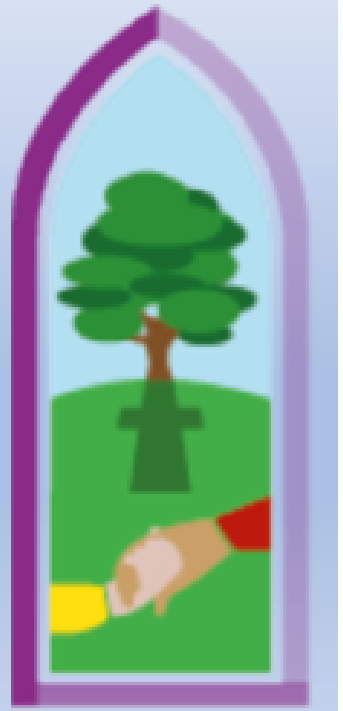
Mathematics

Progression



On entry - September
-**Subitise numbers to 3.**
(immediate recognition, not counting individually)
-**Say numbers in sequence up to 6 in order** (Stable number).
-**Shows 1:1 correspondence when counting** *The number the child says might be incorrect, but they move one object every time they change the number they say.*
-**Count a small set of objects and tell you how many there are in total** (cardinal principle).
-**Talk about 2D and 3D shapes using mathematical language.**
-**Continue an ABAB pattern.**
-**Use words to describe position** e.g. behind, next to, in front.

Number: 3-4yr old checkpoints from Development Matters 2021 &
Numerical patterns: 3-4yr old checkpoints from Development Matters 2021 - see - LINK

December

Number LINK to NCETM PROGRESSION CHARTS
-Understands early progression in cardinality & counting, comparison, composition, pattern. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Identifies numbers to 10. 1:1 correspondence in counting to 10.
-Subitise numbers to 5.

Numerical patterns LINK to NCETM PROGRESSION CHARTS
-Understands early progression in pattern. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Verbally count beyond 10.
-Can look at 2 groups and say which has more or less, or if they both have the same.
-Can see and talk about the effect of combining two numbers or quantities – greater value number/quantity.

Shape and Space LINK TO FOLDER with 3 key docs.
-Understands early progression in space and shape, measures. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Knows names of shapes: circle, triangle, square and the number of sides each shape has.
-Identifies and corrects the orientation of familiar objects and symbols.
-Sorts objects by more than one feature and explains why.
-Can identify things that are: longer, shorter, smaller, empty, full (as part of an adult led group), and can compare.
-Estimates (not always logically) size and volume. Measures and describes findings.
-Arranges and orders multiple objects by size, length, hue or weight. Recalls a sequence of events.
-Use positional language e.g. top, middle, bottom, inside, between.
-Explains the location of an object in relation to another object or person.

Mathematical reasoning and problem solving (relevant to all areas of mathematics)
-Use taught mathematical vocabulary.
-Children start to represent their mathematical understanding. See ECMG Developing Mathematical Graphics in the Early Years LINK
-Children notice errors and are metacognitive.
-Uses previous knowledge to determine which solution to try first when solving a problem.
- Can prove their own learning through verbal explanation and demonstration using representations and/or manipulatives.

March

Number LINK to NCETM PROGRESSION CHARTS
-Understands early progression in cardinality & counting, comparison, composition, pattern. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Can count 10 objects in a variety of contexts with 1:1 correspondence.
-Knows names of shapes: circle, triangle, square, rectangle and the number of sides each shape has.
-Identifies two- and three-dimensional shapes and symbols regardless of orientation.
-Identifies, sorts and classifies objects by at least two features.
-Know number bonds up to 5.

Numerical patterns LINK to NCETM PROGRESSION CHARTS
-Understands early progression in pattern. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Verbally count beyond 15 and recognise the pattern of number.
-Understands the words equal, odd, even and share e.g. can share up to 10 objects into 2 equal groups.
-Can say one more or one less than a number (no higher than 10).

Shape and Space LINK TO FOLDER with 3 key docs.
-Understands early progression in space and shape, measures. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Can compare different quantities and lengths.
-Makes logical estimates and uses measurement tools to check estimation.
-Orders multiple objects by two or more features. Orders events in time.
-Uses relevant positional language in a variety of contexts.
-Gives and follows positional instructions to find objects or places.

Mathematical reasoning and problem solving (relevant to all areas of mathematics)
-Use taught mathematical vocabulary.
-Children develop representing their mathematical understanding and models used by adults are noticed and drawn from. See ECMG Developing Mathematical Graphics in the Early Years LINK
-Children notice errors and are metacognitive.
-Mentally eliminates possible solutions to a problem by thinking through their potential results.
- Can prove their own learning through verbal explanation and demonstration using representations and/or manipulatives.

-**Use taught vocabulary** e.g linked to topics.

June

Number LINK to NCETM PROGRESSION CHARTS
-Understands early progression in cardinality & counting, comparison, composition, pattern. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Can count / accurate 1:1 correspondence a range of objects in a variety of contexts. Notices and self-corrects errors.
-Independently know number bonds up to 10 and prove knowledge through demonstration. Notices and self-corrects errors.

Numerical patterns LINK to NCETM PROGRESSION CHARTS
-Understands early progression in pattern. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Verbally count beyond 20 and recognise the pattern of number.
-Demonstrates understanding of one more or one less than a number (no higher than 10) in a range of contexts. Starts to make connections between similar quantities of number i.e. if we take a cake from the plate with 7 on and the plate with 5 on, they both have one less.
-Understands the words equal, odd, even and share e.g. can share up to 10 objects into different equal groups.
-Can compare different quantities and lengths and use appropriate vocabulary to describe them.

Shape and Space LINK TO FOLDER with 3 key docs.
-Understands early progression in space and shape, measures. See LINK and https://www.ncetm.org.uk/in-the-classroom/early-years/
-Uses vocabulary associated with content taught, in direct teaching and CP opportunities.
-Can describe properties of some 2D and 2D shapes using the correct language.
-Matches two-dimensional shapes to corresponding three-dimensional shapes.
-Answers questions about data or objects sorted in up to three categories.
-Explains which measurement tool makes best sense for the object being measured. Tells time in hours and half-hours.
-Compares the length of two objects by using a third object (the length unit). Orders three objects by length.
-Uses relevant positional language in a variety of contexts.
-Gives and follows positional instructions to find objects or places.

