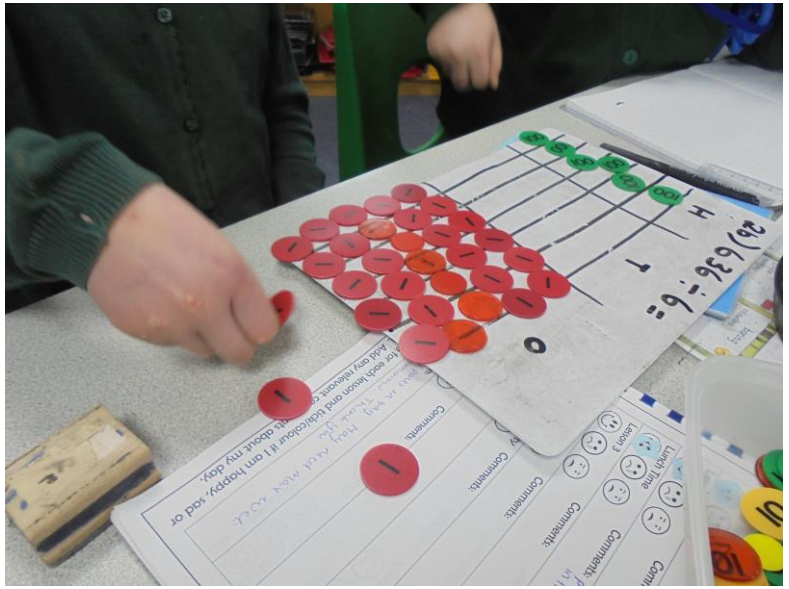
West Croft School

# Maths Curriculum Intent

At West Croft, we believe that children deserve a creative and enjoyable Mathematics curriculum which is rich in skills and knowledge, it ignites curiosity and prepares them well for everyday life and their futures. Our pupils display a positive approach to Maths and possess attitudes that embrace challenge.

We aim to ensure that all pupils:

*Become fluent in the fundamentals of Maths, including through varied and frequent practice, 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, justification or proof using mathematical language.

*Can solve problems by applying their Mathematics to a variety of contexts or problems

All sequences of Maths are adapted from the White Rose scheme. The sequences are mapped out for each year group to ensure a progressive curriculum coverage.

# Mathematics programme of study:
# Key stages 1 and 2 National Curriculum in England

## Purpose of study

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.

## Aims

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 nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

# Mathematics progression

Taken from White Rose

## Number: Place value

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| **Place Value: Counting** | • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number<br>• Count numbers to 100 in numerals; count in multiples of twos, fives and tens<br>**Autumn 1 Autumn 4 Spring 2 Summer 4** | • count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward<br>**Autumn 1** | • count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number<br>**Autumn 1 Autumn 3** | • count in multiples of 6, 7, 9, 25 and 1000<br>• count backwards through zero to include negative numbers<br>**Autumn 1** | • count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000<br>• count forwards and backwards with positive and negative whole numbers, including through zero<br>**Autumn 1** | |
| **Place Value: Represent** | • identify and represent numbers using objects and pictorial representations<br>• read and write numbers to 100 in numerals<br>• read and write numbers from 1 to 20 in numerals and words.<br>**Autumn 1 Autumn 4 Spring 2 Summer 4** | • read and write numbers to at least 100 in numerals and in words<br>• identify, represent and estimate numbers using different representations, including the number line<br>**Autumn 1** | • identify, represent and estimate numbers using different representations<br>• read and write numbers up to 1000 in numerals and in words<br>**Autumn 1** | • identify, represent and estimate numbers using different representations<br>• 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<br>**Autumn 1** | • read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit<br>• read Roman numerals to 1000 (M) and recognise years written in Roman numerals.<br>**Autumn 1** | • read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit<br>**Autumn 1** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Place Value : Use PV and Compare | • given a number, identify one more and one less<br><br>**Autumn 1**<br>**Autumn 4**<br>**Spring 2**<br>**Summer 4** | • recognise the place value of each digit in a two-digit number (tens, ones)<br>• compare and order numbers from 0 up to 100; use <, > and = signs<br><br>**Autumn 1** | • recognise the place value of each digit in a three-digit number (hundreds, tens, ones)<br>• compare and order numbers up to 1000<br><br>**Autumn 1** | • find 1000 more or less than a given number<br>• recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)<br>• order and compare numbers beyond 1000<br><br>**Autumn 1** | • (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit<br><br>**Autumn 1** | • (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit<br><br>**Autumn 1** |
| Place Value: Problems& Rounding | | • use place value and number facts to solve problems.<br><br>**Autumn 1** | • solve number problems and practical problems involving these ideas<br><br>**Autumn 1** | • round any number to the nearest 10, 100 or 1000<br>• solve number and practical problems that involve all of the above and with increasingly large positive numbers<br><br>**Autumn 1** | • interpret negative numbers in context<br>• round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000<br>• solve number problems and practical problems that involve all of the above<br><br>**Autumn 1** | • round any whole number to a required degree of accuracy<br>• use negative numbers in context, and calculate intervals across zero<br>• solve number and practical problems that involve all of the above<br><br>**Autumn 1** |

**Number: Addition and subtraction**

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Addition & Subtraction: Recall, Represent, Use | • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs<br>• represent and use number bonds and related subtraction facts within 20<br><br>**Autumn 2 Spring 1** | • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100<br>• show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot<br>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems<br><br>**Autumn 2**<br>. | • estimate the answer to a calculation and use inverse operations to check answers<br><br>**Autumn 2** | • estimate and use inverse operations to check answers to a calculation<br><br>**Autumn 2** | • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy<br><br>**Autumn 2** | |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Addition & Subtraction: Calculations | • add and subtract one-digit and two-digit numbers to 20, including zero<br><br>**Autumn 2**<br>**Spring 1** | • add and subtract numbers using concrete objects, pictorial representations, and mentally, including:<br>➢ a two-digit number and ones<br>➢ a two-digit number and tens<br>➢ two two-digit numbers<br>➢ adding three one-digit numbers<br><br>**Autumn 2** | • add and subtract numbers mentally, including:<br>➢ a three-digit number and ones<br>➢ a three-digit number and tens<br>➢ a three-digit number and hundreds<br>• add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction<br><br>**Autumn 2** | • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate<br><br>**Autumn 2** | • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)<br>• add and subtract numbers mentally with increasingly large numbers<br><br>**Autumn 2** | • perform mental calculations, including with mixed operations and large numbers<br>• use their knowledge of the order of operations to carry out calculations involving the four operations<br><br>**Autumn 2** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Addition & Subtraction: Solve Problems | • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9<br><br>**Autumn 2 Spring 1** | • solve problems with addition and subtraction:<br>➢ using concrete objects and pictorial representations, including those involving numbers, quantities and measures<br>➢ applying their increasing knowledge of mental and written methods<br><br>**Autumn 2** | • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction<br><br>**Autumn 2** | • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why<br><br>**Autumn 2** | • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why<br>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign<br><br>**Autumn 2** | • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why<br><br>**Autumn 2** |

