice a wide range of mental addition strategies, for example number bonds, adding the nearest multiple of 10, 100, 100 and adjusting, using near doubles, partitioning and recombining. Children subtract mentally a three digit number and ones, three digit number and tens, three digit number and hundreds. Children find 10 or 100 more or less than a given number. Children count up differences as a mental strategy when numbers are close together or near multiples of 10. Children recall and use multiplication facts for the 2, 3, 4, 5, 8 and 10 multiplication tables and multiply multiples of 10. Children write and calculate number statements using the multiplication tables they know including two digit x single digit drawing upon mental methods and progressing to reliable written methods. Children develop mental strategies using commutativity, (e.g. 4 x 12 x 5 = 4 x 5 x 12 = 20 x 12 = 240). Children solve simple problems in contexts deciding which operations and methods to use. Children develop efficient mental methods to solve a range of problems, e.g. using commutativity, (4 × 12 × 5 = 4 × 5 × 12 = 20 × 12 = 240) and for missing number problems (x 5 = 20, 3 x = 18, x = 32). Children recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables through doubling, connect the 2, 4 and 8s. Children write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two digit numbers times one digit numbers, using mental and progressing to formal written methods. Children develop efficient mental methods, for example using multiplication and division facts, (e.g. using 3 × 2 =6, 6 ÷ 3 = 2 and 2 = 6 ÷ 3), to derive related facts, (30 × 2 = 60, so 60 ÷ 3 = 20 and 20 = 60 ÷ 3). Children develop ability to partition numbers in different ways applying their knowledge of multiples number to find answers. |
| **Key Vocabulary** | Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, vertical, carry, expanded, compact, thousands, hundreds, digits, inverse. Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer, less than, most, least, count back, how many left, how much less is, difference, count on, strategy, partition, tens, ones, exchange, decrease, hundreds, value, digit, inverse. Groups of, lots of, times, array, altogether, multiply, count., multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, one, twice, three times, partition, grid method, total, multiple, product, tens, units, value, sets of, inverse. Share, share equally, one each, two each, group, groups of, lots of, arrays., divide, divided by, divided into, division, grouping, number line, left, left over, inverse, exchange, remainder, multiple, divisible, factor. |

# Year 4 Long Term Plan

## Year 4 Mathematics Overview

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two three-digit numbers.<br>Recall x2, x5, x10 x3, x4 and x8 | | | | | | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two three-digit numbers.<br>Recall x2, x5, x10 x3, x4 and x8 | | | | | |
| | Place Value | | | | Addition and Subtraction | | | Multiplication and Division | | | | |
| **Spring** | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two four-digit numbers.<br>Consolidation x6, x7, x9, x11 and x12<br>Recall x2, x5, x10 x3, x4 and x8 | | | | | | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two three-digit numbers. Short multiplication and division<br>Consolidation x6, x7, x9, x11 and x12<br>Recall x2, x5, x10 x3, x4 and x8<br>Fast Maths | | | | | |
| | Multiplication and Division | | Length and perimeter | | Area | | Fractions | | | Decimals | | |
| **Summer** | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two three-digit numbers.<br>Recall x2, x5, x10 x3, x4 and x8 x6, x7, x9, x11 and x12 | | | | | | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two three-digit numbers.<br>Recall x2, x5, x10 x3, x4 and x8 x6, x7, x9, x11 and x12 | | | | | |
| | Decimals | | Money | | Time | | Properties of shape | | Statistics | Position and direction | | Consolidation |

## As Mathematicians in Year 5, we will learn …..

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|---|---|
| **Prior Knowledge** | Children select the most appropriate method, mental, jottings or written and explain why. Children recognise the place value of each digit in a four-digit number. Children round any number to the nearest 10, 100 or 1000. Children estimate and use inverse operations to check answers. Children solve two step problems in context deciding which operations and methods to use and why. Children find 1000 more or less than a given number. Children continue to practice a wide range of mental addition strategies. For example, number bonds, add the nearest multiple of 10, 100, 1000 and adjust, use near doubles, partitioning and recombining. Children add numbers with up to 4 digits using the formal written method of column addition. Children subtract by counting on where numbers are close together or they are near to multiples of 10, 100 etc. Children solve simple measure and money problems involving fractions and decimals to two decimal places. Children count backwards through zero including negative numbers. Children recognise place value of each digit in a four digit number. Children solve number and practical problems that involve the above, with increasingly large positive numbers. Children count in multiples of 6, 7, 9, 25 and 1000. Children recall multiplication facts for all multiplication tables up to 12 x 12. Children solve problems with increasingly complex multiplication in a range of contexts. Children use place value, known and derived facts to multiply and divide mentally including, multiplying and dividing by 10 and 100 and 1000. Children practice to become fluent in the formal written method of short division with exact answers when dividing by a one digit number. Children practice mental methods and extend this to three digit numbers to derive facts. For example, 200 × 3 = 600 so 600 ÷ 3 = 200. |
| **Key Vocabulary** | Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, vertical, carry, expanded, compact, thousands, hundreds, digits, inverse, decimal places, decimal point, tenths, hundredths, thousandths. Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer, less than, most, least, count back, how many left, how much less is, difference, count on, strategy, partition, tens, ones, exchange, decrease, hundreds, value, digit, inverse, tenths, hundredths, decimal point, decimal. Groups of, lots of, times, array, altogether, multiply, count., multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, one, twice, three times, partition, grid method, total, multiple, product, tens, units, value, sets of, inverse, square, factor, integer, decimal, short/long multiplication, carry. Share, share equally, one each, two each, group, groups of, lots of, arrays., divide, divided by, divided into, division, grouping, number line, left, left over, inverse, exchange, remainder, multiple, divisible, factor, inverse, quotient, prime number, prime factors, composite number, (non-prime). |

