The Cambridge Primary School – Maths Skills Progression

Maths Intent

At the Cambridge Primary School, we intend for pupils to develop a love of maths and enjoy the excitement and challenge that problem solving brings. We use a maths mastery approach to deliver active and involving teaching that promotes curiosity, creativity, resilience and growth mind set. All learning is put into real life context, where possible, to help children understand the role of mathematics in the world around them and encourage them to become lifelong learners.

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number	Recognising numbers to 5. Count reliably to 5. Sorting/comparing to 5. Recognising numbers to 10. Count reliably to 10. Sorting/comparing to 10. Recognising numbers to 20. Count reliably to 20. Sorting/comparing to 20. Counting irregular arrangements within 10. Odds and evens.	Count to 100 (first 0 – 10, then to 20, then to 40 then to 100). Read and write numbers from 0 to 100 (first 0 – 10, then to 20, then to 40 then to 100). Compare and order numbers from 0 to 100 (first 0 – 10, then to 20, then to 40 then to 100). Make different number bonds for numbers up to 10. Make number stories Complete number patterns. Use a place-value chart to show numbers in tens and ones. Find how much more. Count in twos, fives and tens to 100. Say a number that is 1 more or 1 less than a 2-digit number.	Count to 100. Read and write numbers to 100. Compare and arrange numbers within 100. Make and complete number patterns.	Count to 1000. Count in hundreds, tens and ones. Count in fifties. Count in fours and eights. Tell the value of a digit in a number. Compare and arrange numbers within 1000. Complete number patterns.	Count to 10 000. Count in thousands, hundreds, tens and ones. Count in twenty-fives. Count in sixes, sevens and nines. Tell the number that a digit stands for. Compare and arrange numbers within 10 000. Describe and complete number patterns. Round numbers and estimate sum and difference.	Read and write numbers to 1 000 000. Tell the place value of a digit in a number. Compare and arrange numbers within 1 000 000. Count forwards or backwards in steps of 1000, 10 000 and 100 000. Round numbers to the nearest 10, 100, 1000, 10 000 and 100 000.	Read and write numbers to 10 million. Compare and arrange numbers within 10 million. Tell the place value of a digit in a number. Round numbers to the nearest 10, 100, 1000, 10 000, 100 000 and 1 000 000.

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Addition and Subtraction (Whole number)	Number bonds to 5. One more/One less to 5. Number bonds to 10. One more/One less to 10. Number bonds to 20. One more/One less to 20. Using quantities and objects, subtract 2 single-digit numbers and count on or back to find the answer.	Add by counting. Add by counting on. Make addition stories. Write addition equations. Subtract by crossing out. Subtract using number bonds. Subtract by counting back. Make subtraction stories. Write subtraction equations. Make a family of addition and subtraction facts. Add by making 10. Add by adding ones. Subtract by subtracting ones. Subtract by subtracting from 10. Solve word problems involving addition or subtraction.	Add numbers without renaming. Add numbers with renaming. Subtract numbers without renaming. Subtract numbers with renaming. Add three numbers. Draw models for different situations.	Add numbers without renaming. Add numbers with renaming. Subtract numbers without renaming. Subtract numbers with renaming. Solve word problems involving addition and subtraction.	Add numbers without renaming. Add numbers with renaming. Add numbers mentally. Subtract numbers without renaming. Subtract numbers with renaming. Subtract numbers mentally. Solve word problems involving addition and subtraction.	Add whole numbers with more than 4 digits. Add numbers mentally. Subtract whole numbers with more than 4 digits. Subtract numbers mentally. Use rounding to check answers. Solve word problems involving addition, subtraction, multiplication and division, and a combination of these.	Perform mental calculations. Use estimation to check answers to calculations. Use the order of operations. Solve problems involving addition and subtraction. multiplication and division.