## Number: Multiplication and division

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Multiplication & Division: Recall, Represent, Use | | • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers<br>• show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot<br>**Autumn 4 Spring 1** | • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables<br>**Autumn 3** | • recall multiplication and division facts for multiplication tables up to 12 × 12<br>• use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers<br>• recognise and use factor pairs and commutativity in mental calculations<br>**Autumn 4 Spring 1** | • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers<br>• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers<br>• establish whether a number up to 100 is prime and recall prime numbers up to 19<br>• recognise and use square numbers and cube numbers, and the notation for squared ($^2$) and cubed ($^3$)<br>**Autumn 4** | • identify common factors, common multiples and prime numbers<br>• use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.<br>**Autumn 4** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Multiplication & Division: Calculations | | • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs<br><br>**Autumn 4**<br>**Spring 1** | • 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<br><br>**Autumn 3**<br>**Spring 1** | • multiply two-digit and three-digit numbers by a one-digit number using formal written layout<br><br>**Spring 1** | • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers<br>• multiply and divide numbers mentally drawing upon known facts<br>• 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<br>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000<br><br>**Autumn 4**<br>**Spring 1**<br>**Summer 1** | • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication<br>• divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context<br>• divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context<br>• perform mental calculations, including with mixed operations and large numbers<br><br>**Autumn 2** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Multiplication & Division: Solve Problems | • solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher<br><br>**Summer 1** | • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts<br><br>**Autumn 4 Spring 1** | • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects<br><br>**Spring 1** | • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects<br><br>**Spring 1** | • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes<br>• solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates<br><br>**Autumn 4 Spring 1** | • solve problems involving addition, subtraction, multiplication and division<br><br>**Autumn 2** |
| Multiplication & Division: Combined Operations | | | | | • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign<br><br>**Spring 1** | • use their knowledge of the order of operations to carry out calculations involving the four operations<br><br>**Autumn 2** |

# Number: Fractions, Decimals and Percentages

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Fractions: Recognise and Write | • recognise, find and name a half as one of two equal parts of an object, shape or quantity<br>• recognise, find and name a quarter as one of four equal parts of an object, shape or quantity<br>**Summer 2** | • recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity<br>**Spring 4** | • count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10<br>• recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators<br>• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators<br>**Spring 5** | • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.<br>**Spring 3** | • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths<br>• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]<br>**Spring 2** | |
| Fractions: Compare | | • Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$<br>**Spring 4** | • recognise and show, using diagrams, equivalent fractions with small denominators<br>• compare and order unit fractions, and fractions with the same denominators<br>**Summer 1** | • recognise and show, using diagrams, families of common equivalent fractions<br>**Spring 3** | • compare and order fractions whose denominators are all multiples of the same number<br>**Spring 2** | • use common factors to simplify fractions; use common multiples to express fractions in the same denomination<br>• compare and order fractions, including fractions > 1<br>**Autumn 3** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Fractions: Calculations | | • write simple fractions for example, $\frac{1}{2}$ of 6 = 3<br><br>**Spring 4** | • add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7}+\frac{1}{7}=\frac{6}{7}$]<br><br>**Summer 1** | • add and subtract fractions with the same denominator<br><br>**Spring 3** | • add and subtract fractions with the same denominator and denominators that are multiples of the same number<br>• multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams<br><br>**Spring 3** | • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions<br>• multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4}\times\frac{1}{2}=\frac{1}{8}$]<br>• divide proper fractions by whole numbers [for example, $\frac{1}{3}\div 2=\frac{1}{6}$]<br><br>**Autumn 3** |
| Fractions: Solve Problems | | | • solve problems that involve all of the above<br><br>**Spring 5**<br>**Summer 1** | • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number<br><br>**Spring 3** | | |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Decimals: Recognise and Write | | | | • recognise and write decimal equivalents of any number of tenths or hundredths<br>• recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$<br><br>**Spring 4**<br>**Summer 1** | • read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]<br>• recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents<br><br>**Spring 3** | • identify the value of each digit in numbers given to three decimal places<br><br>**Spring 1** |
| Decimals: Compare | | | | • round decimals with one decimal place to the nearest whole number<br>• compare numbers with the same number of decimal places up to two decimal places<br><br>**Summer 1** | • round decimals with two decimal places to the nearest whole number and to one decimal place<br>• read, write, order and compare numbers with up to three decimal places<br><br>**Spring 3** | |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Decimals: Calculations & Problems | | | | • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths<br><br>**Spring 4** | • solve problems involving number up to three decimal places<br><br>**Summer 1** | • multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places<br>• multiply one-digit numbers with up to two decimal places by whole numbers<br>• use written division methods in cases where the answer has up to two decimal places<br>• solve problems which require answers to be rounded to specified degrees of accuracy<br><br>**Spring 1** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Fractions, Decimals and Percentages | | | | • solve simple measure and money problems involving fractions and decimals to two decimal places<br><br>Spring 3<br>Spring 4<br>Summer 1 | • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal<br>• solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25<br><br>Spring 3 | • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]<br>• recall and use equivalences between simple fractions, decimals and percentages, including in different contexts<br><br>Spring 1<br>Spring 2 |

**Number: Ratio and Proportion**

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Ratio and Proportion | | | | | | • solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts<br>• solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison<br>• solve problems involving similar shapes where the scale factor is known or can be found<br>• solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.<br><br>**Spring 6** |

**Number: Algebra**

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Algebra | • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9 | • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | • solve problems, including missing number problems | | | • use simple formulae<br>• generate and describe linear number sequences<br>• express missing number problems algebraically<br>• find pairs of numbers that satisfy an equation with two unknowns<br>• enumerate possibilities of combinations of two variables.<br><br>**Spring 3** |