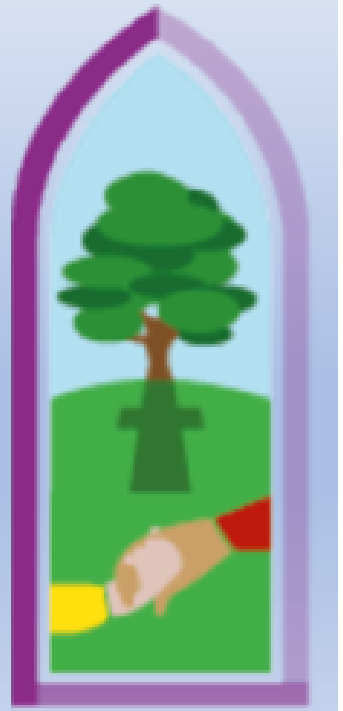
Mathematical reasoning and problem solving (relevant to all areas of mathematics)
-Use taught mathematical vocabulary.
-Children's representations support their mathematical understanding and models used by adults are utilised. See ECMG Developing Mathematical Graphics in the Early Years LINK
-Children notice errors and are metacognitive.
--Explains the sequence of his/her problem-solving strategy. Notices and self-corrects errors.
- Can prove their own learning through verbal explanation and demonstration using representations and/or manipulatives.

ELG: Number
- Have a deep understanding of number to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

ELG: Numerical Patterns
- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Mathematics

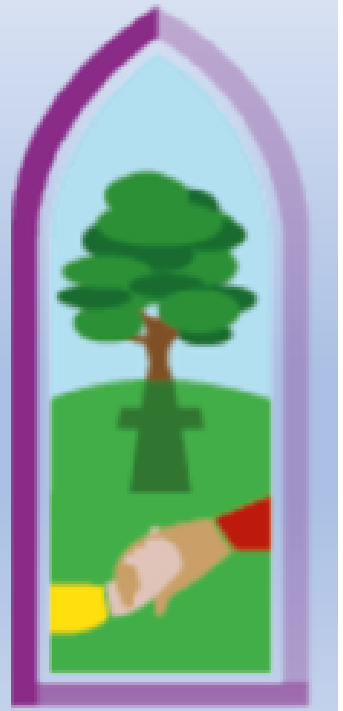
Progression



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

Mathematics

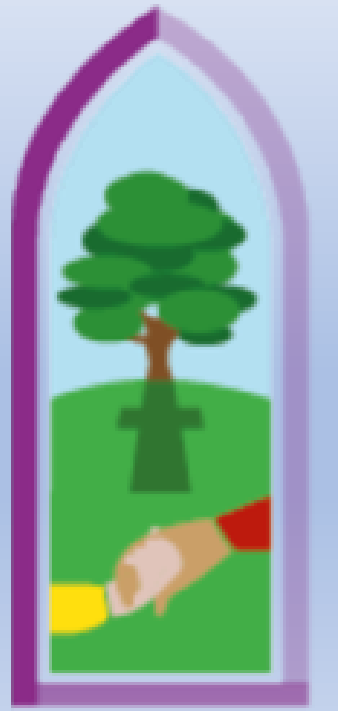
Progression



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

Mathematics

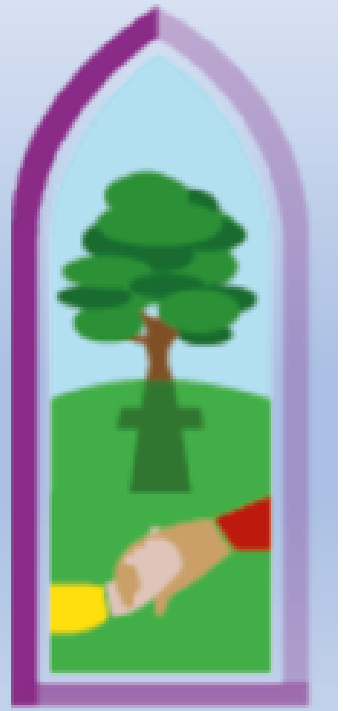
Progression



	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 • represent and use number bonds and related subtraction facts within 20 Autumn 2 Spring 1	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems Autumn 2	• estimate the answer to a calculation and use inverse operations to check answers Autumn 2	• estimate and use inverse operations to check answers to a calculation Autumn 2	• use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Autumn 2	

Mathematics

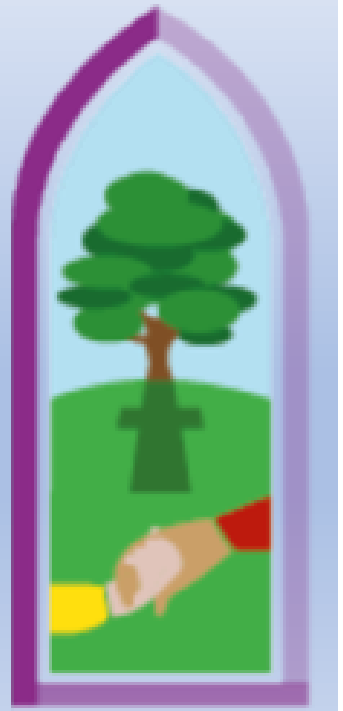
Progression



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

Mathematics

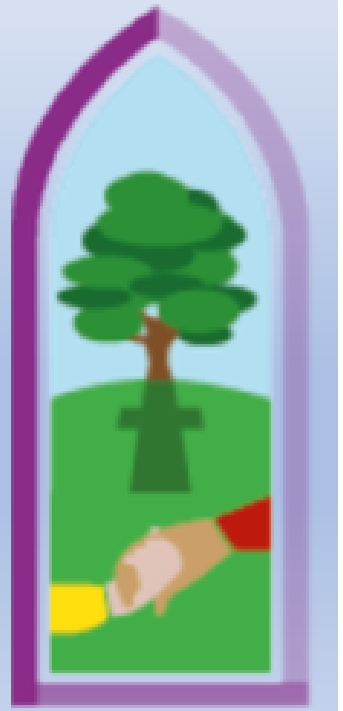
Progression



	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 Autumn 2 Spring 1	• solve problems with addition and subtraction: ➢ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ➢ applying their increasing knowledge of mental and written methods Autumn 2	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Autumn 2	• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why Autumn 2	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Autumn 2	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Autumn 2

