



Mathematics Long Term Plan

Robin 2022-2023

Autumn

	National Curriculum Objectives	Small Steps
Number: Place Value 4 weeks	<ul style="list-style-type: none"> Read and write numbers to at least 100 in numerals and in words. Recognise the place value of each digit in a two digit number (tens, ones) Identify, represent and estimate numbers using different representations including the number line. Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs. 	<ul style="list-style-type: none"> Number to 20 Count objects to 100 by making 10s Recognise tens and ones Use a place value chart Partition numbers to 100 Write numbers to 100 in words Flexibly partition numbers to 100 Write numbers to 100 in expanded form 10s on the number line to 100 10s and 1s on the number line to 100 Estimate numbers on a number line

	National Curriculum Objectives	Small Steps
Number: Place Value 3 weeks	<ul style="list-style-type: none"> Identify, represent and estimate numbers using different representations. Find 10 or 100 more or less than a given number Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1000 Read and write numbers up to 1000 in numerals and in words. Solve number problems and practical problems involving these ideas. 	<ul style="list-style-type: none"> Represent numbers to 100 Partition numbers to 100 Number line to 100 Hundreds Represent numbers to 1,000 Partition numbers to 1,000 Flexible partitioning of numbers to 1,000 Hundreds, tens and ones Find 1, 10 or 100 more or less Number line to 1,000 Estimate on a number line to 1,000

	<ul style="list-style-type: none"> Use place value and number facts to solve problems. Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward. 	<ul style="list-style-type: none"> Compare objects Compare numbers Order objects and numbers Count in 2s, 5s and 10s Count in 3s
Number: Addition and Subtraction 5 weeks	<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. 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. Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those 	<ul style="list-style-type: none"> Bonds to 10 Fact families – addition and subtraction bonds within 20 Related facts Bonds to 100 (tens) Add and subtract 1s Add by making 10 Add three 1-digit numbers Add to the next 10 Add across a 10 Subtract across 10 Subtract from a 10 Subtract a 1-digit number from a 2-digit number (across a 10) 10 more, 10 less Add and subtract 10s Add two 2-digit numbers (not across a ten) Add two 2-digit numbers (across a ten) Subtract two 2-digit numbers (not across a ten) Subtract two 2-digit numbers (across a ten)

	<ul style="list-style-type: none"> Count from 0 in multiples of 4, 8, 50 and 100 	<ul style="list-style-type: none"> Compare numbers to 1,000 Order numbers to 1,000 Count in 50s
Number: Addition and Subtraction 5 weeks	<ul style="list-style-type: none"> 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. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. 	<ul style="list-style-type: none"> Apply number bonds within 10 Add and subtract 1s Add and subtract 10s Add and subtract 100s Spot the pattern Add 1s across a 10 Add 10s across a 100 Subtract 1s across a 10 Subtract 10s across a 100 Make connections Add two numbers (no exchange) Subtract two numbers (no exchange) Add two numbers (across a 10) Add two numbers (across a 100) Subtract two numbers (across a 10) Subtract two numbers (across a 100) Add 2-digit and 3-digit numbers Subtract a 2-digit number from a 3-digit number Complements to 100

	<p>involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods.</p> <ul style="list-style-type: none"> Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	<ul style="list-style-type: none"> Mixed addition and subtraction Compare number sentences Missing number problems
<p>Geometry: Shape</p> <p>3 weeks</p>	<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 and describe the properties of 3-D shapes, including the number of edges, vertices and faces. 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 2-D and 3-D shapes and everyday objects. 	<ul style="list-style-type: none"> Recognise 2-D and 3-D shapes Count sides on 2-D shapes Count vertices on 2-D shapes Draw 2-D shapes Lines of symmetry on shapes Use lines of symmetry to complete shapes Sort 2-D shapes Count faces on 3-D shapes Count edges on 3-D shapes Count vertices on 3-D shapes Sort 3-D shapes Make patterns with 2-D and 3-D shapes

		<ul style="list-style-type: none"> Estimate answers Inverse operations Make decisions
<p>Multiplication and Division A</p> <p>4 weeks</p>	<ul style="list-style-type: none"> Count from 0 in multiples of 4, 8, 50 and 100 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 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 	<ul style="list-style-type: none"> Multiplication – equal groups Use arrays Multiples of 2 Multiples of 5 and 10 Sharing and grouping Multiply by 3 Divide by 3 The 3 times-table Multiply by 4 Divide by 4 The 4 times-table Multiply by 8 Divide by 8 The 8 times-table The 2, 4 and 8 times-tables

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	and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives.	
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Spring

	National Curriculum Objectives	Small Steps		National Curriculum Objectives	Small Steps
Measurement: Money 2 weeks	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Recognising coins and notes Count money – pence Count money – pounds (notes and coins) Count money – notes and coins Select money Make the same amount Compare money Find the total Find the difference Find change Two-step problems 	Multiplication and Division B 3 weeks	<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 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 objectives. 	<ul style="list-style-type: none"> Consolidate 2, 4 and 8 times-tables Comparing statements Related calculations Multiply 2-digits by 1-digit (1) Multiply 2-digits by 1-digit (2) Divide 2-digits by 1-digit (1) Divide 2-digits by 1-digit (2) Divide 2-digits by 1-digit (3) Scaling How many ways?
Multiplication and Division 5 weeks	<ul style="list-style-type: none"> Recall and use multiplication and division facts for the 2, 5 and 10 times tables, 	<ul style="list-style-type: none"> Make equal groups Add equal groups Make arrays Recognise equal groups Make equal groups 	Measurement: Length and Perimeter 3 weeks	<ul style="list-style-type: none"> Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). 	<ul style="list-style-type: none"> Measure length Measure length (m) Equivalent lengths – m & cm