Note – although algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3

# Measurement

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Measurement: Using Measures | • compare, describe and solve practical problems for:<br>➢ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]<br>➢ mass/weight [for example, heavy/light, heavier than, lighter than]<br>➢ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]<br>➢ time [for example, quicker, slower, earlier, later]<br>• measure and begin to record the following:<br>➢ lengths and heights<br>➢ mass/weight<br>➢ capacity and volume<br>➢ time (hours, minutes, seconds)<br><br>**Spring 3<br>Spring 4<br>Summer 6** | • choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels<br>• compare and order lengths, mass, volume/capacity and record the results using >, < and =<br><br>**Spring 5<br>Summer 4** | • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)<br><br>**Spring 4<br>Summer 4** | • Convert between different units of measure [for example, kilometre to metre; hour to minute]<br>• estimate, compare and calculate different measures<br><br>**Autumn 3<br>Spring 2<br>Summer 3** | • convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)<br>• understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints<br>• use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling<br><br>**Summer 1<br>Summer 4<br>Summer 5** | • solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate<br>• use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places<br>• convert between miles and kilometres<br><br>**Spring 4** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Measurement: Money | • recognise and know the value of different denominations of coins and notes<br><br>**Summer 5** | • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value<br>• find different combinations of coins that equal the same amounts of money<br>• solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change<br><br>**Autumn 3** | • add and subtract amounts of money to give change, using both £ and p in practical contexts<br><br>**Spring 2** | • estimate, compare and calculate different measures, including money in pounds and pence<br><br>**Summer 2** | • use all four operations to solve problems involving measure [for example, money]<br><br>**Summer 1** | |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Measurement: Time | • sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]<br>• recognise and use language relating to dates, including days of the week, weeks, months and years<br>• tell the time to the hour and half past the hour and draw the hands on a clock face to show these times<br><br>**Summer 6** | • compare and sequence intervals of time<br>• tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times<br>• know the number of minutes in an hour and the number of hours in a day<br><br>**Summer 3** | • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks<br>• estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight<br>• know the number of seconds in a minute and the number of days in each month, year and leap year<br>• compare durations of events [for example to calculate the time taken by particular events or tasks]<br><br>**Summer 2** | • read, write and convert time between analogue and digital 12- and 24-hour clocks<br>• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days<br><br>**Summer 3** | • solve problems involving converting between units of time<br><br>**Summer 4** | • use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa<br><br>**Year 5 Summer 4** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Measurement: Perimeter, Area, Volume | | | • measure the perimeter of simple 2-D shapes<br><br>**Spring 4** | • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres<br>• find the area of rectilinear shapes by counting squares<br><br>**Autumn 3**<br>**Spring 2** | • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres<br>• calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres ($cm^2$) and square metres ($m^2$) and estimate the area of irregular shapes<br>• estimate volume [for example, using 1 $cm^3$ blocks to build cuboids (including cubes)] and capacity [for example, using water]<br><br>**Autumn 5**<br>**Summer 5** | • recognise that shapes with the same areas can have different perimeters and vice versa<br>• recognise when it is possible to use formulae for area and volume of shapes<br>• calculate the area of parallelograms and triangles<br>• calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ($cm^3$) and cubic metres ($m^3$), and extending to other units [for example, $mm^3$ and $km^3$]<br><br>**Spring 5** |

## Geometry

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Geometry: 2-D Shapes | • recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]<br><br>**Autumn 3** | • identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line<br>• identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]<br>• compare and sort common 2-D shapes and everyday objects<br><br>**Spring 3** | • draw 2-D shapes<br><br>**Summer 3** | • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes<br>• identify lines of symmetry in 2-D shapes presented in different orientations<br><br>**Summer 5** | • distinguish between regular and irregular polygons based on reasoning about equal sides and angles.<br>• use the properties of rectangles to deduce related facts and find missing lengths and angles<br><br>**Summer 2** | • draw 2-D shapes using given dimensions and angles<br>• compare and classify geometric shapes based on their properties and sizes<br>• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius<br><br>**Summer 1** |
| Geometry: 3-D Shapes | • recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]<br><br>**Autumn 3** | • recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].<br>• compare and sort common 3-D shapes and everyday objects<br><br>**Spring 3** | • make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them<br><br>**Summer 3** | | • identify 3-D shapes, including cubes and other cuboids, from 2-D representations<br><br>**Summer 2** | • recognise, describe and build simple 3-D shapes, including making nets<br><br>**Summer 1** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Geometry: Angles & Lines | | | • recognise angles as a property of shape or a description of a turn<br>• identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle<br>• identify horizontal and vertical lines and pairs of perpendicular and parallel lines<br>**Summer 3** | • identify acute and obtuse angles and compare and order angles up to two right angles by size<br>• identify lines of symmetry in 2-D shapes presented in different orientations<br>• complete a simple symmetric figure with respect to a specific line of symmetry<br>**Summer 5** | • know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles<br>• draw given angles, and measure them in degrees<br>• identify:<br>➢ angles at a point and one whole turn (total 360°)<br>➢ angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)<br>➢ other multiples of 90°<br>**Summer 2** | • find unknown angles in any triangles, quadrilaterals, and regular polygons<br>• recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles<br>**Summer 1** |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Geometry: Position & Direction | • describe position, direction and movement, including whole, half, quarter and three-quarter turns<br><br>**Summer 3** | • order and arrange combinations of mathematical objects in patterns and sequences<br>• use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)<br><br>**Spring 3**<br>**Summer 1** | | • describe positions on a 2-D grid as coordinates in the first quadrant<br>• describe movements between positions as translations of a given unit to the left/right and up/down<br>• plot specified points and draw sides to complete a given polygon<br><br>**Summer 6** | • identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed<br><br>**Summer 3** | • describe positions on the full coordinate grid (all four quadrants)<br>• draw and translate simple shapes on the coordinate plane, and reflect them in the axes<br><br>**Autumn 4** |

**Statistics**

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| Statistics: Present and Interpret | | • interpret and construct simple pictograms, tally charts, block diagrams and simple tables<br>**Spring 2** | • interpret and present data using bar charts, pictograms and tables<br>**Spring 3** | • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs<br>**Summer 4** | • complete, read and interpret information in tables, including timetables<br>**Autumn 3** | • interpret and construct pie charts and line graphs and use these to solve problems<br>**Summer 3** |
| Statistics: Solve Problems | | • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity<br>• ask and answer questions about totalling and comparing categorical data<br>**Spring 2** | • solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables<br>**Spring 3** | • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs<br>**Summer 4** | • solve comparison, sum and difference problems using information presented in a line graph<br>**Autumn 3** | • calculate and interpret the mean as an average<br>**Summer 3** |

# Maths Curriculum map- Year 1

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Number: Place value (numbers to 10) | | | | Number: Addition and subtraction (numbers to 10) | | | | | Geometry: Shape | Number: Place value (within 20 | |
| Spring | Consolidation | Number: Addition and subtraction (within 20) | | | Number: Place value (within 50) | | | Measurement: Length and height | | Measurement: Weight and volume | | Consolidation |
| Summer | Consolidation | Number: Multiplication and division | | | Number: Fractions | | Geometry: Position and direction | Number: Place value (within 100) | | Measurement: Money | Measurement: Time | |

# Autumn term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Number: Place value (numbers to 10)

- Sort objects
- Count objects
- Represent objects
- Represent numbers to 10
- Count forwards
- Count backwards
- Count one more
- Count one less
- 1:1 correspondence
- Compare objects
- Introduce < > =
- Compare numbers
- Order objects
- Order numbers
- Ordinal numbers
- The number line

