Danegrove Primary School
Maths Overview by Year Group 2021-22

At Danegrove School we aim to create a positive and enthusiastic environment in which the Maths curriculum is accessed, experienced and explored by all children. We aim to develop a set of key skills that will allow our children to become numerate so that they can confidently take the skills learned at school into adulthood.
We want to build a clear and consistent approach to Maths across the school for children, teachers and parents.
It is essential that the children's early experiences with number are very visual. Using a wide variety of objects to help build mental images of number in children's minds is very important. A hands-on approach to exploring concepts goes alongside this and is an essential stepping-stone before more formal written methods are introduced. It is our role to provide these opportunities for exploration and to support it with the introduction and consolidation of mathematical language that helps children to explain their ideas clearly.
In all areas of Mathematics children are given the opportunities to ask questions and explore different methods and strategies in their approach to Maths. They are given time to explain what they are doing and given the chance to listen to different opinions. It is not just important to be able to give an answer but to be able to explain how you have done something or why you have chosen a particular method.
Key areas of Maths such as: Number bonds to 10 and 20, place value, times tables, fractions and the four operations are identified, taught in depth and revisited each year to ensure a deeper understanding. Key mathematical language is identified and used regularly to support this process.
Numeracy is taught in large blocks of work following the starting sequence of: place value, addition, subtraction, multiplication and division. This is followed, where appropriate, by fractions, decimals and percentages. The focus of Maths is 75% Number and the other units of work are fitted within the remaining time or through starters.
Maths is taught with a variety of approaches: games, early morning work, arithmetic and mental maths, reasoning, investigations and formal written methods.
The Calculation Policy starts with the Foundation Stage booklet 'An introduction to Number.' The early exploration and experiences with number are covered there.
The Danegrove calculation policy looks at number in school and covers the four operations, the order they are taught in and the different methods explained.
Each week there is a Maths assembly on Windsor Drive where certificates are given out to celebrate mathematical successes across each class and there are games played to help embed the idea of Maths being a fun and positive subject.

Year Group	**Autumn**		**Spring**		**Summer**	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
EYFS	Baseline Numbers to 3 1:1 counting matching to its cardinal value Number bonds Subitising Triangles Circle Number 4 1:1 counting matching to its cardinal value	Number 5 1:1 counting matching to its cardinal value Number bonds Subitising Pentagons Number 5 1 more, 1 less Number 6 1:1 counting matching to its cardinal value Number bonds Subitising	Number 9 Number bonds Odd numbers Number 10 Number order More or less Addition Number bonds to 5/10 Time	Number 11 1:1 counting matching to its cardinal value Subtraction Number 12 Subtraction Number 13 10 +3 Introduce length Number 14 Measuring length	Number 16 Counting forwards, backwards 1 less/ 1 more Number 17 Counting forwards, backwards 1 less/ 1more Number 18 Counting forwards, backwards	Measuring Length First, then and next problems Practical bar modelling How does a shape make up another shape? Number Bonds to 10 Measuring Weight

	Number bonds Subitising Squares Rectangles Diamonds	Even numbers Number 7 Number bonds Subitising :1 counting matching to its cardinal value Odd numbers Number 8 Number bonds Subitising 1:1 counting matching to its cardinal value Even numbers Shapes Circle, Triangles, Square, Rectangle Pentagons Positional language		Number 15 10+5 Counting forwards and backward 1 more/1less Money	1 less/ 1more Number 19 Counting forwards, backwards 1 less/ 1more Number 20 Counting forwards, backwards 1 less/ 1more Sharing numbers Odd and even numbers	Measuring Capacity

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 1	**Number and Place Value** • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least **Addition/Subtraction**	**Number and Place Value** • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least **Addition/Subtraction**	**Number and Place Value** • count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least **Addition/Subtraction** • read, write and interpret	**Number and Place Value** • count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least **Addition/Subtraction** • read, write and interpret mathematical	**Number and Place Value** • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least **Addition/Subtraction** • read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and	**Number and Place Value** • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • read and write numbers from 1 to 20 in numerals and words. **Addition/Subtraction** • read, write and interpret mathematical statements involving

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	• read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? - 9. **Measurement** • compare, describe and solve practical problems for: • mass/weight [for example, heavy/light, heavier than, lighter than] **Geometry – properties of shape** • recognise and name common 2-D and 3-D shapes, including: • 2-D shapes [for example, rectangles	• read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? - 9. **Measurement** • compare, describe and solve practical problems for: • lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]	mathematical statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? - 9. **Fractions/Decimals/%** • 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.	statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? - 9. **Multiplication/Division** • 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.	related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? - 9. **Multiplication/Division** • 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. **Measurement** • compare, describe and solve practical problems for: • capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]	addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? - 9. **Multiplication/Division** • 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.