# Year 5 Long Term Plan

## Year 5 Mathematics Overview

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two four-digit numbers.<br>Recall all timetables | | | | | | Fast Maths<br>Mental strategies within 1000 (rounding, comparing, calculating)<br>Add and subtract two four-digit numbers.<br>Recall all timetables | | | | | |
| | Place Value | | | Addition and Subtraction | | Multiplication and Division | | | Fractions | | | |
| **Spring** | Fast Maths<br>Mental strategies within 10000 (rounding, comparing, calculating)<br>Add and subtract two five-digit numbers.<br>Recall all timetables | | | | | | Fast Maths<br>Mental strategies within 10000 (rounding, comparing, calculating)<br>Add and subtract two five-digit numbers.<br>Recall all timetables<br>Fraction of a number | | | | | |
| | Multiplication and Division | | | Fractions | | Decimals & Percentages | | | Perimeter and Area | | Volume | Statistics |
| **Summer** | Fast Maths<br>Mental strategies within 10000 (rounding, comparing, calculating)<br>Add and subtract two five-digit numbers.<br>Recall all timetables<br>Fraction of a number & Fraction calculation<br>FDP equivalents | | | | | | Fast Maths<br>Mental strategies within 10000 (rounding, comparing, calculating)<br>Add and subtract two five-digit numbers.<br>Recall all timetables<br>Fraction of a number & Fraction calculation<br>FDP equivalents | | | | | |
| | Decimals | | | Converting units | | Shape | | | Position and direction | | Negative numbers | Consolidation |

## As Mathematicians in Year 6, we will learn …..

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|---|---|
| **Prior Knowledge** | Children add numbers mentally with increasingly large numbers, using and practicing a range of mental strategies, e.g. add the nearest multiple of 10, 100, 100 and adjust; use near doubles, inverse, partitioning and re-combining; using number bonds. Children use rounding to check answers and accuracy. Children solve multi step problems in contexts, deciding which operations and methods to use and why. Children read, write, order and compare numbers to at least 1 million and determine the value of each digit. Children round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Children add numbers with more than 4 digits using formal written method of columnar addition. Children subtract numbers mentally with increasingly large numbers. Children use rounding and estimation to check answers to calculations and determine, in a range of contexts, levels of accuracy. Children solve addition and subtraction multi step problems in context, deciding which operations and methods to use and why. Children count forwards or backwards in steps of powers of 10 for any given number up to 1 million. Children interpret negative numbers in context, counting forwards and backwards with positive and negative integers through 0. Children identify multiples and factors, using knowledge of multiplication tables to 12 x 12. Children solve problems where larger numbers are decomposed into their factors. Children multiply and divide integers and decimals by 10, 100 and 1000. Children recognise and use square and cube numbers and their notation. Children recall multiplication and division facts for all numbers up to 12 x 12. Children multiply and divide numbers mentally, drawing upon known facts. Children identify multiples and factors including finding all factor pairs of a number and common factors of two number. Children use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Children work out whether a number up to 100 is prime and recall prime numbers to 19. Children divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context. Children use multiplication and division as inverses. Children interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding, (e.g. 98 ÷ 4 = 24 r 2 = 241/2 = 24.5 ≈ 25). Children solve problems involving combinations of all four operations, including understanding of the equals sign, and including division for scaling by different fractions and problems involving simple rates. |
| **Key Vocabulary** | Add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, vertical, carry, expanded, compact, thousands, hundreds, digits, inverse, decimal places, decimal point, tenths, hundredths, thousandths. Equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer, less than, most, least, count back, how many left, how much less is, difference, count on, strategy, partition, tens, ones, exchange, decrease, hundreds, value, digit, inverse, tenths, hundredths, decimal point, decimal. Groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, one, twice, three times, partition, grid method, total, multiple, product, tens, units, value, sets of, inverse, square, factor, integer, decimal, short/long multiplication, carry, tenths, hundredths, decimal. Share, share equally, one each, two each, group, groups of, lots of, arrays., divide, divided by, divided into, division, grouping, number line, left, left over, inverse, exchange, remainder, multiple, divisible, factor, inverse, quotient, prime number, prime factors, composite number, common factor, (non-prime). |

# Year 6 Long Term Plan

## Year 6 Mathematics Overview

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Autumn** | Fast Maths<br>Mental strategies within 1000000 (rounding, comparing, calculating)<br>Add and subtract two five-digit numbers.<br>Short multiplication and division<br>Recall all timetables, related facts | | | | | | Fast Maths<br>Mental strategies within 1000000 (rounding, comparing, calculating)<br>Add and subtract two five-digit numbers.<br>Short multiplication and division<br>Recall all timetables, related facts | | | | | |
| | Place Value | | Four Operations | | | | | Fractions | | | | |
| **Spring** | Fast Maths<br>Mental strategies within 1000000 (rounding, comparing, calculating)<br>Four operations<br>Recall all timetables, related facts<br>Fraction calculation | | | | | | Fast Maths<br>Mental strategies within 1000000 (rounding, comparing, calculating)<br>Four operations<br>Add and subtract two six-digit numbers.<br>Recall all timetables, related facts<br>FDP calculation | | | | | |
| | Decimals | | Fractions, decimals and percentages | | Con-verting units | Shape | | Algebra | Ratio | Statistics | Position and direction | |
| **Summer** | Fast Maths<br>Mental strategies within 1000000 (rounding, comparing, calculating)<br>Four operations<br>Add and subtract two six-digit numbers.<br>Recall all timetables, related facts<br>FDP calculation | | | | | | Fast Maths | | | | | |
| | SATs Revision | | | SATs Week | Post SATs Project Work | | | | | | | |