## Number: Addition and subtraction (numbers to 10)

- Introducing parts and wholes
- Part-whole model
- Addition symbol
- Fact families- addition facts
- Find number bonds for numbers within 10
- Systematic methods for number bonds to 10
- Number bonds to 10
- Compare number bonds
- Addition-adding together
- Addition- adding more
- Addition- using bonds
- Finding a part
- Subtraction- taking away
- Subtraction- find a part, breaking apart
- Fact families- the 8 facts
- Subtraction- counting back
- Subtraction- finding the difference
- Comparing addition and subtraction statements a+b=c
- Comparing addition and subtraction statements a+b > c+d

## Geometry: Shape

- Recognise and name 3D shapes
- Sort 3D shapes
- Recognise and name 2D shapes
- Sort 2D shapes
- Patterns with 2D and 3D shapes

## Number: Place value (within 20)

- Count forwards and backwards and Write numbers to 20 in words and numerals
- Numbers from 11-20
- Tens and ones
- Count one more and one less
- Compare groups of objects
- Compare numbers
- Order groups of objects
- Order numbers

# Spring term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Consolidation | Number: Addition and subtraction (within 20)<br>*Add by counting on<br>*Add ones by using number bonds<br>*Find and make number bonds<br>*Add by making 10<br>*Subtraction – not crossing 10<br>*Subtraction – crossing 10<br>*Related facts<br>*Compare number sentences | | | Number: Place value (within 50)<br>*Counting to 50 by making tens<br>*Numbers to 50<br>*Counting forwards and backwards within 50<br>*Tens and ones<br>*Represent numbers to 50<br>*One more, one less<br>*Compare objects within 50<br>*Compare numbers within 50<br>*Order numbers within 50<br>*Count in 2s<br>*Count in 5s | | | Measurement: Length and height<br>*Compare lengths<br>*Compare heights<br>*Compare lengths and heights<br>*Measuring lengths (non-standard)<br>*Measure lengths<br>*Introducing the ruler<br>* Adding length problems<br>*Subtracting length problems | | Measurement: Weight and volume<br>*Introduce weight and mass<br>*Measure mass<br>*Compare mass<br>*Weight and mass problems<br>*Introduce capacity and volume<br>*Measure capacity<br>*Compare capacity | | Consolidation |

# Summer term

| | Wk1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consolidation | | Number: Multiplication and division<br>•Count in 2s R<br>•Count in 5s R<br>•Count in 10s<br>•Make equal groups<br>•Add equal groups<br>•Make arrays<br>•Make doubles<br>•Make equal groups- grouping<br>•Make equal groups- sharing | | | Number: Fractions<br>•making a half<br>•Making a whole<br>•Find a half<br>•Find a half of a quantity<br>•Making a quarter<br>•Find a quarter<br>•Find a quarter of a quantity | | Geometry: Position and direction<br>•Describe turns<br>•Describe position | Number: Place value (within 100)<br>•Count to 100 making tens<br>•Counting to 100<br>•Counting forwards and backwards within 100<br>•Introducing the 100square<br>•Partitioning numbers<br>•Comparing numbers<br>•Ordering numbers<br>•One more, one less | | Measurement: Money<br>•Recognising coins<br>•Recognising notes<br>•Counting in coins | Measurement: Time<br>•Before and after<br>•Dates<br>•Time to the hour<br>•Time to the half hour<br>•Writing time<br>•Comparing time | |

# Maths Curriculum map- Year 2

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Number: Place value | | Number: Addition and subtraction | | Measurement: Money | | Geometry: Position and direction | | Number: Fractions | | Number: Multiplication and division | |
| Spring | Number: Multiplication and division | | Number: Place value | Measurement: Length and height | | Geometry: Properties of shape | | | Number: Addition and subtraction | | Problems solving | Investigations |
| Summer | Number: Multiplication and division | Measurement: Time | | Number: Fractions | Statistics | | Number: Addition and subtraction | Measurement: Mass, capacity and temperature | | | Investigations | Consolidation |

# Autumn term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place value<br>•Counting forwards and backwards within 20. R<br>•Tens and ones within 20 R<br>•Counting forwards and backwards within 50. R<br>•Tens and ones within 50. R<br>Compare numbers within 50. R<br>•Count objects to 100.<br>•Read and write numbers to 100 in numerals and words.<br>•Represent numbers to 100 activity<br>•Represent numbers to 100.<br>•Tens and ones using a part-whole model. | | Number: Addition and subtraction<br>•Fact families- addition and subtraction bonds to 20.<br>•Check calculations<br>•Compare number sentences<br>•Know your bonds<br>•Related facts<br>•Bonds to 100 (tens)<br>•Add and subtract 1s<br>•10 more and 10 less<br>•Add and subtract 10s<br>•Add by making 10. | | Measurement: Money<br>•Recognising coins and notes<br>•Count money -pence<br>•Count money- pounds (notes and coins)<br>•Count money – notes and coins<br>•Select money<br>•Make the same amount<br>•Compare money<br>•Find the total<br>•Find the difference<br>•Find change<br>•Two step problems. | | Geometry: Position and direction<br>•Describe position (1)<br>•Describe position (2)<br>•Problem solving with position<br>•Describe movement activity<br>•Describe movement<br>•Describe turns<br>•Describe movement and turns activity<br>•Describe movement and turns<br>•Making patterns with shape | | Number: Fractions<br>•Working with parts and wholes activity<br>•Make equal parts<br>•Recognise a half<br>•Find a half<br>•Recognise a quarter<br>•Find a quarter<br>•Recognise a third<br>•Unit fractions<br>•Non-unit fractions. | | Number: Multiplication and division<br>•make equal groups activity<br>•Make equal groups<br>•Redistribute from unequal to equal groups activity<br>•Add equal groups<br>•Make arrays<br>•Recognise equal groups<br>•make equal groups<br>•Add equal groups<br>•Multiplication sentences using the X symbol<br>•Multiplication sentences from pictures | |

# Spring term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| <u>Number: Multiplication and division</u><br>*Use arrays<br>*Make doubles<br>*2 times table<br>*5 times table<br>*10 times table<br>*Make equal groups-sharing<br>*Make equal groups-sharing<br>*Make equal groups-grouping<br>*Make equal groups- grouping<br>*Sharing and grouping activity | | <u>Number: Place value</u><br>*Tens and ones using addition<br>*Use a place value chart<br>*Compare objects<br>*Compare numbers<br>*Order objects and numbers | <u>Measurement: Length and height</u><br>*Compare lengths and heights<br>*Measure lengths (1)<br>*Measure lengths (2)<br>*Measure length (cm)<br>*Measure length (m)<br>*Compare lengths<br>*Order lengths<br>*Four operations with lengths<br>*Problems solving with lengths | <u>Geometry: Properties of shape</u><br>*Recognise 2D and 3D shapes<br>*Make 2D and 3D shapes activity<br>*Count sides on 2D shapes<br>*Count vertices on 2D shapes<br>*Draw 2D shapes<br>*Lines of symmetry (1)<br>*Lines of symmetry (2)<br>*Sort 2D shapes<br>*Make patterns with 2D shapes<br>*Count faces on 3D shapes<br>*Count edges on 3D shapes<br>*Count vertices on 3D shapes<br>*Sort 3D shapes<br>*Make patterns with 3D shapes. | | | <u>Number: Addition and subtraction</u><br>*Add a 2digit and 1-digit number- crossing ten<br>*Subtraction- crossing 10<br>*Subtract a 1-digit number from a 2-digit number – crossing ten<br>*Find and make number bonds<br>*Bonds to 100 (tens and ones)<br>*Add three 1-digit numbers | | Problem solving | Investigations | Consolidation |