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	(including squares), circles and triangles]		**Measurement** • compare, describe and solve practical problems for: • time [for example, quicker, slower, earlier, later] **Geometry – properties of shape** • recognise and name common 2-D and 3-D shapes, including: • 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].		**Geometry –position and direction** • describe position, direction and movement, including whole, half, quarter and three-quarter turns.	**Measurement** • compare, describe and solve practical problems for: • time [for example, quicker, slower, earlier, later] **Fractions/Decimals/%** • 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. **Geometry –position and direction** • describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 2	**Number and Place Value** • count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use <, > and = signs • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems.	**Addition/Subtraction** ● 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 ● recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 ● 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 ● 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.	**Multiplication/Division** ● recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers ● calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (./.) and equals (=) signs ● show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ● solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	**Multiplication/Division** ● recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers ● calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (./.) and equals (=) signs ● show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ● solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	**Measurement** ● choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (¢XC); 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 = ● 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 ● compare and sequence intervals of time **Fractions/Decimals/%** ● recognise, find, name and write fractions: one	**Measurement** ● choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (¢XC); 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 = ● 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 ● compare and sequence intervals of time

		Geometry – properties of shape ● identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line ● identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces ● 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 and 3-D shapes and everyday objects.		**Statistics** ● interpret and construct simple pictograms, tally charts, block diagrams and simple tables ● 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.	third, one quarter, two quarters and three quarters of a length, shape, set of objects or quantity ● write simple fractions for example, one half of 6 = 3 and recognise the equivalence of two quarters and one half **Geometry –position and direction** ● 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).	

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 3	**Number and Place Value** ● count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number ● recognise the place value of each digit in a three-digit number (hundreds, tens, ones) ● compare and order numbers up to 1000 ● identify, represent and estimate numbers using different representations ● read and write numbers up to 1000 in numerals and in words ● solve number problems and practical problems involving these ideas. **Addition/Subtraction** ● add and subtract numbers mentally, including: ● a three-digit number using ones and tens ● a three-digit number and hundreds ● add and subtract numbers with up to three digits, using formal written	**Addition/Subtraction** ● add and subtract numbers mentally, including: ● a three-digit number using ones 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 ● estimate the answer to a calculation and use inverse operations to check answers ● solve problems, including missing number problems,	**Multiplication/Division** ● recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables ● 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 ● 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.	**Measurement** ● measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) ● measure the perimeter of simple 2-D shapes ● add and subtract amounts of money to give change, using both £ and p in practical contexts **Statistics** ● interpret and present data using bar charts, pictograms and tables ● 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.	**Measurement** ● 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 **Fractions/Decimals/%** ● 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	**Measurement** ● measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) **Geometry – properties of shape** ● draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them ● 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.

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	methods of columnar addition and subtraction				• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • recognise and show, using diagrams, equivalent fractions with small denominators • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above.	

