

	<u>Prep Mathematics Curriculum - Programme of Study</u>
Prep 1 (Year 3)	<p><u>Timestables</u> - Recall and use multiplication and division facts for: 2, 5, 10, 3, 4 and 8 times tables.</p> <p><u>Place valuing and ordering</u> – recognise place value in a 3 digit number; compare and order numbers up to 1,000. Read and write numbers up to 1,000.</p> <p><u>Addition/Subtraction</u> – add and subtract numbers with up to 3 digits, using formal written method of columnar addition and subtraction. Estimate the answers and use inverse operations to check answers. Solve problems using addition and subtraction.</p> <p><u>Multiplication/Division</u> – write and calculate mathematical statements for multiplication and division using the multiplication tables that they know; including 2-digit numbers times 1-digit numbers; both mentally and using formal written methods of short multiplication and division.</p> <p><u>Fractions</u> – Recognise tenths. Recognise, find and write fractions of a number using small denominators. Find equivalent fractions using diagrams. Add and subtract fractions with the same denominator. Compare and order unit fractions with the same denominators.</p> <p><u>Measurement</u> – measure, compare, add and subtract: lengths, mass and volume/capacity. Measure the perimeter of simple shapes. Add/subtract amounts of money to give change. Tell the time from an analogue clock and 12 hour and 24 hour clocks. Recognise Roman Numerals 1 – X11. Know the number of seconds in a minute; days in each month, year and leap year.</p> <p><u>Shapes</u> – Recognise and draw 2D shapes. Recognise 3D shapes and construct them. Recognise angles as a property of a shape. Identify right angles, $\frac{1}{2}$ turns, $\frac{3}{4}$ turns of a full circle. Identify horizontal, vertical, parallel and perpendicular lines.</p> <p><u>Statistics</u> –interpret and present data using bar charts, pictograms and tables. Solve single step and two – step questions relating to the above. Understand the use of simple scales.</p>
Prep 2 (Year 4)	<p><u>Timestables</u> - Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p><u>Place value and ordering</u> – recognise the place value in 4-digit numbers. Order and compare numbers beyond 1,000. Round any number to nearest 10, 100 or 1,000. Read Roman Numerals to 100 (I – C).</p> <p><u>Addition/Subtraction</u> – add/subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction. Estimate</p>

	<p>and use inverse operations to check answers to calculations. Solve addition/subtraction two step problems.</p> <p><u>Multiplication/Division</u> – recall multiplication/division facts up to 12 x 12. Multiply three numbers together; understanding commutativity. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Divide 2 and 3 digit numbers by single digit numbers using formal methods of short division.</p> <p><u>Fractions/Decimals</u> –recognise common equivalent fractions. Calculate quantities of whole numbers. Add/subtract fractions with the same denominator. Recognise decimal equivalents of tenths and hundredths. Recognise decimal equivalents of $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. Divide whole numbers by 10 and 100. Round decimals with 1 decimal place to nearest whole number. Compare numbers up to 2 decimal places. Solve simple measure/money problems with decimals to 2 decimal places.</p> <p><u>Measurement</u> – convert between different units of measure. Measure and calculate the perimeter of rectangles and squares. Find the area of rectangles. Read, write and convert time between analogue and digital 12 and 24 hour clocks. Solve conversion problems.</p> <p><u>Shapes</u> – compare and classify quadrilaterals and triangles. Identify acute and obtuse angles. Identify lines of symmetry in 2D shapes. Complete a reflection with respect to a line of symmetry. Describe positions as coordinates in the first quadrant. Describe translations as a given movement to left/right.</p> <p><u>Statistics</u> – interpret and construct bar charts and time graphs. Solve problems using information presented in bar charts, pictograms tables and other graphs.</p>
Prep 3 (Year 5)	<p><u>Timestables</u> - Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p><u>Place value and ordering</u> – read, write and order numbers to 1,000,000. Round any number up to 1,000,000 to nearest 10, 100, 1000, 10 000 and 100 000. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p> <p><u>Addition/Subtraction</u> – add/subtract whole numbers with more than 4 digits using formal written methods. Solve addition/subtraction multi – step problems.</p> <p><u>Multiplication/Division</u> – identify multiples and factors. Know/use the vocabulary of prime numbers, prime factors and composite numbers. Multiply numbers up to 4 digits by 1 or 2 digit numbers; including long multiplication. Divide numbers up to 4 digits by a one digit number using</p>