# Summer term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| <u>Number: Multiplication and division</u><br>*Divide by 2<br>*Odd and even numbers<br>*Divide by 5<br>*Divide by 10 | <u>Measurement: Time</u><br>*Telling time to the hour<br>*Telling time to the half past<br>*O clock and half past<br>*Quarter past and quarter to<br>*Telling time to 5 minutes<br>*Writing time<br>*Hours and days<br>*Find durations of time<br>*Compare durations of time | | <u>Number: Fractions</u><br>*Equivalence of a half and 2 quarters<br>*Find three quarters<br>*Count in fractions<br>*Problem solving with fractions | <u>Statistics</u><br>*Make tally charts activity<br>*Make tally charts<br>*Draw pictograms (1-1) activity<br>*Draw pictograms (1-1)<br>*Interpret pictograms (1-1)<br>*Draw pictograms (2, 5 and 10) activity<br>*Draw pictograms (2, 5 and 10)<br>*Interpret pictograms (2, 5 and 10)<br>*Block diagrams | | <u>Number: Addition and subtraction</u><br>*Add two 2-digit numbers-not crossing ten- add ones and tens<br>*Add two 2-digit numbers-crossing ten- add ones and tens<br>*Subtract a 2-digit number from a 2-digit number- not crossing ten<br>*Subtract a 2-digit number from a 2-digit number- crossing ten- subtract ones and tens<br>*Mixed addition and subtraction activity | <u>Measurement: Mass, capacity and temperature</u><br>*Introduce weight and mass<br>*Measure mass<br>*Compare mass<br>*Measure mass in grams<br>*Measure mass in kilograms<br>*Introduce capacity and volume<br>*Measure capacity<br>*Compare volume<br>*Millilitres<br>*Litres<br>*Four operations with mass<br>*Four operations with volume<br>*Temperature activity<br>*Temperature | | Investigations | Consolidation |

# Maths Curriculum map- Year 3

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Number: Place value | | | Number: Addition and subtraction | | Measurement: Money | Number: Fractions | | Measurement: Time | Number: Multiplication and division | | Consolidation |
| Spring | Number: Multiplication and division | | | Number: Fractions | | Measurement: Length and perimeter | | | Number: Addition and subtraction | | Measurement: Time | |
| Summer | Number: Addition and subtraction | Number: Multiplication and division | | Number: Fractions | Statistics | Geometry: Shape | | | Measurement: Mass and capacity | | | Consolidation |

# Autumn Term

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | **Number: Place value**<br>•Represent numbers to 100 R<br>•Tens and ones using addition R<br>•Hundreds<br>•Numbers to 1000<br>•100s, 10s, 1s (1)<br>•100s, 10s, 1s (2)<br>•Number line to 100 R<br>•number line to 1000<br>•Find 1, 10, 100 more and less<br>•Compare objects<br>•Compare numbers<br>•Order numbers<br>•Count in 50s | | | **Number: Addition and subtraction**<br>•Add and subtract multiples of 100.<br>•Add and subtract 1s R<br>•Add and subtract 3digit and 1-digit numbers- not crossing ten<br>•Add 1-digit and 2-digit number – crossing ten R<br>•Add 3-digits and 1-digit numbers-crossing ten<br>•Subtract 1-digit from 2-digit numbers- crossing ten R<br>•subtract 1-digit from 3-digit-crossing ten<br>•Add and subtract 3-digit and 2-digit numbers -not crossing 100.<br>•Add 3-digit and 2-digit numbers-crossing 100<br>•subtract a 2-digit from a 3-digit -crossing 100. | | **Measurement: Money**<br>•Count money (pence) R<br>•Count money (pounds) R<br>•Pounds and pence<br>•convert pound and pence<br>•Add money<br>•Subtract money<br>•Give change | **Number: Fractions**<br>•Make equal parts R<br>•Recognise a half R<br>•Find a half R<br>•Recognise a quarter R<br>•Find a quarter R<br>•recognise thirds R<br>•Find a third R<br>•Unit fractions R<br>•Non-unit fractions R<br>•Equivalence of a half and 2 quarters R<br>•Count in fractions R | | **Measurement: Time**<br>•O clock and half past R<br>•Quarter past and quarter to R<br>•Months and years<br>•Hours in a day<br>•Telling the time to 5 minutes | **Number: Multiplication and division**<br>•Multiplication equal groups<br>•Multiplication using the x symbol R<br>•Using arrays R<br>•2 times table R<br>•5 times table R<br>•Make equal groups-sharing R<br>•Make equal groups-grouping R<br>•Divide by 2 R<br>•Divide by 5 R<br>Divide by 10 R | | **Consolidation** |

# Spring Term

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spring | **Number: Multiplication and division**<br>•Multiply by 3<br>•Divide by 3<br>•The 3 times table<br>•Multiply by 4<br>•Divide by 4<br>•The 4 times table<br>•Multiply by 8<br>•Divide by 8<br>•The 8 times table<br>•Consolidate 2, 4, 8 times table R<br>•Comparing statements<br>•Related calculations<br>•Multiply 2-digits by 1-digit – no exchange | | | **Number: Fractions**<br>•Making the whole<br>•tenths<br>•Count in tenths<br>•Tenths as decimals<br>•Fractions on a number line<br>•Fractions of a set of objects (1)<br>•Fractions of a set of objects (2)<br>•Fractions of a set of objects (3)<br>•Equivalent fractions (1)<br>•Equivalent fractions (2) | | **Measurements: Length and perimeter**<br>•Measure length<br>•Measure length (m) R<br>•Equivalent lengths m and cm<br>•Equivalent lengths mm and cm<br>•Compare lengths R<br>•Compare lengths<br>•Add lengths<br>•Subtract lengths<br>•Measure perimeter<br>•Calculate perimeter | | | **Number: Addition and subtraction**<br>•Add and subtract 100s<br>•spot the pattern- making it explicit<br>•Add two 2-digit numbers- crossing 10- add tens and ones R<br>•Subtract a 2-digit number from a 2-digit number – crossing 10- subtract tens and ones R<br>•Add and subtract 2 digit and 3-digit numbers- not crossing 10 or 100.<br>•Add 2-digit and 3-digit numbers- crossing 10 or 100<br>•Add two 3-digit numbers-not crossing 10 or 100<br>•Add two 3-digit numbers- crossing 10 or 100. | | **Measurements: Time**<br>•Telling the time to the minute<br>•Using am and pm<br>•24-hour clock<br>•Finding the duration<br>•Comparing durations<br>•Start and end times<br>•Measuring time in seconds<br>•Problem solving with time. |