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 4	**Number and Place Value** ● count in multiples of 6, 7, 9, 25 and 1000 ● find 1000 more or less than a given number ● count backwards through zero to include negative numbers ● recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) ● order and compare numbers beyond 1000 ● identify, represent and estimate numbers using different representations ● 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 ● 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. **Addition/Subtraction** ● add and subtract numbers with up to 4 digits using the formal	**Addition/Subtraction** ● add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate ● estimate and use inverse operations to check answers to a calculation ● solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. **Measurement** ● measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres ● find the area of rectilinear shapes by counting squares	**Multiplication/Division** ● 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 ● multiply two-digit and three-digit numbers by a one-digit number using formal written layout ● 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.	**Measurement** ● Convert between different units of time (hours to minutes) ● 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. **Fractions/Decimals/%** ● recognise and show, using diagrams, families of common equivalent fractions ● count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. ● 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 ● add and subtract fractions with the same denominator	**Statistics** ● interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. ● solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	**Fractions/Decimals/%** ● recognise and write decimal equivalents of any number of tenths or hundredths ● recognise and write decimal equivalents to one quarter, one half, three quarters ● 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 ● 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 ● solve simple measure and money problems involving fractions and decimals to two decimal places. **Geometry – properties of shape** ● compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	written methods of columnar addition and subtraction where appropriate ● solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. **Measurement** ● Convert between different units of measure [for example, kilometre to metre ● estimate, compare and calculate different measures, including money in pounds and pence ● Convert between different units of measure [for example, kilometre to metre; hour to minute]					● 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. **Geometry –position and direction** ● 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.

Year Group	● AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 5	**Number and Place Value** ● read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit ● count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 ● 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 **Addition/Subtraction** ● 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 ● use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy ● solve addition and subtraction multi-step problems in contexts, deciding which operations and	**Number and Place Value** ● interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero ● read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **Multiplication/Division** ● 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 ● 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	**Fractions/Decimals/%** ● compare and order fractions whose denominators are all multiples of the same number ● 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 example, 5 ● 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 ● read and write decimal numbers as fractions [for example, 0.71 = 100	**Fractions/Decimals/%** ●identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths ●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 ●read and write decimal numbers as fractions [for example, 0.71 = 100	**Geometry – properties of shape** ● identify 3-D shapes, including cubes and other cuboids, from 2-D representations ● know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles ● draw given angles, and measure them in degrees (o) ● identify: ● angles at a point and one whole turn (total 360o) ● angles at a point on a straight line and 2 **Geometry –position and direction** ● 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. **Statistics** ● solve comparison, sum and difference problems using information presented in a line graph	**Measurement** ● calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes ● estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] ● solve problems involving converting between units of time **Statistics** ● solve comparison, sum and difference problems using information presented in a line graph ● complete, read and interpret information in tables, including timetables. **RECAP – revise any topics that may need attention before year 6**

Year Group	● AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	methods to use and why.	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 **Measurement** ● convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) ● measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres			● complete, read and interpret information in tables, including timetables.	

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 6	**Number and Place Value** ● read, write, order and compare numbers up to 10 000 000 and determine the value of each digit ● 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. **Addition/Subtraction** ● solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why ● perform mental calculations, including with mixed operations and large numbers ● solve problems involving addition, subtraction, multiplication and division ● use estimation to check answers to calculations and determine, in the context of a problem,	**Measurement** ● solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate **Fractions/Decimals/%** ● use common factors to simplify fractions; use common multiples to express fractions in the same denomination ● compare and order fractions, including fractions > 1 ● 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, one quarter x one half = one eighth)	**Measurement** ● 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 ● 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	**Geometry – properties of shape** ● draw 2-D shapes using given dimensions and angles ● recognise, describe and build simple 3-D shapes, including making nets ● compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons ● illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius ● **Geometry –position and direction** ● 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. **Statistics**	**SATS** **Project work covering all aspects of Maths** **Preparation for Secondary School**	**Project work covering all aspects of Maths** **Preparation for Secondary School**

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	an appropriate degree of accuracy. ● perform mental calculations, including with mixed operations and large numbers **Multiplication/Division** ● 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 ● identify common factors, common multiples and prime numbers		using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]. **(Fractions/Decimals/) %** ● use common factors to simplify fractions; use common multiples to express fractions in the same denomination ● compare and order fractions, including fractions > 1 ● 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, one quarter x one half = one eighth) **Algebra** ● use simple formulae ● generate and describe linear number sequences ● express missing number problems algebraically	● interpret and construct pie charts and line graphs and use these to solve problems ● calculate and interpret the mean as an average. **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.		

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	• use their knowledge of the order of operations to carry out calculations involving the four operations		• find pairs of numbers that satisfy an equation with two unknowns			