	<p>short division. Multiply and divide whole numbers and decimals by 10, 100 and 1000. Recognise square numbers and cube numbers. Solve multiplication/division multi – step problems.</p> <p><u>Fractions, Decimals and Percentages</u> – compare and order fractions whose denominators are all multiples of the same number. Convert mixed numbers to improper fractions. Add/subtract fractions with the same denominator and denominators that are multiples of the same number. Read/write decimal numbers as fractions. Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place. Read, write, order and compare numbers with up to 3 decimal places. Write percentages as fraction and decimal. Solve problems using percentages and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$.</p> <p><u>Measurement</u> – convert between different units of measurement. Understand and use approximate equivalences between metric and common imperial units. Measure and calculate the perimeter of rectangles. Calculate the area of rectangles and estimate the area of irregular shapes. Estimate volume and capacity. Solve problems involving conversions of units of time.</p> <p><u>Shapes</u> – identify 3D shapes. Know angles are measured in degrees. Measure/draw acute, obtuse and reflex angles. Identify angles at a point, on a straight line and other multiples of 90 degrees. Distinguish between regular and irregular polygons. Identify the position of a shape following a reflection or translation. Use reflection and translation in the first quadrant of a coordinate grid.</p> <p><u>Statistics</u> - solve problems using information presented in a line graph. Complete, read and interpret information in tables; including timetables.</p>
Prep 4 (Year 6)	<p><u>Timestables</u> - Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p><u>Number and place value</u> – read, write, order and compare numbers up to 10,000,000. Round any whole number to degree of accuracy.</p> <p><u>Addition/Subtraction/Multiplication/Division</u>- multiply up to 4 digit numbers by a 2 digit number using long multiplication. Divide up to 4 digit numbers by a 2 digit number using formal written method of long division. Divide up to 4 digit number by a 2 digit number using short division. Identify common factors, common multiples and prime numbers. Solve addition, subtraction, multiplication and division problems.</p> <p><u>Fractions, Decimals and Percentages</u> – use common factors to simplify fractions. Use common multiples to express fractions in the same denomination. Add/subtract fractions with different denominators and</p>

mixed numbers. Multiply simple pairs of proper fraction. Associate a fraction with division and calculate decimal fraction equivalents. Multiply and divide numbers and decimals by 10, 100, 1000, giving answers up to 3 decimal places. Multiply decimals with up to 2 decimal places by whole numbers. Use written division methods where the answer has up to 2 decimal places. Recall and use equivalences between simple fractions, decimals and percentages. Calculate percentages of amounts and percentage discounts.

Ratio and Proportion – solve problems involving relative sizes of 2 quantities where missing values can be found by using integer multiplication/division facts. Solve problems involving similar shapes where the scale factor is known or can be found.

Algebra – 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.

Measurement – solve measurement problems and convert using up to 3 decimal places. Convert between miles and kilometres. Recognise that different shapes with the same areas can have different perimeters. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate the volume of cubes and cuboids.

Shape - draw 2D shapes using given dimensions and angles. Recognise, describe and build 3D shapes, including making nets. Find unknown angles in triangles, quadrilaterals and regular polygons. Illustrate and names parts of circle. Recognise angles which meet at a point, are on a straight line or are vertically opposite and find missing angles. Describe positions on a four quadrant coordinate grid. Draw and translate simple shapes on four quadrant grid, using the axes as mirror lines.

Statistics – interpret and construct pie charts and line graphs. Calculate and interpret the mean as the average.