# Summer Term

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Number: Addition and subtraction**<br>*Subtract a 3-digit number from a 3-digit number- no exchange<br>*Subtract a 3-digit number from a 3-digit number- exchange<br>*Estimate answers to calculations<br>*Check answers<br>*Mixed addition and subtraction problems | **Number: Multiplication and division**<br>*Multiply 2-digits by 1digit – exchange<br>*Divide 2-digits by 1-digit (1)<br>*Divide 2-digits by 1-digit (2)<br>*Divide 100 into 2, 4, 5 and 10 equal parts<br>*Divide with remainders<br>*Divide 2-digits by 1-digit (3)<br>*Scaling<br>*How many ways? | **Number: Fractions**<br>*Equivalent fractions (3)<br>*Compare fractions<br>*Order fractions<br>*Add fractions<br>*Subtract fractions | **Statistics**<br>*Make tally charts R<br>*Draw pictograms (2, 5 and 10) R<br>*Interpret pictograms (2, 5 and 10) R<br>*Draw bar charts<br>*Bar charts<br>*Tables | **Geometry: Shape**<br>*Turns and angles<br>*Right angles in shapes<br>*Compare angles<br>*Draw accurately<br>*Horizontal and vertical<br>*Parallel and perpendicular<br>*Recognise and describe 2D shapes<br>*Recognise and describe 3D shapes<br>*Make 3D shapes | **Measurement: Mass and capacity**<br>*Compare mass R<br>*Measure mass (1)<br>*Measure mass (2)<br>*Add and subtract mass<br>*Measure capacity<br>*Compare volume R<br>*Measure capacity (1)<br>*Measure capacity (2)<br>*Compare capacity<br>*Add and subtract capacity<br>*Temperature R | **Consolidation** |

# Maths Curriculum map- Year 4

| | Wk 1 | Wk 2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk 10 | Wk 11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Number: Place value | | Number: Addition and subtraction | | Measurement: Length and Perimeter | | Number: Multiplication and division | | | Number: Fractions | | Measurement: Time |
| Spring | Number: Place value | | Number: Addition and subtraction | Number: Multiplication and division | | | Measurement: Area | Number: Fractions | | Number: Decimals | | Consolidation |
| Summer | Number: Decimals | | | Measurement: Money | Geometry: Shape | | Measurement: Time | | Statistics | Geometry: Position and direction | | Consolidation |

# Autumn Term

| Number: Place value | Number: Addition and subtraction | Measurement: Length and Perimeter | Number: Multiplication and division | Number: Fractions | Measurement: Time |
|---|---|---|---|---|---|
| *Numbers to 1000 R<br>*100s, 10s, 1s R<br>*Number line to 1000 R<br>*Round to the nearest 10<br>*Round to the nearest 100<br>*Count in 1000s<br>*Represent numbers to 1000<br>*1000s, 100s, 10s, 1s<br>*Partitioning<br>*The number line up to 10,000 | *Add and subtract 1s, 10s, 100s and 1000s<br>*Add two 3-digit numbers- not crossing 10 or 100 R<br>*Add two 4-digit numbers – no exchange<br>*Add two 3-digit numbers- crossing 10 or 100 R<br>*Add two 4-digit numbers- one exchange<br>*Add two 4-digit numbers- more than one exchange<br>*Subtract 3-digit number from a 3-digit number – no exchange R<br>*Subtract two 4-digit numbers- no exchange<br>*Subtract a 3-digit from a 3-digit number- exchange R<br>*Subtract two 4-digi numbers – no exchange<br>*Subtract a 3-digit from a 3-digit – exchange R | *Equivalent lengths m and cm R<br>*Equivalent lengths mm and cm R<br>*Kilometres<br>*Add lengths R<br>*Subtract lengths R<br>*Measure perimeter R<br>*Perimeter on a grid<br>*Perimeter of a rectangle<br>*Perimeter of rectilinear shapes | *Multiply by 10<br>*Multiply by 100<br>*Divide by 10<br>*Divide by 100<br>*Multiply by 1 and 0<br>*Divide by 1 and itself.<br>*Multiply and divide by 3 R<br>*The 3 times table R<br>* Multiply and divide by 6<br>* 6 times table and division facts<br>* Multiply and divide by 9<br>*9 times table and division facts<br>*Multiply and divide by 7<br>*7 times table and division facts | *Unit and non-unit fraction R<br>*What is a fraction?<br>*Tenths R<br>*Count in tenths R<br>*Equivalent fractions (1) R<br>*Equivalent fractions (2) R<br>*Equivalent fractions (1)<br>*Equivalent fractions (2)<br>*Fractions greater than 1<br>*Count in fractions | *Telling the time to 5 minutes R<br>*Telling the time to the minute R<br>*Using am and pm R<br>*24-hour clock R<br>* Hours, minutes and seconds |

# Spring Term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number: Place value**<br>•Find 1, 10, 100 more/ less R<br>•1,000 more/less<br>•Compare 4-digit numbers<br>•Order numbers<br>•Round to the nearest 1000<br>•Count in 25s<br>•Negative numbers<br>•Roman numerals | **Number: Addition and subtraction**<br>•Subtract two 4-digit numbers- one exchange<br>•Subtract two 4-digit numbers- more than one exchange<br>•Efficient subtraction<br>•Estimate answers<br>•Checking strategies | **Number: Multiplication and division**<br>•11 and 12 times table<br>•Multiply 3 numbers<br>•Factor pairs<br>•Efficient multiplication<br>•Written methods<br>•Multiply 2-digit by 1-digit R<br>•Multiply 2-digits by 1-digit<br>•Multiply 3-digits by 1-digit<br>•Divide 2-digits by 1-digit (2) R<br>•Divide 2-digits by 1-digit (1)<br>•Divide 2-digits by 1-digit (3) R<br>•Divide 2-digits by 1-digit (2)<br>Divide 3-digits by 1-digit<br>•Correspondence problems | **Measurement: Area**<br>•What is area?<br>•Counting squares<br>•Making shapes<br>•Comparing area | **Number: Fractions**<br>•Add fractions R<br>•Add 2 or more fractions<br>• Subtract fractions R<br>•Subtract 2 fractions<br>•Subtract from whole amounts<br>•Fractions of a set amount (1) R<br>•Fractions of a set amount (2) R<br>•Calculate fractions of a quantity<br>•Problem solving – calculate quantities | **Number: Decimals**<br>•Tenths and hundreds<br>•Recognise tenths and hundreds<br>• Tenths as decimals<br>•Tenths on a place value grid<br>•Tenths on a number line<br>•Divide 1-digit by 10<br>•Divide 2-digits by 10 | Consolidation |

