Riverview CofE Primary and Nursery School
Mathematics Progression

Place Value	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	Count objects, actions and sounds Count beyond ten. Count verbally beyond 20 Subitise Link the number symbol (numeral) with its cardinal number value. Understand the 'one more than/one less than' relationship between consecutive numbers.	• 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** **Spring 1** **Spring 3** **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**	• Count in multiples of 6, 7, 9, 25 and 1000 • Count backwards through zero to include negative numbers **Autumn 1**	• Count forwards or backwards in steps of powers of 10for 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	Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number.	• Identify and represent numbers using objects and pictorial representations • Read and write number to 100 in numerals • Read and write numbers 1 to 20 in numerals and words **Autumn 1**	• Read and write numbers to at least 100 in numerals and words • Identify, represent and estimate numbers to 100 using different representations including the number line.	• Identify, represent and estimate numbers using different representations. • Read and write numbers up to 1000 in numerals and in words.	• 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	• Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.

		Spring 1 **Spring 3** **Summer 4**	**Autumn 1**	**Autumn 1**	concept of zero and place value. **Autumn 1**	**Autumn 1**	**Autumn 1**
	Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Place Value: Use Place Value and compare	Compare numbers	• Given a number, identify one more and one less **Autumn 1** **Spring 1** **Spring 3** **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) • Read and write numbers up to 1000 in numerals and in words **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 1000000 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 and Rounding			• Use place value and number facts to solve problems	• Solve number problems and practical problems involving these ideas.	• 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.	• Interpret negative numbers in context • Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 • Solve number problems and practical problems that involve all of the above.	• 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	**Autumn 1**	**Autumn 1**	**Autumn 1**	**Autumn 1**

Riverview Progression – Addition and Subtraction

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction: Recall, Represent and Use	Automatically recall number bonds for numbers 0–5 and some to 10. Explore the composition of numbers to 10.	• 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 2**	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. • Show that the 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**	

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction: Calculations	Automatically recall number bonds for numbers 0–5 and some to 10. Explore the composition of numbers to 10.	• Add and subtract one digit and two-digit numbers to 20, including zero. **Autumn 2** **Spring 2**	• 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 numbers mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) **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**

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction: Solving Problems	Automatically recall number bonds for numbers 0–5 and some to 10. Explore the composition of numbers to 10.	• 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 2**	• 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 and subtraction, multiplication and division and a combination of these, including understanding the use 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**

Riverview Progression – Multiplication and Division

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Multiplication and Division: Recall, Represent and Use	They solve problems, including doubling, halving and sharing.		• Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. • Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot **Spring 2**	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. **Autumn 3** **Spring 1**	• Recall and use multiplication and division facts for multiplication tables up to 12 x 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. • Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) • 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 **Autumn 3** **Spring 1**	• 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**
	Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

Multiplication and Division: Calculations			• Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) sign. **Spring 2**	• Write and calculate mathematical statements for multiplication and division using the multiplication tables 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 and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for 2-digit numbers. 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. **Autumn 3** **Spring 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**

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Multiplication and Division: Solve Problems	They solve problems, including doubling, halving and sharing.	• 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. **Spring 2**	• 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 objectives. **Autumn 3** **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 3** **Spring 1**	• Solve problems involving addition, subtraction, multiplication and division **Autumn 2**
Multiplication and Division: Combined Operations						• Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign **Autumn 3** **Spring 1**	• Use their knowledge of the order of operations to carry out calculations involving the four operations. **Autumn 2**

Riverview Progression – Fractions, Decimals and Percentages

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions: Recognise and Write	They solve problems, including doubling, halving and sharing.	• 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 write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ **Summer 1**	• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • 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. **Spring 3** **Summer 1**	• 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 • [Eg. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] **Autumn 4** **Spring 2**	

Fractions: Compare			Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ **Summer 1**	• Recognise and show, using diagrams, equivalent fractions with small denominators. • Compare and order unit fractions, and fractions with the same denominators. **Spring 3** **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. **Autumn 4** **Spring 2**	Use common factors to simplify fractions and use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1 **Autumn 4**
	Reception	**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 **Summer 1**	• Add and subtract fractions with the same denominator within one whole **Spring 3** **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. **Autumn 4** **Spring 2**	• 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 [Eg. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • Divide proper fractions by whole numbers [Eg. $\frac{1}{3} \div 2 = \frac{1}{6}$] **Autumn 5**

Fractions: Solve Problems	They solve problems, including doubling, halving and sharing.			• Solve problems that involve all of the above **Spring 3** **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**		