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Multiplication and Division (Whole number)	Halving. Sharing. Doubling. Grouping and counting in 2s, 5s, 10s.	Make equal groups. Add equal groups to find the total number of objects. Group things equally. Share things equally. Solve word problems about multiplication.	Do my 2, 5 and 10 times table. Write multiplication equations. Divide a number by 2, 5 and 10. Write multiplication and division equations. Write a family of multiplication and division facts. Recognise odd and even numbers. Solve word problems using the 2, 5 and 10 times tables. Solve word problems involving multiplication and division.	Do my 3, 4 and 8 times table. Divide a number by 3, 4 and 8. Solve word problems involving the 3, 4 and 8 times tables. Solve word problems involving the division of 3, 4 and 8.	Multiply by 6, 7, 9, 11 and 12. Divide by 6, 7, 9, 11 and 12. Divide to find quotient and remainder. Solve word problems involving multiplication and division. Multiply without regrouping. Multiply with regrouping. Divide without regrouping. Divide with regrouping. Find the quotient and remainder in division. Solve word problems involving multiplication and division.	Find multiples and common multiples. Find factors and common factors. Identify prime and composite numbers. Recognise square numbers and cube numbers, and use the notation for squares (e.g. 42) and cubes (e.g. 23). Multiply numbers up to 4 digits by a 1-digit number. Multiply numbers up to 3 digits by a 2-digit number. Multiply and divide mentally. Multiply and divide numbers by 10, 100 and 1000. Divide 3-digit and 4-digit numbers. Solve word problems involving addition, subtraction, multiplication and division, and a combination of these.	Multiply numbers up to 4 digits by a 2-digit whole number. Divide numbers up to 4 digits by a 2-digit whole number. Interpret remainders in division. Identify common factors, common multiples and prime numbers. Solve problems involving multiplication and division. Solve problems involving the calculation and conversion of units of measure.

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Fractions	Halving. Sharing. Doubling. Grouping and counting in 2s, 5s, 10s.	Show a half. Show a quarter. Group/share things to get a half or a quarter. Find a half or a quarter of a group of things.	Make and show halves, quarters and thirds. Name and write a fraction. Name fractions that make one whole. Compare and order fractions. Count wholes with halves, quarters and thirds. Find part of a set and a quantity.	Count in tenths. Make number pairs that form one whole. Add and subtract two fractions. Find and list equivalent fractions. Write a fraction in its simplest form. Compare fractions. Find part of a set and fraction of a number. Share a number equally. Write fractions on the number line. Write fractions that are greater than 1. Solve word problems involving fractions.	Count in hundredths. Write and show mixed numbers on a number line. Find equivalent fractions. Simplify fractions and mixed numbers. Add and subtract fractions. Solve word problems involving fractions.	Find equivalent fractions of a given fraction. Recognise mixed numbers and improper fractions and Convert from one form to the other. Compare and order fractions. Add and subtract fractions. Multiply proper fractions and mixed numbers by whole numbers.	Find equivalent fractions using common multiples. Simplify fractions using common factors. Compare and order fractions. Add and subtract fractions. Multiply proper fractions. Divide proper fractions by whole numbers. Relate division of whole numbers to fractions and decimals.
Decimals					Recognise and write tenths. Recognise and write hundredths. Compare numbers with the same number of decimal places. Complete number patterns involving decimals. Round decimals with one decimal place to the nearest whole number. Recognise and write decimal equivalents of 1/4, 1/2 and 3/4. Divide a 1- or 2-digit number by 10 and by 100.. Solve simple measure and money problems involving decimals.	Read and write decimals up to three decimal places. Compare and order decimals up to three decimal places. Write fractions as decimals. Add and subtract decimals. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving decimals up to three decimal places.	Relate division of whole numbers to fractions and decimals. Write fractions as decimals. Tell the place value of digits in a decimal number. Multiply and divide decimals with 1-digit and 2-digit whole numbers.
Percentage						Recognise the per cent symbol (%). Find percentages of a given number. Interpret a percentage as a fraction of an amount.	Calculate the percentage of a number and a quantity. Use percentage to describe changes. Use percentage to compare.

