Maths Curriculum

Crompton Primary School

	Autumn	Spring	Summer
Reception			
Year 1	**Number: Place Value** • Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers to 10 in numerals and words. • 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. • Given a number, identify one more or one less. • Count in multiples of twos. • Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. • Count, read and write numbers from 1 to 20 in numerals and words. • 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. • Given a number, identify one more or one less. **Number: Addition & Subtraction** • Represent and use number bonds and related subtraction facts (within 10) • Add and subtract one-digit numbers (to 10), including zero. • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems. **Geometry: Shape** • Recognise and name common 2D and 3D shapes, including rectangles, squares, circles and triangles, cuboids, pyramids and spheres.	**Number: Addition & Subtraction** • Add and subtract one digit and two-digit numbers to 20, including zero. • Represent and use number bonds and related subtraction facts within 20. • 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-digit numbers. • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems. **Place Value** • Count to 50 forwards and backwards, beginning with 0 or 1, or from any number. • Count, read and write numbers from 1-50 in numerals and words. • Identify and represent numbers using objects and pictorial representations. • Given a number, identify 1 more or 1 less. • Count in multiples of twos, fives and tens **Measure: Length & Height** • Compare, describe and solve practical problems for: lengths and heights for example, long/short, longer/shorter, tall/short, double/half • Measure and begin to record lengths and heights. **Measure: Weight & Volume** • Compare, describe and solve practical problems for 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] • Measure and begin to record mass/weight, capacity and volume.	**Number: Multiplication & Division** • Count in multiples of twos, fives and tens. • 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. **Number: Fractions** • 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. • Compare, describe and solve practical problems for lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) • Compare, describe and solve practical problems for mass/weight (e.g. heavy/light, heavier than, lighter than); capacity and volume (e.g. full/empty, more than, less than, half, half full, quarter) **Geometry: Position & Direction** • 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. • Compare, describe and solve practical problems for lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) • Compare, describe and solve practical problems for mass/weight (e.g. heavy/light, heavier than, lighter than); capacity and volume (e.g. full/empty, more than, less than, half, half full, quarter) **Number: Place Value** • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers from 1-100 in numerals and words. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least. • Given a number, identify one more and one less.

			Measurement: Money • Recognise and know the value of different denominations of coins and notes. **Measurement: Time** • Sequence events in chronological order using language (e.g. 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. • Compare, describe and solve practical problems for time (e.g. quicker, slower, earlier, later) • Measure and begin to record times (hours, minutes, seconds)
Year 2	**Number: Place Value** • Counting to 100 • Using place value • Compare numbers • Number bonds • Making number patterns • Apply knowledge of numbers to solve problems **Number: Addition & Subtraction** • Simple adding • Adding with carrying • Simple subtracting • Subtracting with carrying • Addition of 3 numbers • Use knowledge of addition and subtraction to solve problems **Number: Multiplication & Division** • Multiplication as equal groups • 2, 5 and 10 times tables • Multiplying by 2, 5 and 10 • Solve word problems • Use knowledge of multiplication and division to solve problems **Multiplication & Division of 2, 5 and 10** • Grouping and sharing • Divide by 2, 5 and 10 • Multiplication and division • Solve word problems • Odd and even numbers • Use knowledge of multiplication and division to solve problems **Length** • Measure and compare lengths in centimetres and metres • Compare lengths of lines • Solve word problems • Use knowledge of length to solve problems	**Temperature** • Read and estimate temperature • Apply knowledge of temperature to solve problems **Picture Graphs** • Read picture graphs • Use knowledge of picture graphs to solve problems **Word Problems** • Solve word problems • Use knowledge of problem solving to solve problems **Money** • Write amounts of money • Count money • Show equal amounts of money • Exchange money • Compare amounts of money • Calculate total and change • Solve word problems • Use knowledge of money to solve problems **2-Dimensional Shapes** • Identify sides, vertices and lines of symmetry • Make figures • Sort and draw shapes • Make and describe patterns • Moving and turning shapes • Use knowledge of shapes to solve problems **3-Dimensional Shapes** • Recognise, describe and group 3D shapes • Form 3D structures • Make patterns • Apply knowledge of 3D shapes to solve problems **Fractions** • Making equal parts • Showing halves, quarters and thirds • Name fractions • Make equal fractions	**Time** • Tell and write time to 5 minutes • Sequence events • Draw clock hands • Find durations of time • Find starting and ending times • Compare time • Apply knowledge of time to solve problems **Volume** • Compare volume • Measure volume in litres and millilitres • Solve word problems • Apply knowledge of volume to solve problems