# Summer Term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number: Decimals**<br>•Hundredths<br>•Hundredths as decimals<br>•Hundredths on a place value grid<br>•Divide 1 or 2-digit by 100<br>•Bonds to 10 and 100 R<br>•Make a whole<br>•Write decimals<br>•Compare decimals<br>•Order decimals<br>•Round decimals<br>•Halves and quarters | | | **Measurement: Money**<br>•Pounds and pence<br>•Ordering money<br>•Estimating money<br>•Convert pounds and pence R<br>•Add money R<br>•Subtract money R<br>•Find change R<br>•Working with money<br>•Four operations | | **Geometry: Shape**<br>•Turns and angles R<br>•Right angles in shapes R<br>•Compare angles R<br>•Identify angles<br>•Compare and order angles<br>•Recognise and describe 2D shapes R<br>•Triangles<br>•Quadrilaterals<br>•Symmetry<br>•Horizontal and vertical R<br>•Lines of symmetry<br>Complete a symmetric figure | | **Measurement: Time**<br>•Years, months, weeks and days<br>•Analogue to digital<br>•Analogue to digital – 12 hour<br>•Analogue to digital- 24 hour | **Statistics**<br>•Interpret charts<br>•Comparison, sum and difference<br>•Introducing line graphs<br>•Line graphs | **Geometry: Position and direction**<br>•Describe position<br>•Draw on a grid<br>•Move on a grid<br>•Describe movement on a grid | Consolidation |

# Maths Curriculum map- Year 5

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autumn | Number: Place value | | | Number: Addition and subtraction | | Number: Multiplication and division | | Measurement: Perimeter and area | | Geometry: Shape | | |
| Spring | Number: Multiplication and division | | | Number: Fractions | | Statistics | | Number: Decimals | | | Measurement: Volume | Consolidation |
| Summer | Number: Multiplication and division | | | Number: Fractions | | Geometry: Position and direction | | Number: Decimals and percentages | | Measurement: Converting units | | Consolidation |

# Autumn Term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|

## Number: Place value

- 1000s, 100s, 10s and 1s R
- Numbers to 10,000
- Rounding to the nearest 10 R
- Rounding to the nearest 100 R
- Rounding to 10, 100 and 1000
- Numbers to 100,000
- Compare and order numbers to 100,000
- Round numbers within 100,000
- Numbers to a million
- Counting in 10s, 100s, 1000s, 10,000s and 100,000s
- Compare and order numbers to one million
- Round numbers to one million
- Negative numbers
- Roman numerals

## Number: Addition and subtraction

- Add two 4-digit numbers- one exchange R
- Add two 4-digit numbers- more than one exchange R
- Add whole numbers with more than 4 digits (Column method)
- Subtract two 4-digit numbers- one exchange R
- Subtract two 4-digit numbers- more than one exchange R
- Subtract whole numbers with more than 4 digits (column method)
- Round to estimate and approximate
- Inverse operations (addition and subtraction)
- Multi step addition and subtraction problems

## Number: Multiplication and division

- Multiples
- Factors
- Common factors
- Prime numbers
- Square numbers
- Cube numbers
- multiply by 10 R
- Multiply by 100 R
- multiply by 10, 100 and 1000

## Measurement: Perimeter and area

- Measure perimeter
- Perimeter on a grid R
- Perimeter of rectangles R
- Perimeter of rectilinear shapes R
- Calculate perimeter
- Counting squares R
- Area of rectangles
- Area of compound shapes
- Area of irregular shapes

## Geometry: Shape

- Identify angles R
- Compare and order angles R
- Measuring angles in degrees
- Measuring with a protractor (1)
- Measuring with a protractor (2)
- Drawing lines and angles accurately
- Calculating angles on a straight line
- Calculating angles around a point
- Triangles R
- Quadrilaterals R
- Calculating lengths and angles in shapes
- Regular and irregular polygons
- Reasoning about 3D shapes

# Spring Term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number: Multiplication and division**<br>•Divide by 10 R<br>•Divide by 100 R<br>•Divide by 10, 100 and 1000<br>•Multiples of 10, 100 and 1000<br>•Multiply 2-digits by 1-digit R<br>•Multiply 3-digits by 1-digit R<br>• Multiply 4-digits by 1-digit | | **Number: Fractions**<br>•What is a fraction? R<br>•Equivalent fractions R<br>•Equivalent fractions<br>•Fractions greater than 1 R<br>•Improper fractions to mixed numbers<br>•Mixed numbers to improper fractions<br>•Number sequences<br>•Compare and order fractions less than 1 (first part of the worksheet)<br>•Compare and order fractions less than 1 (2nd part of the worksheet)<br>•Compare and order fractions greater than 1 (1st part of the worksheet)<br>•Compare and order fractions greater than 1 (2nd part of the worksheet)<br>•Add and subtract fractions<br>•Add fractions within 1<br>•Add 3 or more fractions | | | **Statistics**<br>•Interpret charts R<br>•Comparison, sum and difference R<br>•Introduce line graphs R<br>•Read and interpret line graphs<br>•Draw line graphs<br>•Use line graphs to solve problems<br>•Read and interpret tables<br>•Two-way tables<br>•Timetables | | **Number: Decimals**<br>•Decimals up to 2dp<br>•Fractions as decimals (1)<br>•Fractions as decimals (2)<br>•Understand thousandths<br>• Thousandths as decimals<br>•Rounding decimals<br>•Order and compare decimals<br>•Adding decimals within 1<br>•Subtracting decimals within 1<br>•Complements to 1<br>• Adding decimals- crossing the whole<br>•Adding decimals with the same number of decimal places<br>•Subtracting decimals with the same number of decimal places<br>•Adding decimals with a different number of decimal places | | **Measurement: Volume**<br>•What is volume?<br>•Compare volume<br>•Estimate volume<br>•Estimate capacity | **Consolidation** |

# Summer Term

| | Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Number: Multiplication and division**<br>•Multiply 2 digits (area model) first part of the worksheet<br>•Multiply 2-digits (area model) 2nd part of the worksheet<br>•multiply 2-digits by 2-digits<br>•Multiply 3-digits by 2-digits<br>•Multiply 4-digits by 2-digits<br>•Divide 2-digits by 1-digit (1) R<br>•Divide 2-digits by 1-digit (2) R<br>•Divide 3-digits by 1-digit<br>•Divide 4-digits by 1-digit<br>•Divide with remainders | | **Number: Fractions**<br>•Add fractions<br>•Add mixed numbers<br>•Subtract fractions<br>•Subtract mixed numbers<br>•Subtraction- breaking the whole<br>•Subtract two mixed numbers<br>•Multiply unit fractions by an integer<br>•Multiply non-unit fractions by an integer<br>•Multiply mixed numbers by an integer<br>•Calculate fractions of a quantity R<br>•Fraction of an amount<br>•Using fractions as operators<br>•Fraction problem solving | | | **Geometry: Position and direction**<br>•Describe position R<br>•Draw on a grid R<br>•Position in the first quadrant<br>•Translation<br>•Translation with coordinates<br>•Line of symmetry R<br>•Complete a symmetric figure R<br>•Reflection<br>•Reflection with coordinates | | **Number: Decimals and percentages**<br>•Adding and subtracting wholes and decimals<br>•Decimal sequences<br>•Multiplying decimals by 10, 100 and 1000<br>•Dividing decimals by 10, 100 and 1000<br>•Understand percentages<br>•Percentages as fractions and decimals<br>•Equivalent F.D. P | | **Measurements: Converting units**<br>•kilometres R<br>•Kilograms and kilometres<br>•Millimetres and millilitres<br>•Metric units<br>•Imperial units<br>•Converting units of time<br>•Timetables | | **Consolidation** |