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Length	Children use everyday language to talk about size, weight, capacity and distance. Compare quantities and objects and to solve problems. Ordering by weight, height, length and capacity.	Compare the length of objects. Measure the length of objects.	How to measure length in metres (m). How to measure length in centimetres (cm). When to use cm or m to measure length. How to compare and order length. How to measure and draw lines. How to solve word problems on length.	Write length in metres (m) and centimetres (cm). Convert length from m and cm to cm. Convert length from cm to m and cm. Write length in kilometres (km) and metres (m). Convert length from km and m to m. Convert length from m to km and m. Compare different lengths. Solve word problems on length.	Measure and estimate length. Convert units of length.	Convert measurements of length. Solve problems involving measurements.	
Area and Perimeter				Measure the total length around a shape. Find the perimeter of figures using a square grid . Find the perimeter of figures in centimetres (cm) and metres (m). Find the perimeter of squares and rectangles	Measure perimeter in different units.	Find the perimeter of a figure. Find the area of a figure. Use scale diagrams to find the perimeter and the area of a figure. Estimate the area of a figure.	Find the perimeter and the area of rectangles, triangles and parallelograms. Use formulae to find the area of rectangles, triangles and parallelograms. Use the area of rectangles to find the area of other types of polygons.
Volume		Compare volume and capacity. Use half and a quarter to describe volume. Find volume and capacity.	Compare volume. Measure volume in litres (l) and millilitres (ml). Solve word problems on volume.	Measure volume in millilitres (ml) and litres (l). Measure capacity in ml and l. Write volume in ml and l. Write capacity in ml and l. Solve word problems on volume and capacity	Measure and estimate volume. Convert units of volume.	Find and compare the volumes of solids. Find and compare the capacity of rectangular boxes. Estimate volume and capacity. Convert units of volume. Solve word problems involving volume.	Find the volume of solids by counting unit cubes. Calculate the volume of cubes and cuboids in standard units (mm^3, cm^3, m^3 and km^3). Solve problems involving volume.

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Geometry	Children use everyday language to talk about size position. Recognise, create and describe patterns with common shapes. Positional language. Explore characteristics of everyday objects and 2D and 3D shapes and use mathematical language to describe them.	Name solids and shapes. Look for shapes in solids. Group shapes. Make and complete patterns with shapes.	Name triangles, quadrilaterals and polygons. Identify the number of sides and vertices of a shape. Identify the lines of symmetry of a shape or figure. Form different figures with shapes. Name the shapes that make up a figure. Sort shapes. Draw figures on a square grid and a dot grid. Make and complete patterns. Tell how patterns are formed from shapes. Move shapes. Turn shapes. Recognise flat faces and curved surfaces. Name and describe spheres, cuboids, cubes, cylinders, cones, pyramids and prisms. Identify the number of faces, edges and vertices of a shape. Fold two-dimensional shapes into three-dimensional ones. Group shapes in different ways. Form structures with shapes. Make patterns with shapes.	Recognise an angle. Find angles in shapes. Find a right angle, an acute angle and an obtuse angle. Compare the sizes of angles. Make a half turn, a three-quarters turn and a full turn.	Identify acute and obtuse angles. Compare and order angles. Compare and classify triangles and quadrilaterals. Identify lines of symmetry in 2-D shapes. Complete a simple symmetrical figure with respect to a specific line of symmetry.	Identify acute angles, right angles, obtuse angles and reflex angles. Draw and measure given angles. Identify angles on a straight line and angles that meet at a point. Find unknown angles in squares and rectangles. Identify regular polygons. Identify 3-D shapes from 2-D drawings.	Recognise angles that meet at a point, angles on a straight line, and vertically opposite angles. Find unknown angles in triangles, quadrilaterals and regular polygons. Identify the radius, diameter, circumference and centre of a circle. Draw 2-D shapes using given dimensions and angles. Identify and draw nets of 3-D shapes.