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Fractions: Recognise and Write	They solve problems, including doubling, halving and sharing.	• 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 write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ **Summer 1**	• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • 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. **Spring 3** **Summer 1**	• 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 • [Eg. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] **Autumn 4** **Spring 2**	
Fractions: Compare			Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ **Summer 1**	• Recognise and show, using diagrams, equivalent fractions with small denominators. • Compare and order unit fractions, and fractions with the same denominators. **Spring 3** **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. **Autumn 4** **Spring 2**	Use common factors to simplify fractions and use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1 **Autumn 6/7**
	Reception	**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 ¼, ½, ¾ **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 **Autumn 8**
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. **Spring 4** **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**	

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals: Calculations and Problems					• Find the effect of dividing a one or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths **Spring 4** **Summer 1**	• Solve problems involving numbers up to three decimal places **Spring 3** **Summer 3**	• Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3dp • Multiply one-digit numbers with up to 2dp 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. **Autumn 8**

	Reception	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. **Summer 3**	• Associate a fraction with division and calculate decimal fraction equivalents [Eg. 0.375] for a simple fraction [Eg. $\frac{3}{8}$] • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Autumn 9** **Autumn 10**

Riverview Progression – Ratio and Proportion

	Reception	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 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. • Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. **Spring 1**

Riverview Progression – Algebra

	Reception	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 **Autumn 11**

Note – although algebraic notation is not introduced until Year 6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives in Year 1, 2 and 3.

Riverview Progression – Measurement

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Using Measures	Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.	• Compare, describe and solve practical problems for: Lengths and heights for example, long/short, longer/shorter, tall/short, double/half 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 4** **Spring 5**	Choose and use appropriate standard units to estimate and measure length and height in any direction (m/cm); mass (kg/g); volume/capacity (litres/ml) and temperature (oC) to the nearest appropriate unit, using thermometers and measuring vessels. Compare and order volume/capacity and record the results using >, < and =. **Spring 3** **Spring 4**	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). **Spring 4**	Convert between different units of measure e.g. hour to minute and kilometre to metre. Estimate, compare and calculate different measures **Autumn 3** **Spring 2** **Summer 3**	• Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml) • 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, using decimal notation, including scaling **Spring 4** **Summer 5** **Summer 6**	• 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 3dp. • Convert between miles and kilometres. **Autumn 12**

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Measurement: Money	Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.	• Recognise and know the value of different denominations of coins and notes. **Summer 5**	• Recognise and use symbols of 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. **Spring 1**	• Add and subtract amounts of money to give change, using both £ and p in practical contexts **Summer 2**	• Estimate, compare and calculate different measures, including money in pounds and pence. **Summer 5**	• Use all four operations to solve problems involving measure (for example money) **Summer1**	
	Reception	**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. • Time Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times **Summer 6**	• 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. Compare and sequence intervals of time. **Summer 2**	• Tell and write the time from an analogue clock, including using Roman numerals 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) **Summer 3**	• Read, write & 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. **Summer 3**	• Solve problems involving converting between units of time. **Summer 5**	• Read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa **Year 5 Summer 4**

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Measurement: Perimeter, Area and Volume				• Measure the perimeter of simple 2D shapes **Spring 2**	• Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m • Find the area of rectilinear shapes by counting squares **Autumn 3** **Spring 2**	• Measure and calculate the perimeter of composite rectilinear shapes in cm and m. • Calculate and compare the area of rectangles (including squares), and including using standard units, cm2,m2 estimate the area of irregular shapes. • Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] **Spring 4** **Summer 6**	• 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 cm3, m3 and extending to other units (mm3, km3) **Spring 1**

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: 2D Shapes	Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns.	• Recognise and name common 2D shapes, including rectangles, squares, circles and triangles, **Autumn 3**	• Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. • Identify 2D shapes on the surface of 3D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] • Compare and sort common 2D shapes and everyday objects. **Autumn 3**	• Draw 2D shapes **Summer 4**	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • Identify lines of symmetry in 2D shapes presented in different orientations. **Summer 4**	• 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 1**	• Draw 2D 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 **Spring 3**
Geometry: 3D Shapes	Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns.	• Recognise and name common 3D shapes, including cuboids (including cubes), pyramids and spheres. **Autumn 3**	• Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. • Compare and sort common 3D shapes and everyday objects. **Autumn 3**	• Make 3-D shapes using modelling materials. • Recognise 3-D shapes in different orientations and describe them **Summer 4**		• Identify 3D shapes, including cubes and other cuboids, from 2D representations **Summer 1**	• Recognise, describe and build simple 3D shapes, including making nets **Spring 3**
	Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

Geometry: Angles and Lines	Select, rotate and manipulate shapes to develop spatial reasoning skills.			• Recognise angles as a property of shape or a description of a turn. • Identify right angles, recognise that two right angles make a half-term, 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 4**	• Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry. **Summer 4**	• 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 ½ a turn (total 180o) other multiples of 90o **Summer 1**	• 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. **Spring 2**