	<p>including recognising odd and even numbers.</p> <ul style="list-style-type: none"> Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) sign. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. 	<ul style="list-style-type: none"> Add equal groups Multiplication sentences using the \times symbol Multiplication sentences from pictures Use arrays Make doubles 2 times-table 5 times-table 10 times-table Make equal groups - sharing Make equal groups - grouping Divide by 2 Odd & even numbers Divide by 5 Divide by 10 		<ul style="list-style-type: none"> Measure the perimeter of simple 2D shapes. 	<ul style="list-style-type: none"> Equivalent lengths – mm & cm Compare lengths Add lengths Subtract lengths Measure perimeter Calculate perimeter
<p>Measurement: Length and Height</p> <p>2 weeks</p>	<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 ($^{\circ}$C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, 	<ul style="list-style-type: none"> Compare lengths and heights Measure lengths (1) Measure lengths (2) Measure length (cm) Measure length (m) Compare lengths Order lengths Four operations with lengths 	<p>Number: Fractions A</p> <p>3 weeks</p>	<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 and use fractions as numbers: 	<ul style="list-style-type: none"> Make equal parts Recognise a half Find a half Recognise a quarter Find a quarter Recognise a third Find a third Unit fractions Non-unit fractions

	<p>thermometers and measuring vessels</p> <ul style="list-style-type: none"> • Compare and order lengths, mass, volume/capacity and record the results using >, < and = 				<p>unit fractions and non-unit fractions with small denominators.</p> <ul style="list-style-type: none"> • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Solve problems that involve all of the above. 	<ul style="list-style-type: none"> • Equivalence of 1/2 and 2/4 • Find three quarters • Count in fractions
<p>Measurement: Mass, Capacity and Temperature</p> <p>3 weeks</p>	<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 = 	<ul style="list-style-type: none"> • Introduce weight and mass • Measure mass • Compare mass • Measure mass in grams • Measure mass in kilograms • Introduce capacity and volume • Measure capacity • Compare capacity • Millilitres • Litres • Temperature 		<p>Measurement: Mass, Capacity and Temperature</p> <p>3 weeks</p>	<ul style="list-style-type: none"> • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). 	<ul style="list-style-type: none"> • Compare mass • Measure mass (1) • Measure mass (2) • Compare mass • Add and subtract mass • Compare volume • Measure capacity (1) • Measure capacity (2) • Compare capacity • Add and subtract capacity • Temperature

Summer

	National Curriculum Objectives	Small Steps		National Curriculum Objectives	Small Steps
Number: Fractions 3 weeks	<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. Write simple fractions for example, $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. 	<ul style="list-style-type: none"> Make equal parts Recognise a half Find a half Recognise a quarter Find a quarter Recognise a third Find a third Unit fractions Non-unit fractions Equivalence of $\frac{1}{2}$ and $\frac{2}{4}$ Find three quarters Count in fractions 	Number: Fractions B 2 weeks	<ul style="list-style-type: none"> 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, $57 + 17 = 67$] Solve problems that involve all of the above. 	<ul style="list-style-type: none"> Making the whole Tenths Count in tenths Tenths as decimals Fractions on a number line Fractions of a set of objects (1) Fractions of a set of objects (2) Fractions of a set of objects (3) Equivalent fractions (1) Equivalent fractions (2) Equivalent fractions (3) Compare fractions Order fractions Add fractions Subtract fractions
Measurement: Time 3 weeks	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Telling time to the hour Telling time to the half hour O'clock and half past Quarter past and quarter to Telling time to 5 minutes Writing time Hours and days Find durations of time Compare durations of time 	Measurement: Money 2 weeks	<ul style="list-style-type: none"> Add and subtract amounts of money to give change, using both £ and p in practical contexts. 	<ul style="list-style-type: none"> Count money (pence) Count money (pounds) Pounds and pence Convert pounds and pence Add money Subtract money Give change

<p>Statistics</p> <p>2 weeks</p>	<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"> • Make tally charts • Draw pictograms (1-1) • Interpret pictograms (1-1) • Draw pictograms (2, 5 and 10) • Interpret pictograms (2, 5 and 10) • Block diagrams 		<p>Measurement: Time</p> <p>3 weeks</p>	<ul style="list-style-type: none"> • 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]. 	<ul style="list-style-type: none"> • O'clock and half past • Quarter past and quarter to • Months and years • Hours in a day • Telling the time to 5 minutes • Telling the time to the minute • Using a.m. and p.m. • 24-hour clock • Finding the duration • Comparing durations • Start and end times • Measuring time in seconds
<p>Position and Direction</p> <p>2 weeks</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Describe position (1) • Describe position (2) • Describe movement • Describe turns • Describe movement and turns • Making patterns with shapes 		<p>Geometry: Shape</p> <p>3 weeks</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Turns and angles • Right angles in shapes • Compare angles • Draw accurately • Horizontal and vertical • Parallel and perpendicular • Recognise and describe 2D shapes

	turns (clockwise and anti-clockwise). <ul style="list-style-type: none"> Order and arrange combinations of mathematical objects in patterns and sequences 	
Consolidation 2 weeks		

	are greater than or less than a right angle. <ul style="list-style-type: none"> Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them. 	<ul style="list-style-type: none"> Recognise and describe 3D shapes Make 3D shapes
Statistics 2 weeks	<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"> Make tally charts Draw pictograms (2, 5 and 10) Interpret pictograms (2, 5 and 10) Pictograms Bar Charts Tables
Consolidation 1 week		