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Mass		Compare the mass of objects. Find the mass of objects.	Measure mass in kilograms (kg). Measure mass in grams (g). Compare and order mass. Solve word problems on mass.	Read the scales for mass in kilograms (kg) and grams (g). Solve word problems on mass.	Measure and estimate mass. Convert units of mass.	Convert measurements of mass. Solve problems involving measurements.	
Temperature			Read a thermometer. Measure and write down the temperature.			Tell the temperature. Solve problems involving measurements.	
Money	Children use everyday language to talk about money.	Recognise coins. Recognise notes.	Name coins and notes. Count an amount of money. Show amounts of money in different ways. Exchange coins and notes. Compare amounts of money. Calculate change. Solve word problems on money.	Name the amount of money in pounds and pence. Use different ways to show the same amount of money. Add money in pounds and pence. Subtract money in pounds and pence. Calculate change in pounds and pence. Solve word problems on money.	Count an amount of money and write it using decimals. Compare different amounts of money. Round money to the nearest £ and to the nearest £10. Estimate total amounts of money. Solve problems involving money.		

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Time	Children use everyday language to talk about time.	Tell time to the hour. Tell time to the half hour. Compare different times. Recognise dates on a calendar.	Tell and write the time to 5 minutes. Draw hands on a clock face to show time. Find the duration of time. Find the ending or starting time. Compare and sequence intervals of time. Know the number of minutes in an hour. Know the number of hours in a day.	Tell and write time in a.m. and in p.m. Tell and write time using "past" and "to". Tell and write time shown on different types of clocks. Measure time in seconds, hours and minutes. Find starting time, ending time and duration. Change minutes to seconds, and seconds to minutes. Find the number of days using a calendar. Know the number of days in each month, year and leap year.	Tell time using the 24-hour clock. Change time in minutes to seconds. Change time in hours to minutes. Change time in years to months. Change time in months to years. Find the duration, starting time and finishing time. Solve word problems on time.	Convert measurements of time. Solve problems involving measurements.	
Graphs			Read information from pictograms, block diagrams, tally charts and tables. Make pictograms, block diagrams, tally charts and tables. Solve problems using information from pictograms, block diagrams, tally charts and tables.	Draw picture graphs and bar graphs. Read and interpret bar graphs. Solve problems using information from bar graphs.	Use a table to show information. Draw, read and interpret tables, picture graphs, bar graphs and line graphs. Solve problems using information from tables and graphs.	Read and interpret information in a timetable. Read, interpret and complete information in a table. Read and interpret information from a line graph. Solve word problems using information from a line graph.	Calculate and interpret the mean as an average. Draw and read pie charts. Draw and read graphs. Solve problems using information provided by graphs.

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Position and Movement	Children use everyday language to talk about position. Ordering by distance and position. Positional language	Name positions in a race and in a queue. Name positions from the left and from the right. Use words such as before, after, next to, last and between to name positions. Describe positions. Describe movements. Describe turns.			Describe positions using coordinates. Plot points and form figures on the grid. Describe movement including translation of figures.	Write the coordinates of points. Describe translations and reflections. Find the position of a shape after translation or after reflection.	Use coordinate grids with negative numbers. Describe positions of points with coordinates. Draw, translate and reflect simple shapes on the coordinate plane.
Ratio							Compare quantities and numbers using ratios. Solve problems involving ratios.
Negative Numbers							Add and subtract negative numbers. Use negative numbers in context. Solve problems involving negative numbers.
Algebra							Describe and complete a pattern. Write and evaluate algebraic expressions. Write and use formulae. Solve equations.
Roman Numerals					Read and write Roman numerals for 1 to 20. Read and write Roman numerals to 100.	Write Roman numerals up to 1000. Write years in Roman numerals.	