Mathematics

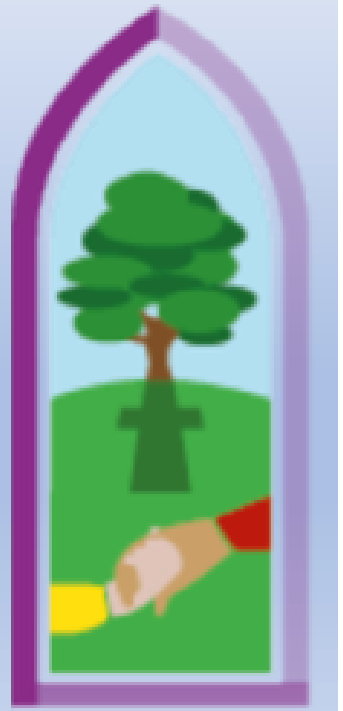
Progression



	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 • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot **Autumn 4 Spring 1**	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables **Autumn 3**	• recall multiplication and division facts for multiplication tables up to 12 × 12 • 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 • recognise and use factor pairs and commutativity in mental calculations **Autumn 4 Spring 1**	• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) **Autumn 4**	• identify common factors, common multiples and prime numbers • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. **Autumn 2**

Mathematics

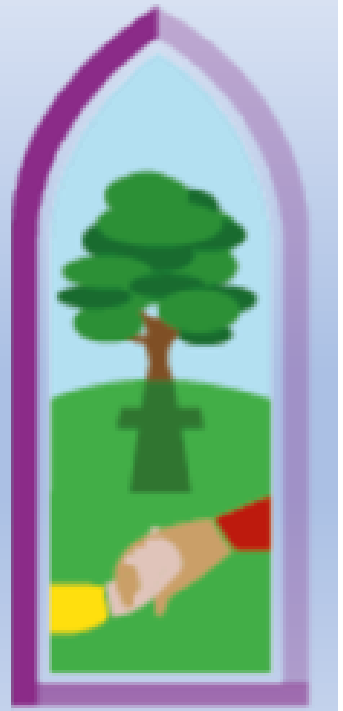
Progression



	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 **Autumn 4** **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 **Autumn 3** **Spring 1**	• multiply two-digit and three-digit numbers by a one-digit number using formal written layout **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 • multiply and divide numbers mentally drawing upon known facts • 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 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 **Autumn 4** **Spring 1** **Summer 1**	• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • 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 • 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 • perform mental calculations, including with mixed operations and large numbers **Autumn 2**

Mathematics

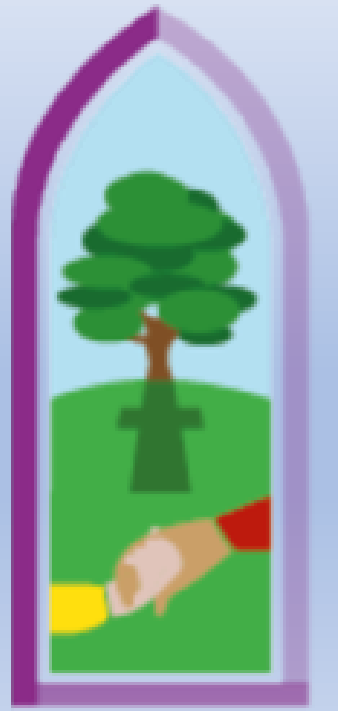
Progression



	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 **Summer 1**	• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts **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 **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 **Spring 1**	• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Autumn 4 Spring 1**	• solve problems involving addition, subtraction, multiplication and division **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 **Spring 1**	• use their knowledge of the order of operations to carry out calculations involving the four operations **Autumn 2**

Mathematics

Substantive Concept Progression



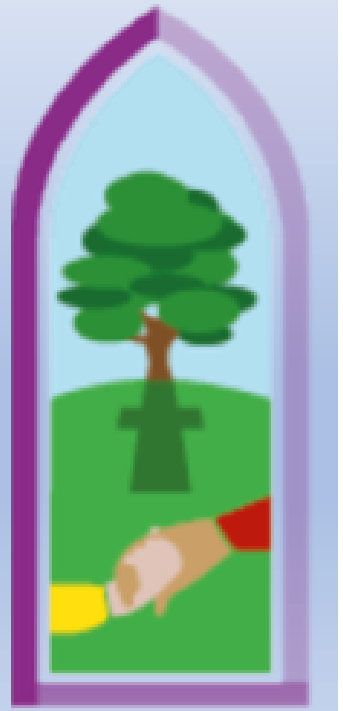
Substantive Concepts

Substantive concepts support children in developing an understanding of their experience, a system of categorisation, and how they learn and use these systems. In this way, children build a schema of knowledge about some of the key themes through which they can reason and talk about the world and its diversity.

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

Mathematics

Progression



	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 **Spring 4**	• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] **Summer 1**	• add and subtract fractions with the same denominator **Spring 3**	• add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams **Spring 3**	• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] **Autumn 3**
Fractions: Solve Problems			• solve problems that involve all of the above **Spring 5** **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 **Spring 3**		

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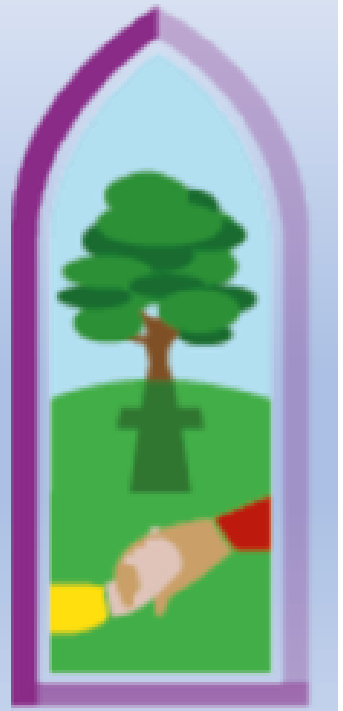
Progression



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

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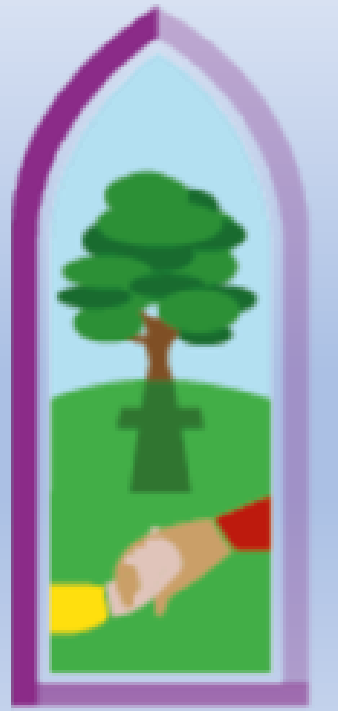
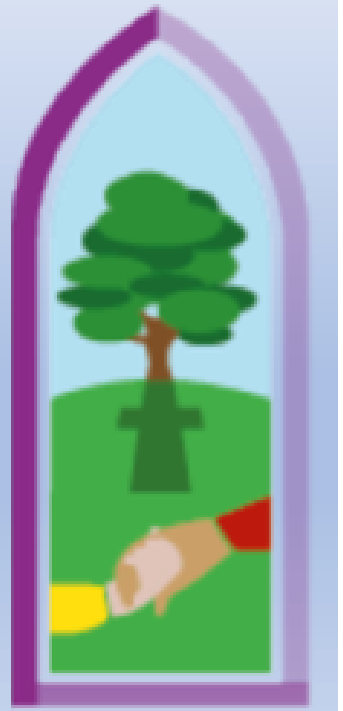
Progression



