

Clipstone Brook Lower

Maths Progression Map EYFS-Year 4

The table below shows the skills to be covered in each year group. For EYFS, 3-4 and Rec indicate the development statements from the 2021 Development Matters document 3 and 4-year olds and children in Reception respectively, and broadly sets out children's development at these ages, although it is not intended as a tick list of objectives. ELG indicates the Early Learning Goal. For Key Stages 1 and 2, the objectives are taken from the National Curriculum 2014.

Number and Place Value				
EYFS	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> • 3-4: Recite numbers past 5 • 3-4: Say one number for each item in order: 1, 2, 3, 4, 5 • 3-4: Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') • 3-4: Develop fast recognition of up to 3 objects, without having to count them individually ('subitising') • 3-4: Show "finger numbers" up to 5 • 3-4: Link numerals and amounts, for example showing the right number of objects to match the numeral, up to 5 • 3-4: Experiment with their own symbols and marks as well as numerals • 3-4: Compare quantities using language 'more than', 'fewer than' • 3-4: Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'... • 3-4: Solve real world mathematical problems with numbers up to 5 • Rec: Count objects, actions and sounds • Rec: Count beyond ten • Rec: Subitise • Rec: Link the number symbol (numeral) with its cardinal number value • Rec: Compare numbers • Rec: Understand the 'one more than / one less than' relationship between consecutive numbers • Rec: Explore the composition of numbers to 10 • ELG: Have a deep understanding of number to 10, including the composition of each number • ELG: Subitise (recognise quantities without counting) up to 5 • ELG: Verbally count beyond 20, recognising the pattern of the counting system • ELG: Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity 	<ul style="list-style-type: none"> • 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 • 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 to 100 in numerals • Read and write numbers from 1 to 20 in numerals and words • Given a number, identify one more and one less 	<ul style="list-style-type: none"> • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • 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 • 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 • Use place value and number facts to solve problems 	<ul style="list-style-type: none"> • Count on from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • Identify, represent and estimate numbers using different representations • Read and write numbers up to 1000 in numerals and words • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • Compare and order numbers to 1000 • Solve number problems and practical problems involving these ideas 	<ul style="list-style-type: none"> • Count in multiples of 6, 7, 9, 25 and 1000 • Count backwards through zero to include negative numbers • 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 • 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 • 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

Addition and Subtraction

EYFS	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> • 3-4: Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') • 3-4: Develop fast recognition of up to 3 objects, without having to count them individually ('subitising') • 3-4: Show "finger numbers" up to 5 • 3-4: Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'... • 3-4: Solve real world mathematical problems with numbers up to 5 • Rec: Subitise • Rec: Explore the composition of numbers to 10 • Rec: Automatically recall number bonds for numbers 0-5 and some 0-10 • ELG: 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: Have a deep understanding of number to 10, including the composition of each number • ELG: Subitise (recognise quantities without counting) up to 5 • ELG: Explore and represent patterns within numbers up to 10, including evens and odd, double facts and how quantities can be distributed equally 	<ul style="list-style-type: none"> • Read, write and interpret mathematical statements involving addition (+), subtractions (-) 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 $7 = \square - 9$ 	<ul style="list-style-type: none"> • 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 subtractions and use this to check calculations and solve missing number problems • Add and subtract numbers using concrete objects pictorial representations, and mentally, including: <ul style="list-style-type: none"> □ a two-digit number and ones □ a two-digit number and tens □ two two-digit numbers □ adding three one-digit numbers • Solve problems with addition and subtraction: <ul style="list-style-type: none"> □ using concrete objects and pictorial representations, including those involving numbers, quantities and measures □ applying their increasing knowledge of mental and written methods 	<ul style="list-style-type: none"> • Estimate the answer to a calculation and use inverse operations to check answers • Add and subtract numbers mentally, including: <ul style="list-style-type: none"> □ 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 • Solve problems including missing number problems, using number facts, place value, and more complex addition and subtraction 	<ul style="list-style-type: none"> • Estimate and use inverse operations to check the answers to a calculation • Add and subtract numbers with up to 4 digits using the formal 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