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

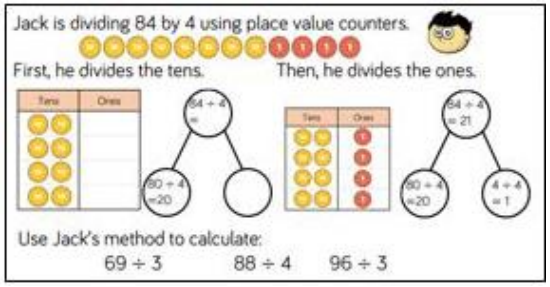
Geometry: Position and Direction	Select, rotate and manipulate shapes to develop spatial reasoning skills.	• Describe position, direction and movement, including whole, half, quarter and three-quarter turns. **Summer 3**	• Order and arrange combinations of mathematical objects in patterns and sequences • Use mathematical vocabulary to describe position, direction and movement, including: movement in a straight line distinguishing between rotation as a turn right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) **Summer 4**		• Describe positions on a 2D 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 2**	• 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 **Spring 4**

Riverview Progression – Statistics

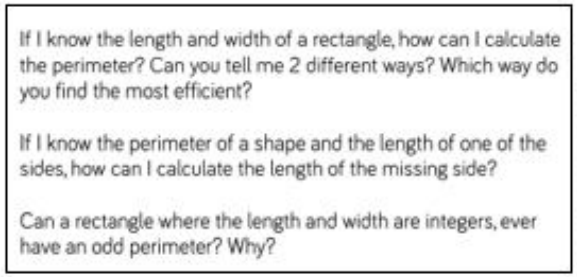
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics: Present and Interpret			• Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. **Summer 3**	• Interpret and present data using bar charts, pictograms and tables **Summer 5**	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs **Summer 5**	• Complete, read and interpret information in tables including timetables **Spring 5**	• Interpret and construct pie charts and line graphs and use these to solve problems **Spring 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. **Summer 3**	• 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 **Summer 5**	• Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs **Summer 5**	• Solve comparison, sum and difference problems using information presented in a line graph **Spring 5**	• Calculate and interpret the mean as an average **Spring 3**

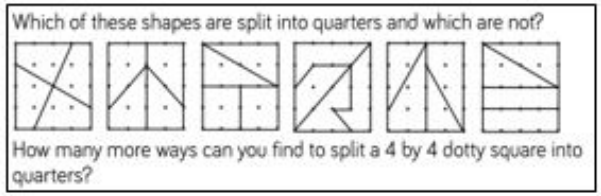
We want pupils to become fluent in the fundamentals of mathematics, to be able to reason and to solve problems. Our curriculum embraces these National Curriculum aims, and provides guidance to help pupils to become:

Visualisers – we use the CPA approach to help pupils understand mathematics and to make connections between different representations.

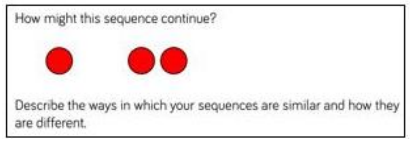


Describers – we place great emphasis on mathematical language and questioning so pupils can discuss the mathematics they are doing, and so support them to take ideas further.





Experimenters – as well as being fluent mathematicians, we want pupils to love and learn more about mathematics.



Why is the Riverview Curriculum ordered in the way it is?

To learn mathematics effectively, some things have to be learnt before others, e.g. place value needs to be understood before working with addition and subtraction, addition needs to be learnt before looking at multiplication (as a model of repeated addition). You will see this emphasis on number skills first, carefully ordered, throughout our curriculum. Each year group will begin with place value to ensure they have strong foundations at the beginning of the year. For some other topics, the order isn't as crucial, e.g. Shapes and Statistics need to come after number, but don't depend on each other. We try to mix these so pupils have as wide a variety of mathematical experiences as possible in each term and year. Fractions!!!!!

When are topics revisited?

Once a topic is covered it is met many times again in other contexts. For example, place value is always covered in Autumn 1 but revisited within addition and subtraction, multiplication and division etc. We also use morning maths to revisit learning, and Fluent in Five to recall previous learning.

What about the order of fluency, reasoning and problem solving?

We believe fluency, reasoning and problem solving should be integrated into classroom practice as much as possible in the order that is appropriate for the step, e.g. the process of division may be introduced by a problem about sharing or grouping for which we need to become fluent at the procedure.

Mastery Curriculum

Our Maths Curriculum follows many of the mastery principles – spending longer on topics to help gain deeper understanding, making connections, keeping the class working together on the same topic and a fundamental belief that, through effort, all pupils are capable of understanding, doing and improving at mathematics. But we also recognise that just spending a block of time on a topic doesn't mean that all pupils will 'master' it the first time they see it, and that they need to see it again and again in different contexts and in different years to help them truly develop their understanding on their journey to mastery, so we've built in the revisiting and reinforcing features too.