	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 **Spring 4**	• solve problems involving number up to three decimal places **Summer 1**	• multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places • solve problems which require answers to be rounded to specified degrees of accuracy **Spring 1**

Mathematics

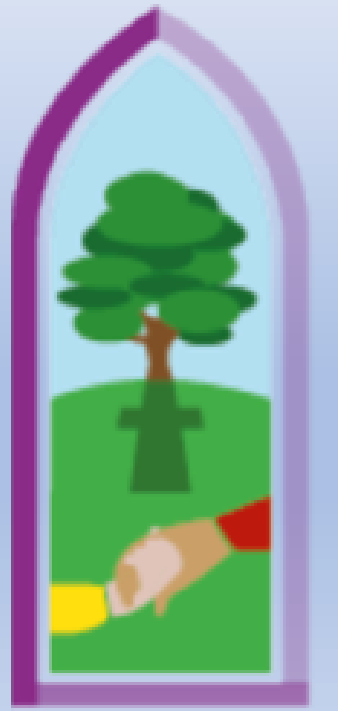
Substantive Concept Progression



	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 Spring 3 Spring 4 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 • 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 Spring 3	• associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts Spring 1 Spring 2

Mathematics

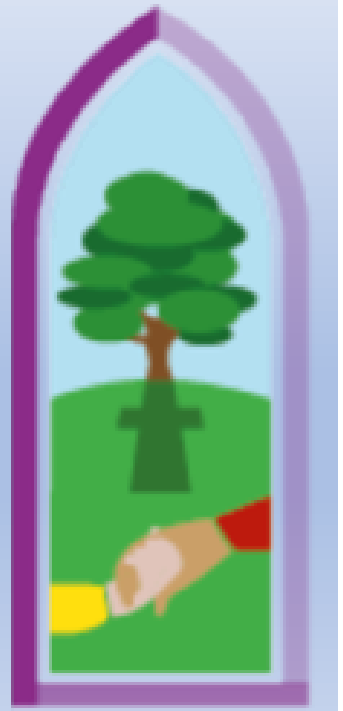
Progression



	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 • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. **Spring 6**

Mathematics

Progression

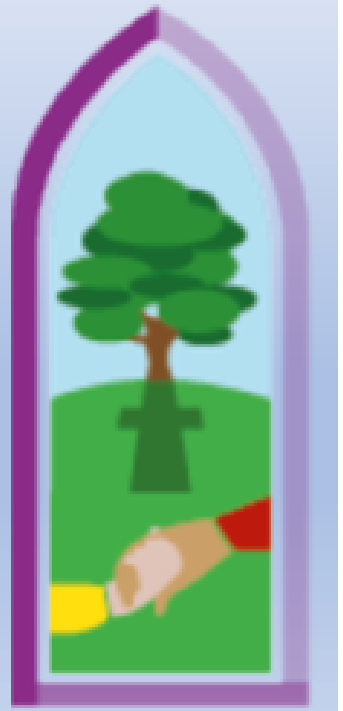


	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra	• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9	• recognise and use the inverse relationship between addition and subtraction and use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

Mathematics

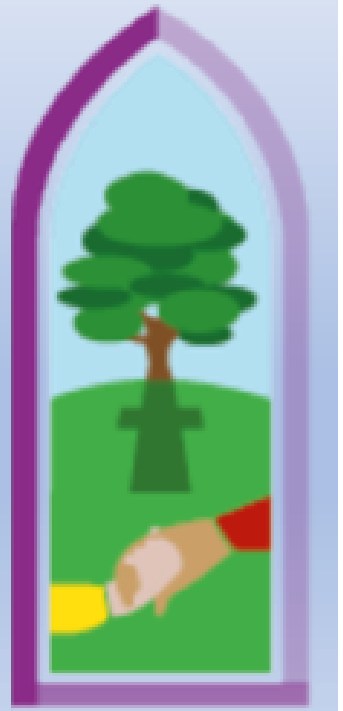
Progression



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Using Measures	• compare, describe and solve practical problems for: ➢ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] ➢ mass/weight [for example, heavy/light, heavier than, lighter than] ➢ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] ➢ time [for example, quicker, slower, earlier, later] • measure and begin to record the following: ➢ lengths and heights ➢ mass/weight ➢ capacity and volume ➢ time (hours, minutes, seconds) **Spring 3 Spring 4 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 • compare and order lengths, mass, volume/capacity and record the results using >, < and = **Spring 5 Summer 4**	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) **Spring 4 Summer 4**	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures **Autumn 3 Spring 2 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) • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling **Summer 1 Summer 4 Summer 5**	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • 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 • convert between miles and kilometres **Spring 4**

Mathematics

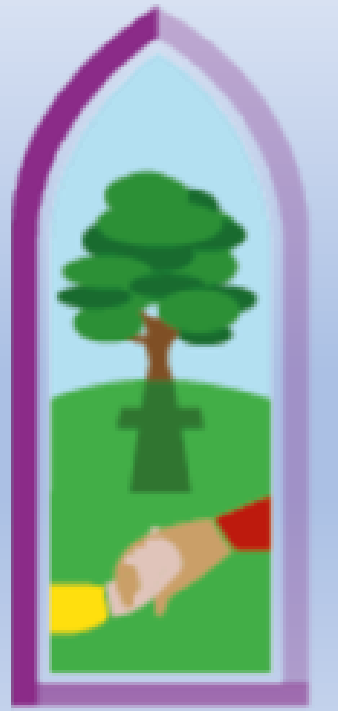
Progression



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

Mathematics

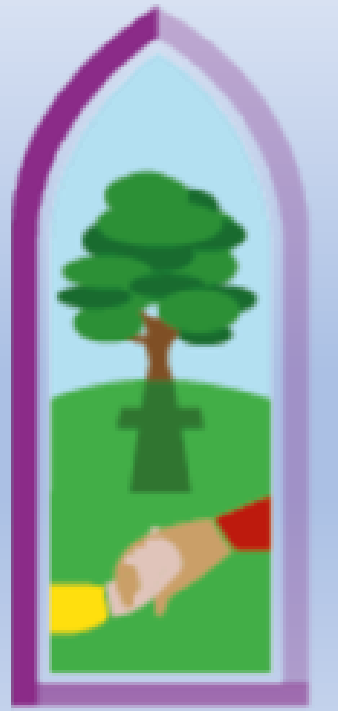
Progression



	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] • recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	• compare and sequence intervals of time • 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 • know the number of minutes in an hour and the number of hours in a day	• tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • 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 • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks]	• read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	• solve problems involving converting between units of time	• 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
	Summer 6	Summer 3	Summer 2	Summer 3	Summer 4	Year 5 Summer 4