# Maths Curriculum map- Year 6

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place value | | Number: Addition, subtraction, Multiplication, Division | | | | | Number: Fractions | | | | Consolidation |
| Number: Decimals | | Number: Percentages | | Number: Algebra | | Measurement: Converting units | Measurement: Perimeter, Area and volume | | Number: Ratio | | Consolidation |
| Statistics | | Geometry: Properties of shapes | | | | | Consolidation and themed activities | | | | |

# Autumn term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place value<br>•Numbers to 10,000 R<br>•Numbers to 100,000 R<br>•Numbers to a million R<br>•Numbers to 10 million<br>•Compare and order any numbers<br>•Round numbers to 10, 100, 1000 R<br>•Round any number<br>•Negative numbers | | Number: Addition, subtraction, Multiplication, Division<br>•Add whole numbers with more than 4 digits (column method) R<br>•Subtract whole numbers with more than 4 digits (column method) R<br>•Inverse operations (add and subtract) R<br>•Multi step addition and subtraction problems R<br>•Add and subtract integers<br>•Multiply 4-digit by 1-digit R<br>•Multiply 2 digits (area model) R<br>•Multiply 2 digits by 2 digits R<br>•Multiply 3 digits by 2 digits R<br>•Multiply up to a 4-digit number by a 2-digit number<br>•Divide 4-digits by 1-digit R<br>•Divide with remainders R<br>•Short division<br>•Division using factors<br>•Long division<br>•Factors R<br>•Common factors<br>•Common multiples<br>•Primes to 100<br>•Squares and cubes<br>•Order of operations<br>•mental calculations and operations<br>•Reason from known facts | | | | | | Number: Fractions<br>•Equivalent fractions R<br>•Simplify fractions<br>•Improper fractions to mixed numbers R<br>•Mixed numbers to improper fractions R<br>•Fractions on a number line<br>•Compare and order (denominator)<br>•Compare and order (numerator)<br>•Add and subtract fractions<br>•Add mixed numbers R<br>•Add fractions<br>•subtract mixed numbers R<br>•Subtract fractions<br>•Multiply fractions by integers<br>•Multiply fractions by fractions<br>•Divide fractions by integers<br>•four rules with fractions<br>•Fraction of amount<br>•Fraction of amount-find the whole | | Consolidation |

# Spring term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Wk11 | Wk 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Decimals<br>•Decimals up to 2dp R<br>•Understand thousandth R<br>•Three decimal places<br>•Multiply by 10, 100, 1000<br>•Divide by 10, 100, 1000<br>•Multiply decimals by integers<br>•Divide decimals by integers<br>•Division to solve problems<br>•Decimals as fractions<br>•Fractions to decimals | | Number: Percentages<br>•Understand percentages R<br>•Fractions to percentages<br>•Equivalent FDP<br>•Order FDP<br>•Percentage of an amount<br>•Percentages- missing values | | Number: Algebra<br>•Find a rule- 1 step<br>•Find a rule- 2 step<br>•Forming expressions<br>•Substitution<br>•Formulae<br>•Forming equations<br>•Solve simple 1 step equations<br>•Solve 2 step equations<br>•Find pairs of values | | Measurement: Converting units<br>•Metric measures<br>•Convert metric measures<br>•Calculate with metric measures<br>•Miles and kilometres<br>•Imperial measures | Measurement: Perimeter, Area and volume<br>•Shapes- same area<br>•Area and perimeter<br>•Area of a triangle<br>•Area of a parallelogram<br>•What is volume? R<br>•Volume- counting cubes<br>•Volume of a cuboid | | Number: Ratio<br>•Use ratio language<br>•Ration and fractions<br>•Introducing the ration symbol<br>•Calculating ratio<br>•Using scale factors<br>•Calculating scale factors<br>•Ratio and proportion problems | | Consolid |

# Summer term

| Wk 1 | Wk2 | Wk3 | Wk4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | WK11 | Wk12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Statistics<br>*Read and interpret line graphs<br>*Draw line graphs<br>*Use line graphs to solve problems<br>*Circles<br>*Read and interpret pie charts<br>*Pie charts with percentages<br>*Draw pie charts<br>*The mean | Geometry: Properties of shapes<br>*Measure with a protractor<br>*Draw lines and angles accurately R<br>*Introduce angles<br>*Angles on a straight-line R<br>*Angles around a point R<br>*Calculate angles<br>*Vertically opposite angles<br>*Angles in a triangle<br>*Angles in special quadrilaterals<br>*Angles in regular polygons<br>*Draw shapes accurately<br>*Draw nets of 3D shapes | Consolidation and themed projects | | | | | | | | | |

# Implementation

Maths is taught daily at West Croft, each session is 1 hour long. We follow the White Rose scheme which means that objectives are revisited across each year, building upon prior knowledge. Key objectives, from the previous year group are also revisited in the following year before building upon this.

- The use of Hinge Point Questions within the lesson help teachers to group the pupils according to current understanding. These groupings change daily as well as within a lesson.
- Children are encouraged to use concrete manipulatives and create images to represent the mathematics and to show their understanding.
- Pupils are constantly questioned to challenge their thinking. Teachers use questioning throughout every lesson to check understanding; a variety of questions are used, but you will also hear some being repeated; How do you know? Can you prove it?
- STEM sentences are used throughout all lessons to encourage children to explain their thinking in full, clear sentences.
- No nonsense number talk is used daily as a class discussion at the start of each lesson. This enables children to explore how numbers are related and made and how they can use known number facts to derive new facts.
- Cracking times tables are carried out 3 x per week. These are 3 minute timed quizzes where children have to answer a number of multiplication questions.
- True or false discussion questions are used during the plenary at the end of each lesson to address any misconceptions that may arise.
- Rapid interventions (same day keep up/catch up) are used. In mathematics new learning is built upon previous understanding, so in order for learning to progress and to keep the class together, pupils need to be supported to keep up and areas of difficulty must be dealt with as and when they occur. We do this through same day interventions and in the form of pre/post teach.