	Mass • Measure mass in grams and kilograms • Compare mass of up to 3 objects • Solve word problems • Use knowledge of mass to solve problems	• Compare and order fractions • Counting wholes, parts, halves, quarters and thirds • Find parts of a set and quantity • Apply knowledge of fractions to solve problems	
Year 3	**Number: Numbers to 1000** • Read and write numbers to 1,000 • Compare numbers to 1,000 • Count in 100s, 10s and 1s • Count in 50s • Apply knowledge of numbers to 1,000 to solve problems **Number: Addition & Subtraction** • Count on and backwards to add and subtract • Add and subtract whole numbers up to 1,000 • Apply knowledge of addition and subtraction of whole numbers to solve problems **Number: Multiplication & Division** • Multiply by 3, 4 and 8 • Multiply a 2-digit numbers by a 1-digit number • Divide by 3, 4 and 8 • Divide 2-digit numbers, with and without remainders • Apply knowledge of multiplication and division of whole numbers to solve problems	• **Length** Writing length in metres, centimetres and kilometres • Comparing length • Apply knowledge of length to solve problems **Mass** • Reading weighing scales • Apply knowledge of mass to solve problems **Volume** • Measure and write volume in millilitres and litres • Measure and write capacity in millilitres and litres • Apply knowledge of volume to solve problems **Money** • *Name and show different amount of money • To add and subtract money • Calculate change • Apply knowledge of money to solve problems **Time** • Use the terms am and pm correctly • Tell time to the minute, understanding the relationship between the minute and hour hand • Compare analogue and digital time • Tell time before the hour • Tell the time on analogue lock using Roman numerals • Measure time in seconds and milliseconds • Measure time in hours and minutes • Converting minutes to seconds and seconds to minutes • Calculate number of days in a month	**Statistics** • Drawing picture graphs and bar charts • Reading bar graphs **Fractions** • Counting in tenths • Add fraction with the same denominator • Subtract fractions with the same denominator • Find equivalent fractions • Find the simplest fraction • Compare fractions (with different denominators) • Find a fraction of a whole number • Share more than 1 • Apply knowledge of fractions to solve problems **Shape – Angles** • Identify what makes an angle • Find angles in shapes • Compare angles using the terms “right” angle and “acute” angle • Identify acute angles as smaller as right angles • Make urns using angles vocabulary **Lines and Shapes** • Identify perpendicular lines • Identify parallel lines • Define and identify vertical and horizontal lines • Describe 2D shapes • Create 3D shapes out of nets • Describe 3D shapes **Perimeter** • Determine perimeter of basic shapes • Measure perimeter of a shape
Year 4	**Number: 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.	**Number: Multiplication & Division** • 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. • 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	**Decimals** • Recognise and write decimal equivalents to ¼, ½, ¾ • 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 • 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. **Measurement: Money** • Solve simple measure and money problems involving fractions and decimals to two decimal places. • Estimate, compare and calculate different measures, including money in pounds and pence.