Mathematics

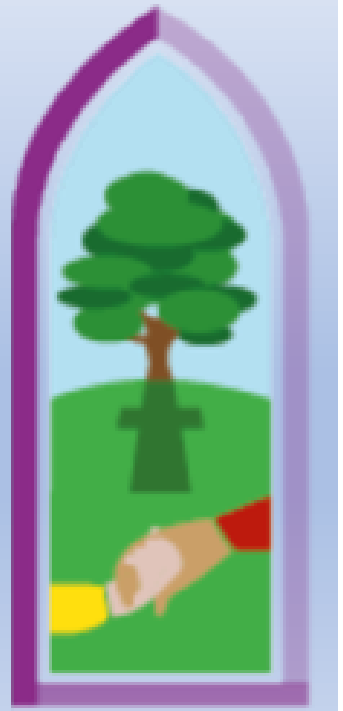
Progression



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

Mathematics

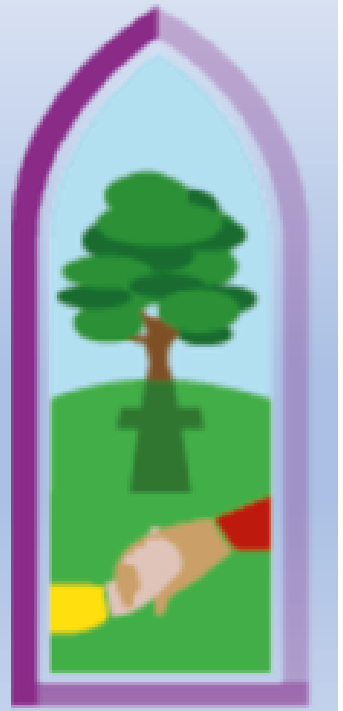
Progression



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

Mathematics

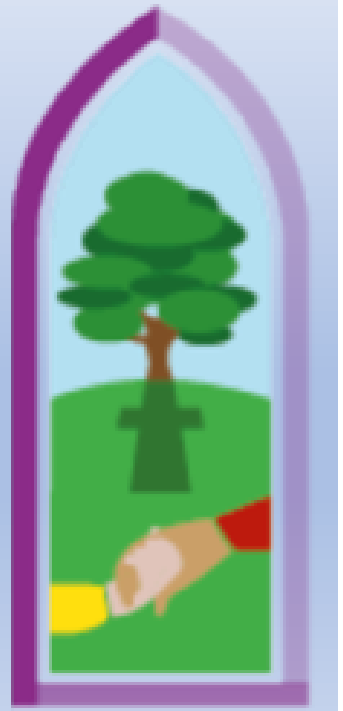
Progression



	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 • 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 • identify horizontal and vertical lines and pairs of perpendicular and parallel lines **Summer 3**	• identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry **Summer 5**	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees • identify: ➢ angles at a point and one whole turn (total 360°) ➢ angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) ➢ other multiples of 90° **Summer 2**	• find unknown angles in any triangles, quadrilaterals, and regular polygons • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles **Summer 1**

Mathematics

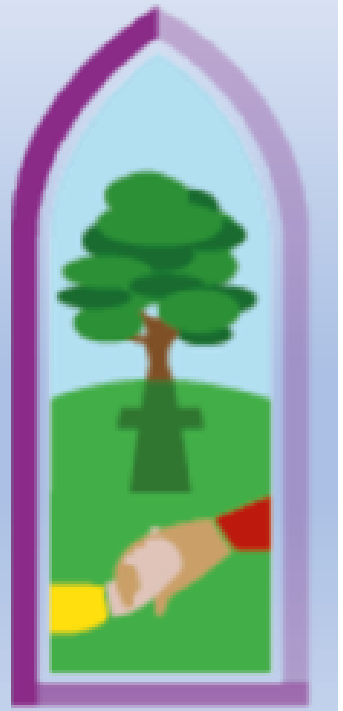
Progression



	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 **Summer 3**	• order and arrange combinations of mathematical objects in patterns and sequences • 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) **Spring 3** **Summer 1**		• describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon **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 **Summer 3**	• describe positions on the full coordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes **Autumn 4**

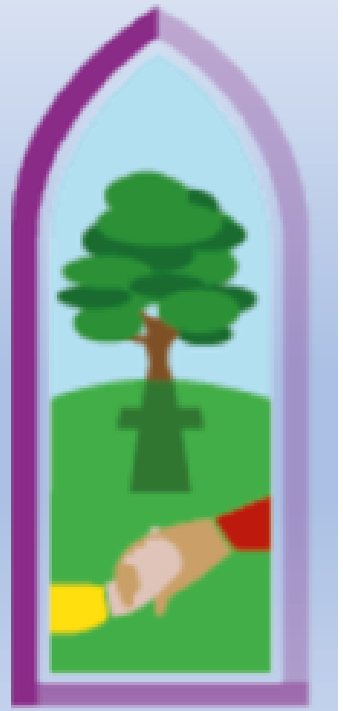
Mathematics

Progression



	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 **Spring 2**	• interpret and present data using bar charts, pictograms and tables **Spring 3**	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs **Summer 4**	• complete, read and interpret information in tables, including timetables **Autumn 3**	• interpret and construct pie charts and line graphs and use these to solve problems **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 • ask and answer questions about totalling and comparing categorical data **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 **Spring 3**	• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs **Summer 4**	• solve comparison, sum and difference problems using information presented in a line graph **Autumn 3**	• calculate and interpret the mean as an average **Summer 3**

Mathematics
Teaching Sequence



Number of small steps per block (not including recap steps) **YEAR 1** NCETM Spine link reference (TP = Teaching Point)