Multiplication and Division

EYFS	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> ● Rec: Explore the composition of numbers to 10 ● ELG: Explore and represent patterns within numbers up to 10, including evens and odd, double facts and how quantities can be distributed equally ● ELG: 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 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 ● Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs ● Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● Recall 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 ● 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

Fractions, Decimals and Percentages

EYFS	Year 1	Year 2	Year 3	Year 4
	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 	<ul style="list-style-type: none"> 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 Recognise and show, using diagrams, equivalent fractions with small denominators Compare and order unit fractions, and fractions with the same denominators Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] Solve problems that involve all of the above 	<ul style="list-style-type: none"> Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Recognise and show, using diagrams, families of common equivalent fractions Add and subtract fractions with the same denominator 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 Recognise and write decimal equivalents of any number of tenths and hundredths Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ 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 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 Solve simple measure and money problems involving fractions and decimals to two decimal places

Measurement

EYFS	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> • 3-4: Make comparisons between objects relating to size, length, weight and capacity • 3-4: Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'... • Rec: Compare length, weight and capacity 	<ul style="list-style-type: none"> • Compare, describe and solve practical problems for: <ul style="list-style-type: none"> □ 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: <ul style="list-style-type: none"> □ lengths and heights □ mass/weight □ capacity and volume □ time (hours, minutes, seconds) • Recognise and know the value of different denominations of coins and notes • 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 hands on a clock face to show these times 	<ul style="list-style-type: none"> • 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 = • 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 • 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 	<ul style="list-style-type: none"> • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • Add and subtract amounts of money to give change, using both £ and p in practical contexts • 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] • Measure the perimeter of simple 2-D shapes 	<ul style="list-style-type: none"> • Convert between different units of measure [for example, kilometre to metre; hour to minute] • Estimate, compare and calculate different measures • Estimate, compare and calculate different measures, including money in pounds and pence • 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 • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • Find the area of rectilinear shapes by counting squares

Geometry – Properties of Shape

EYFS	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> ● 3-4: Talk about and explore 2D and 3D shapes (for example circles, rectangles, triangles and cuboids) using informal and mathematical language 'sides', 'corners', 'straight', 'flat', 'round' ● 3-4: Select shapes appropriately, flat surfaces for building, a triangular prism for a roof etc. ● 3-4: Combine shapes to make new ones, an arch, a bigger triangle etc. ● Rec: Select, rotate and manipulate shapes in order to develop spatial reasoning skills ● Rec: Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can 	<ul style="list-style-type: none"> ● Recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] ● Recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] 	<ul style="list-style-type: none"> ● 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 2D shapes and everyday objects ● Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces ● Compare and sort common 3-D shapes and everyday objects 	<ul style="list-style-type: none"> ● Draw 2-D shapes ● 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 	<ul style="list-style-type: none"> ● 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 ● Identify acute and obtuse angles and compare and order angles up to two right angles by size ● Complete a simple symmetric figure with respect to a specific line of symmetry

Geometry – Position and Direction

EYFS	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none">● 3-4: Understand position through words alone, for example “The bag is under the table” with no pointing● 3-4: Describe a familiar route.● 3-4: Discuss routes and locations, using words like ‘in front of’ and ‘behind’● 3-4: Talk about and identify the patterns around them, for example stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc.● 3-4: Extend and create ABAB patterns, e.g. stick, leaf, stick, leaf● 3-4: Notice and correct an error in a repeating pattern● Rec: Draw information from a simple map● Rec: Continue, copy and create repeating patterns	<ul style="list-style-type: none">● Describe position, direction and movement, including whole, half quarter and three-quarter turns	<ul style="list-style-type: none">● 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)		<ul style="list-style-type: none">● Describe position 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

Statistics

EYFS	Year 1	Year 2	Year 3	Year 4
		<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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