	• 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. **Number: 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. **Number: Multiplication & Division** • 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. • Count in multiples of 6, 7, 9, 25 and 1000 • 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. **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.	harder correspondence problems such as n objects are connected to m objects. **Number: Fractions – Y3 & Y4** • 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. **Perimeter and area – Y3 & Y4** • Convert between different units of measure e.g. kilometre to metre. • Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m • Find the area or rectilinear shapes by counting squares **Decimals** • Recognise and write decimal equivalents of any number of tenths or hundredths. • 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 • Solve simple measure and money problems involving fractions and decimals to two decimal places • Convert between different units of measure (e.g. kilometre to metre).	**Measurement: Time** • Convert between different units of measure (e.g. kilometre to metre; hour to minute). • 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. **Geometry: Properties of Shape – Y3 & Y4** • Identify acute and obtuse angles and compare and order angles up to two right angles by size • 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. • Complete a simple symmetric figure with respect to a specific line of symmetry. **Geometry: Position and direction** • 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.
Year 5	**Number: Place Value** • Read and write numbers to 1,000,000 • Compare numbers to 1,000,000 • Making number patterns • Round numbers • Apply knowledge of numbers to 1,000,000 to solve problems **Number: Addition & Subtraction** • Count on and backwards to add and subtract • Add and subtract whole numbers up to 1,000,000 • Apply knowledge of addition and subtraction of whole numbers to solve problems **Number: Multiplication & Division** • Find multiples, factors and common factors • Find prime numbers • Find square and cube numbers • Multiply whole numbers by 10, 100 and 1000 • Multiply numbers up to 4 digits by a single digit • Multiply 2 and 3-digit numbers by a 2-digit number	**Number: Fractions** • Divide to make fractions • Write improper fractions and mixed numbers • Find equivalent fractions • Compare and order fractions • Make number pairs • Add and subtract fractions • Multiply fractions and mixed numbers • Apply knowledge of fractions to solve problems **Decimals** • Read, write and compare decimals • Write fractions as decimals • Add and subtract decimals • Round decimals • Apply knowledge of decimals to solve problems **Number: Percentages** • Compare quantities • Find percentages • Apply knowledge of percentages to solve problems	**Geometry** • Draw lines and angles • Describe and investigate lines and angles in squares and rectangles • Solve problems involving rectangles and angles • Investigate regular polygons • Apply knowledge of angles to solve problems **Position and Movement** • Name and plot points • Describe translations • Reflect shapes and describe movements **Measurement** • Convert units of length • Apply knowledge of units of length to solve problems • Convert units of time • Convert units of mass • Identify temperature **Area and Perimeter** • Calculate perimeter

	• Divide by 10, 100 and 1000 • Divide 3 and 4-digit numbers, with and without remainders • Apply knowledge of multiplication and division of whole numbers to solve problems **Whole Numbers: Word Problems** • Solve word problems involving multiple operations; to be able to identify the operation needed to carry out the plan **Graphs** • Read and interpret tables • Read, interpret and construct line graphs • Apply knowledge of tables and line graphs to solve problems	**Geometry** • Identify and measure different types of angles • Identify angles on a line and around a point	• Estimate and calculate area **Volume** • Understand and find the volume of solids • Find the capacity of rectangular boxes • Convert units of volume • Apply knowledge of volume to solve problems **Roman Numerals** • Write Roman Numerals to 1000 • Write years in Roman Numerals • Solve problems involving Roman Numerals0
Year 6	**Number: Place Value** • Read and write numbers up to 10 000 000 • Compare and order numbers to 10,000,000 • Round numbers • Negative numbers • Use knowledge of numbers to solve problems **Number: All Four Operations** • Add whole numbers with more than 4 digits • Subtract whole numbers with more than 4 digits • Inverse operation (add & subtract) • Multi-step addition and subtraction problems • Multiply up to 4 digits by a 2-digit number • Divide 4 digits by 1 digit & with remainders • Find common multiples and factors • Find prime numbers • Use knowledge of the 4 operations of numbers to solve problems **Fractions and Decimals** • Simplify fractions • Equivalent fractions • Add and subtract fractions • Add and subtract mixed numbers • Multiply fractions & Divide proper fractions by whole numbers • Divide whole numbers by fractions • Write fractions as decimals • Find fractions of amounts • Fractions on a number line • Multiply & divide by 10, 100 and 1000 • *understand decimals to 3 decimal places • Multiply & divide decimals by integers **Position and Directions** • Read & plot coordinates in four quadrants	**Measurement:** • Convert units of length • Convert units of mass • Convert units of volume • Convert units of time • Use knowledge of measurements to solve problems **Ratio** • Compare quantities • Compare numbers to • Solve word problems • Use knowledge of ratio to solve problems **Algebra:** • Describe a pattern • Write and evaluate algebraic expressions • Write and use formulae • Solve equations • Use knowledge of algebra to solve problems **Geometry and Statistics** • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate the mean as an average. **Area and Perimeter:** • Find the area and perimeter of parallelograms • Find the area of parallelograms and triangles • Use knowledge of area and perimeter to solve problems **Position and movement, Graphs and Averages, Negative Numbers** • Describe translations and reflections • Calculate mean average • Read and understand pie charts and line graphs	**Revision** **End of Term Project: Enterprise**

	• Translate, rotate and reflect shapes	• Add and subtract using negative numbers **Volume:** • Find the volume of cubes and cuboids • Solve problems involving the volume of solids **Geometry** • Investigate vertically opposite angles • Investigate angles in triangles and quadrilaterals • Name parts of a circle • Solve problems involving angles in a circle • Draw nets of 3 dimensional shapes	