Term	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	**Number: Place Value (within 10)** Small Steps: 15 NCETM Spine: 1.1 (comparison context) 1.3, (numbers 0-5) and 1.4 (numbers 6-10) *Note: part-whole shows up in 1.2 which could be used before 1.3*				**Number: Addition and Subtraction (within 10)** Small Steps: 18 NCETM Spine: 1.2 (part whole model) 1.5, 1.6, 1.7				**Geometry: Shape** Small Steps: 5 NCETM Spine: N/A	**Number: Place Value (within 20)** Small Steps: 8 NCETM Spine: 1.10 (TP 1 and 2)		Consolidation
Spring	**Number: Addition and Subtraction (within 20)** Small Steps: 8 NCETM Spine: 1.10 (TP 5), 1.11 (TP 5 and 6)				**Number: Place Value (within 50)** *includes counting in 2s and 5s* Small Steps: 9 NCETM Spine: 1.9, 2.1			**Measurement: Length and Height** Small Steps: 3 NCETM Spine: 1.1		**Measurement: Weight and Volume** Small Steps: 6 NCETM Spine: 1.1		Consolidation
Summer	**Number: Multiplication and Division** Small Steps: 7 NCETM Spine: 2.1 (TP 1-3) could also ref back to 1.8 TP 2			**Number: Fractions** Small Steps: 4 NCETM: Key Stage 1 Year 1: Halving shapes or objects Year 1: Find a quarter of a shape or object	**Geometry: Position & Direction** Small Steps: 3 NCETM Spine: N/A	**Number: Place Value (within 100)** Small Steps: 6 NCETM Spine: 1.9			**Measures: Money** Small Steps: 3 NCETM Spine: 2.1 (TP 4 – 6)	**Measurement: Time** Small Steps: 6 NCETM Spine: N/A		Consolidation

NOTES: NCETM encourages teaching numbers from 20-100 **(1.8 + 1.9 NCETM SPR 2, SUM 1 and SUM 4)** before learning the 11-20 teen numbers **(1.10 NCETM AUT 4)** which is different to the White Rose planning. This should be considered when planning. *'This segment will give children a sense of the regularity of number naming up to 100 before they begin to work on irregularly named teen numbers'.* **However,** TP 1.9 will need tailoring as to not include numbers 11-20

This NCETM Spine Link directs you to the page including all three spines (Add and Subtract, Multiplication and Division, Fractions) and the hyperlinks on the document takes you to the relevant segment which offer: teacher guidance, PowerPoint representations, and video guidance.

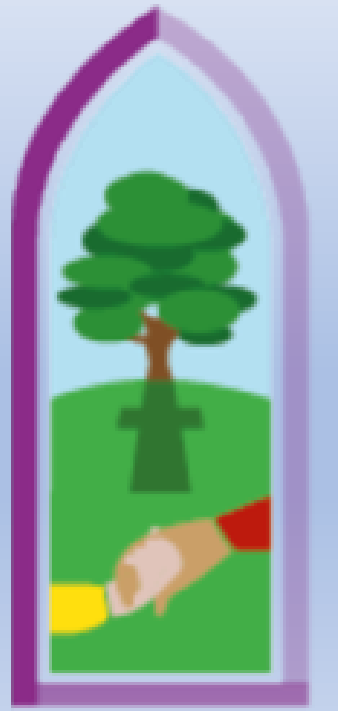
White Rose Overview: https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

NCETM Teaching for Mastery home page: https://www.ncetm.org.uk/teaching-for-mastery/

https://www.ncetm.org.uk/media/b2pdpixj/ncetm_primary_magazine_issue_103.pdf#page=2

https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/

Mathematics
Teaching Sequence



Number of small steps per block (not including recap steps)

YEAR 2

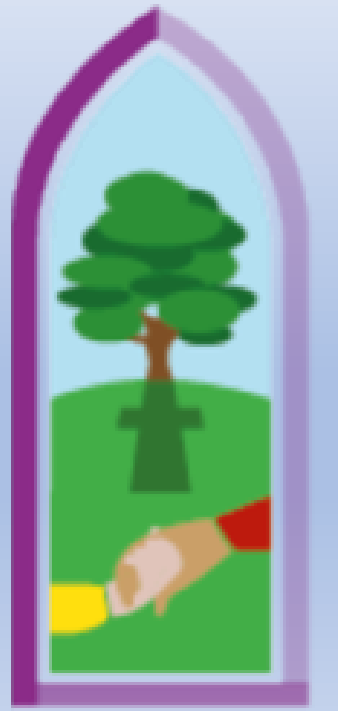
NCETM Spine link reference (TP = Teaching Point)

Term	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	**Number: Place Value** Small Steps: 10 NCETM Spine: 1.9 (revisit Year 1 PV to 100) 2.1 (count in 2s, 5s, 10s)			**Number: Addition and Subtraction** Small Steps: 16 NCETM Spine: Could refer back to 1.2 (for part-whole), 1.8 (support with tens and bonds to 100), 1.9 (TP 6 using PV for fact families) 1.7 (fact families inverse etc.) 1.14 (add and sub tens, 10 more less) 1.13 - (covers most small steps) 1.14, 1.15 1.16 (subtraction 2 digit 2 digit, bonds 10s and 1s) 1.11 (three addends) 2.1 (TP 2 bonds to 100 from Y3)				**Measurement: money** Small Steps: 10 NCETM Spine: revisit 2.1 (TP 4-6) Use Add & Sub skills from previous block and apply to money (y4 is next spine on money)		**Number: Multiplication and division** Small Steps: 9 NCETM Spine: 2.2, 2.3 (TP1) 2.5 (arrays) 2.3 (2x table), 2.4 (10 and 5 x table)	
Spring	**Number: Multiplication and Division** Small Steps: 6 NCETM Spine: (1.4 and 1.10 TP 3 if needed to refer back to y1 odd/even numbers) 2.6 - (TP 1-3 sharing and grouping) (TP 4 divide by 2, 5, 10)		**Statistics** Small Steps: 6 NCETM Spine: some ideas in 1.12 but this is mainly a focus on difference	**Geometry: Properties of Shape** Small Steps: 12 NCETM Spine: N/A			**Number: Fractions** Small Steps: 12 NCETM Spine: Key Stage 1 Fractions				**Measurement: Length & Height** Small Steps: 5 NCETM Spine: could ref back to 1.1	**Consolidation**
Summer	**Geometry: Position and Direction** Small Steps: 4 NCETM Spine: N/A			**Problem solving and efficient methods**	**Measurement: Time** Small Steps: 6 NCETM Spine: N/A		**Measurement: Mass, Capacity and Temperature** Small Steps: 7 NCETM Spine: N/A		**Investigations**			

NOTES: Struggling to match in 1.12 to WR so could be used as a separate focus on subtraction and difference. May need to modify some skills on NCETM for bonds to 100 (10s and 1s) example 1.16.

This NCETM Spine Link directs you to the page including all three spines (Add and Subtract, Multiplication and Division, Fractions) and the hyperlinks on the document takes you to the relevant segment which offer: teacher guidance, PowerPoint representations, and video guidance.

Mathematics
Teaching Sequence



Number of small steps per block (not including recap steps)

YEAR 3

NCETM Spine link reference (TP = Teaching Point)

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Wk 12
Autumn	**Number: Place Value** Small Steps: 10 NCETM Spine: 1.17 (TP1 hundreds, 1000, 50s, 25s) 1.18 (TP1 100s,10s,1s) (TP2 number line to 1000) (TP3 1,10,100 more or less) (TP4 compare order)			**Number: Addition and Subtraction** Small Steps: 18 NCETM Spine: 1.18 (TP 5 add and sub multiples of 100) 1.19 1.17 (TP 3 + 4 crossing 10s and 100s) 1.20 (written addition) 1.21 (written subtraction)					**Number: Multiplication and Division** Small Steps: 10 NCETM Spine: 2.6 (revisit for equal groups) 2.8 (TP 1 mult and divide by 3) 2.7 (mainly TP2 mult divide by 4 incl 4x table) (TP3 & 4 mult and divide by 8 incl 8x table)			Consolidation
Spring	**Number: Multiplication and Division** Small Steps: 9 NCETM Spine: 2.6 TP4 related 2.13 (TP 6 related facts taken from y4) 2.19 (related facts taken from y5) 2.17 and 2.8 (TP 5 scaling) 2.14 (select from TP 1 & 2) 2.15 (TP 1) *(Concrete resources best for this topic)*			**Measures: Money** Small Steps: 5 NCETM Spine: revisit 2.1 1.25 (select appropriate)	**Statistics** Small Steps: 3 NCETM Spine: N/A		**Measurement: Length and Perimeter** Small Steps: 8 NCETM Spine: 2.16 (TP 1 to introduce)			**Number: Fractions** Small Steps: 9 NCETM Spine: revisit Key Stage 1 3.1, 3.2 3.6 (TP 3 Fractions of amounts)		Consolidation
Summer	**Number: Fractions** Small Steps: 7 NCETM Spine: 3.3 (compare and order) 3.4 (add and sub fractions) 3.7 (select from TP 1 + 2 only)			**Measurement: Time** Small Steps: 11 NCETM Spine: N/A			**Geometry: Properties of shape** Small Steps: 9 NCETM Spine: N/A		**Measurement: Mass and Capacity** Small Steps: 8 NCETM Spine: N/A			Consolidation

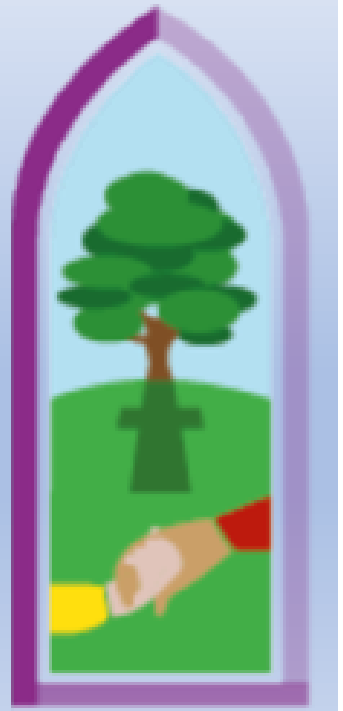
NOTES: Will have to dip into 'year 4' (3.5, 3.6) and even year 5 (3.7) for equivalent fractions on the NCETM spine for some lessons. Will also have to revisit early fraction work a lot for deep understanding.

This NCETM Spine Link directs you to the page including all three spines (Add and Subtract, Multiplication and Division, Fractions) and the hyperlinks on the document takes you to the relevant segment which offer: teacher guidance, PowerPoint representations, and video guidance.

White Rose Overview: https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

NCETM Teaching for Mastery home page: https://www.ncetm.org.uk/teaching-for-mastery/

Mathematics
Teaching Sequence



Number of small steps per block (not including recap steps)

YEAR 4

NCETM Spine link reference (TP = Teaching Point)

Term	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	**Number: Place Value** Small Steps: 13 NCETM Spine: 1.17 (count in 25s), 1.22, 1.27 (negative numbers)				**Number: Addition and Subtraction** Small Steps: 10 NCETM Spine: 1.22 (TP 3 add sub 1s,10s,100s,1000s and TP5). Refer back to 1.20 and 1.21 for introducing written methods.			**Measures: Length & Perimeter** Small Steps: 5 NCETM Spine: 2.16	**Number: Multiplication and Division** Small Steps: 12 NCETM Spine: 2.6 (TP5 for x ÷ 0 and 1), 2.8 (6x and 9x), 2.9 (7x), 2.13 (x ÷ 10,100)			Consolidation
Spring	**Number: Multiplication and Division** Small Steps: 11 NCETM Spine: 2.10 (factor pairs), 2.11 (11x, 12x & efficient mult), 2.14 (multiplication) 2.15 (division) 2.12 (remainders)			**Measures: Area** Small Steps: 4 NCETM Spine: 2.16	**Number: Fractions** Small Steps: 10 NCETM Spine: May need to visit 3.0 (KS1 fractions) & Year 3 for intro. 3.4 (add and sub fractions) 3.7 (equiv - TP1 & TP2), 3.5 (be selective - show more than one whole in fractions, count on & back past 1, add & sub)				**Number: Decimals** Small Steps: 10 NCETM Spine: (Revisit 2.13 for ÷ 10 and 100), 1.23 (tenths, hundredths), 1.24 (mainly TP 1 and some of TP2)			Consolidation
Summer	**Number: Decimals** Small Steps: 6 NCETM Spine: 1.24 (TP2, TP7)		**Measurement: Money** Small Steps: 4 NCETM Spine: 1.22 (TP 4 estimate money) 1.25		**Measures: Time** Small Steps: 4 NCETM Spine: N/A	**Statistics** Small Steps: 4 NCETM Spine: N/A		**Geometry: Properties of Shape** Small Steps: 6 NCETM Spine: N/A			**Geometry: Position & Direction** Small Steps: 4 NCETM Spine: 1.27 TP 6	Consolidation

NOTES: you may want to go back to earlier year groups when appropriate. For example, in add and subtract it would be worth visiting the year 3 introduction to column methods with 3 digit numbers before moving on to 4 digit numbers. It may say this on the spine materials.

This NCETM Spine Link directs you to the page including all three spines (Add and Subtract, Multiplication and Division, Fractions) and the hyperlinks on the document takes you to the relevant segment which offer: teacher guidance, PowerPoint representations, and video guidance.

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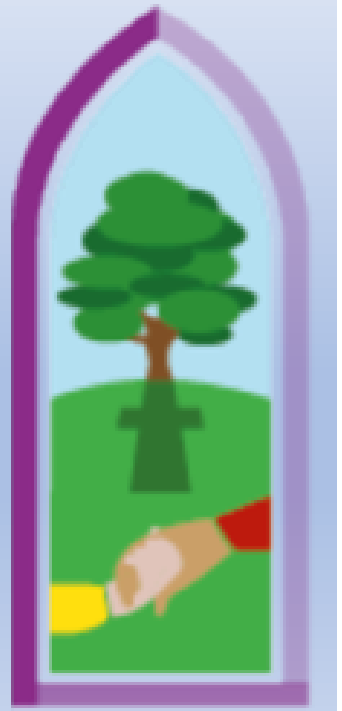
Mathematics
Teaching Sequence



Number of small steps per block (not including recap steps) **YEAR 5** NCETM Spine link reference (TP = Teaching Point)

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Wk 12
Autumn	Number: Place Value Small Steps: 11 NCETM Spine: 1.26 1.27 (negative numbers)			Number: Addition and Subtraction Small Steps: 5 NCETM Spine:revisit 1.22 (TP 3 and TP5) and 1.20, 1.21 for written methods. 1.29 (strategies and mental methods as opposed to written. Includes decimals) 1.29 (TP 3 difference) 1.29 (TP 6 estimate, approximate, inverse) 1.28 (multi-step problems)		Statistics Small Steps: 6 NCETM Spine: some examples in 1.28 and 1.29		Number: Multiplication and Division Small Steps: 9 NCETM Spine: 2.21 (factors multiples prime) 2.9 (square numbers) 2.13 (mult divide 10,100,100) 2.19 (10,100,1000) 2.20 (cube numbers) 2.18 (maybe stand alone as equivalence)		Measurement: Perimeter and Area Small Steps: 5 NCETM Spine: revisit 2.16		Consolidation
Spring	Number: Multiplication and Division Small Steps: 7 NCETM Spine: 2.23 (area model) 2.15 (division) 2.14 (written multiplication)			Number: Fractions Small Steps: 20 NCETM Spine: revisit parts of earlier fractions to prepare for topic (3.1, 3.2, 3.3, 3.4) 3.7 (equivalents and simplifying, compare order), 3.8 (add and subtract), 3.5 improper and mixed, 3.6 multiplying						Number: Decimals and Percentages Small Steps: 10 NCETM Spine: continue from y4 1.23 and 1.24 (1/10, 1/100, 1/000ths) 1.24 (TP 3 compare and order) 3.10 FDP (TP1,TP2,TP4, TP5)		Consolidation
Summer	Number: Decimals Small Steps: 12 NCETM Spine: ref back to 1.23 TP 4 -6 1.24 (TP 4 & 6) 2.19 TP 2 and 2.29 (decimals by 10,100,1000)				Geometry: Properties of Shape Small Steps: 9 NCETM Spine: N/A 1.28 (some ideas in TP4)			Geometry: Position & Direction Small Steps: 5 NCETM Spine 1.27 TP 6	Measurement: Converting Units Small Steps: 6 NCETM Spine: (1.24 TP5)		Measures: Volume Small Steps: 4 NCETM Spine: 2.20	Consolidation

NOTES: Lots of revisiting needed (see previous year groups). Big emphasis on FDP.

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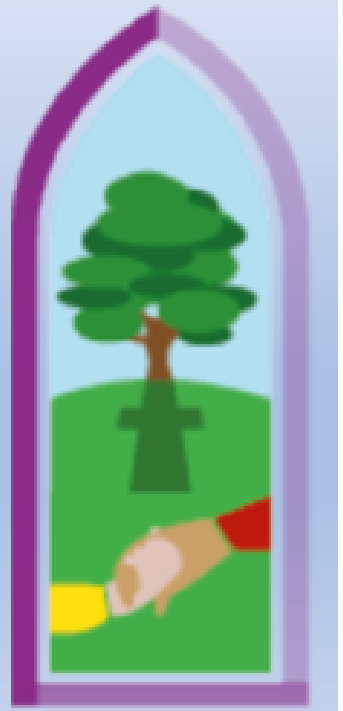
Mathematics
Teaching Sequence



Number of small steps per block (not including recap steps)

YEAR 6

NCETM Spine link reference (TP = Teaching Point)

Term	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12
Autumn	**Number: Place Value** Small Steps: 4 NCETM Spine: revisit y5 1.26PV 1.30 (mainly TP2 and TP3) 1.30 (TP 5 rounding)		**Number: Add. Sub, Multiplication and Division** Small Steps: 15 NCETM Spine: 1.30TP 4 (revisit 1.20 and 1.21 for column) 1.30 (maybe use to secure PV and counting through boundaries using mental methods TP4 and fluency including RPS in TP6) 2.24 (division - ref back to 2.15 if necessary) 2.23 long multiplication 2.21 common factors, common multiples, primes 2.20 cubes and ref back to 2.9 for square numbers 2.22 and 2.28 (order operations) 2.25 (reason known facts)				**Number: Fractions** Small Steps: 16 NCETM Spine: 3.7 simplify equivalent incl. number line revisit 3.5 mixed number improper fraction add, sub, number line 3.8 add and sub fractions 3.8 TP 5 (compare denom. and numerator) 3.9 Multiply, divide 3.9 fractions of amounts TP1 - revisit 3.6 TP 3				**Geometry: Position & Direction** Small Steps: NCETM Spine: 1.27 TP 6	Consolidation
Spring	**Number: Decimals** Small Steps: 9 Spine: revisit TP 1.24 for 3 D.P, revisit 2.29 - multi div 10,100,1000 2.19 mult div decimals by integers 2.28 (some support with division problems but no decimals) 3.10 fraction decimal		**Number: Percentages** Small Steps: 6 NCETM Spine: 3.10		**Number: Algebra** Small Steps: 10 NCETM Spine: 1.28, 1.31		**Measures: Convert Units** Small Steps: 5 NCETM Spine: 2.29 TP2 (metric only)		**Measurement: Perimeter, Area and Volume** Small Steps: 8 NCETM Spine: 2.30 area perimeter (revisit 2.16) 2.20 volume		**Number: Ratio** Small Steps: 7 NCETM Spine: 2.27		Consolidation
Summer	**Geometry: Property of Shape** Small Steps: 11 NCETM Spine: 1.28 TP4 (missing angles only)		**Problem Solving**		**Statistics** Small Steps: 8 NCETM Spine: 1.28 TP3 (pie chart, bar chart - missing values focus) 3.10 TP6 - percentage context, 2.26 mean average		**Investigations**					Consolidation

NOTES: Lots of revisiting needed (see previous year groups)

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