Barrowby CE Primary School

Maths Curriculum

The Maths Curriculum for Year 3

	Autumn Term 1							
	Week 1		**Week 2**		**Week 3**	**Week 4**	**Week 5**	**Week 6**
Unit	**Place Value and Regrouping and Counting On and Back in Ones, Tens and Hundreds**		**Estimating, Magnitude and Rounding and Measures– Comparisons, Estimating and Magnitude**		**Mental Fluency – Addition**	**Mental Fluency – Subtraction**	**Fact Families and Applying the Inverse**	**Written Addition**
	By the end of this unit children will be able to: • Recognise the place value of each digit in a three-digit number (hundreds, tens and ones)	By the end of this unit children will be able to: • Find 10 or 100 more or less than a given number	By the end of this unit children will be able to: • Compare and order numbers up to 1000	By the end of this unit children will be able to: • Measure ,compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	By the end of this unit children will be able to: • Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds	By the end of this unit children will be able to: • Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds	By the end of this unit children will be able to • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	By the end of this unit children will be able to • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
Suggested support for children with additional needs	• Place value counters and place value sliders to represent 4-digit numbers. • Modelling using the part-whole model	• Rounding mountains as a visual representation	• Use of place value sliders to aid comparisons • Model layout of place value columns in books	• Concrete apparatus to develop the concepts of weight and capacity and make real-life links	• Use a variety of place value equipment such as counters, dines and numicon to enforce understanding of ones, tens and hundreds and allowing children to make links between the size of numbers.	• Use a variety of place value equipment such as counters, dines and numicon to enforce understanding of ones, tens and hundreds and allowing children to make links between the size of numbers.	• Model the bar model for supporting with the inverse and provide bar models for children • Verbalise what is known in given calculations	• Scaffold / provide the correct layout of column addition to ensure place value is accurate when calculating. • Make links with concrete resources to support links between the value of numbers.
Step	**LS1**	**LS2**	**LS3**	**LS4**	**LS5**	**LS6**	**LS7**	**LS8**
1	10 ones are equal to 1 ten and 10	Counting on and back in tens with	Use value of digits to compare and order	Develop understanding of	Adding 3-digit numbers to ones, tens and hundreds with no regrouping	Subtraction is not commutative	Commutative or not commutative?	Columnar recording related to place value

	tens are equal to 1 hundred	two-digit numbers (and crossing 100)	numbers (recognise most significant digit)	appropriate units				
2	Comparing representations of 3-digit numbers	Counting on and back in tens and hundreds (2- and 3-digit numbers)	Estimate the order of 3-digit numbers	Reading scales	Adding 3-digit numbers to ones with regrouping ('Think 10')	Place value subtraction	Creating fact families	Formal written method with no regrouping (exchange)
3	Varying the order and practice	Regrouping through hundreds	Estimate number magnitude		Adding 2- and 3-digit numbers to tens with regrouping ('Think 100')	Subtracting hundreds, tens and ones with no regrouping	Using fact families and the inverse operation to find missing number	Formal written method with regrouping of ones
4	Regrouping 3-digit numbers flexibly	Counting on and back in ones, tens and hundreds including regrouping	Round numbers to nearest ten and hundred		Mental addition with 2- and 3-digit numbers	Subtracting ones from 2-digit numbers with regrouping	Solving more complex missing number problems	Regrouping tens and ones
5	Securing equality (for example, 3 hundreds are equal to 30 tens and 300 ones)				Understanding sum and commutativity in addition			Using measurement units within addition
6					Finding complements and reordering	Subtracting 2-digit numbers from 2-digit numbers with regrouping		Language of addition
7					Using compensation to add	Mental subtraction with 2-digit numbers – varied practice		
8					Using multiple strategies to add mentally	Compensation		

The Maths Curriculum for Year 3

	Autumn Term 2						
	Week 1	**Week 2**	**Week 3**	**Week 4**		**Week 5**	**Week 6**
Unit	**Written Subtraction**	**Problem Solving—Worded Problems**	**Statistics—Interpreting Bar Charts and Tables**	**Angles, Right Angles and Estimation and Perpendicular and Parallel Lines, Vertical and Horizontal Lines**		**2-D Shape—Properties and Drawing**	**Perimeter Including Problem Solving Using Written and Mental Methods**
	By the end of this unit children will be able to: • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction Related NC Statements	By the end of this unit children will be able to: • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • Recognise that angles are a property of shape or a description of a turn	By the end of this unit children will be able to: • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	By the end of this unit children will be able to: • Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	By the end of this unit children will be able to: • Measure the perimeter of simple 2-D shapes
Suggested support for children with additional needs	• Scaffold / provide the correct layout of column addition to ensure place value is accurate when calculating. • Make links with concrete resources to support links between the value of numbers.	• Ensure worded problems are supportive of children's reading ability and mathematical vocabulary is explained • Access to concrete resources to aid understanding as modelled in previous learning sequences	• Link information provided to bar charts to data children can relate to / are interested in e.g. ice cream flavours / vehicle types. • Worked examples will support understanding of how to read and interpret data.	• Provide practical opportunities to find angles e.g. in the classroom / outside.	• Provide practical opportunities when exploring types of lines e.g. being active and playing games.	• Access to 2D and 3D shapes of different sizes. Larger ones will support children with poor motor skills	• Explore repeated addition as a method for calculating perimeter • Concrete apparatus such as cubes / lollipop sticks to support
Step	**LS9**	**LS10**	**LS11**	**LS12**	**LS13**	**LS14**	**LS15**
1	Formal written method with no regrouping (exchange)	Identifying the part or whole unknown in simple worded problems	Purpose of bar charts	Angles are measures of a turn	Perpendicular lines (where lines are vertical	Connect the number of sides to the number of angles (and vertices) in a polygon	Understand perimeter as distance around the sides of a closed shape – constructing perimeter and introducing the

					and horizontal)		language of length and width
2	Subtraction – regrouping (exchange) tens into ones only	Understanding start, change and result problems	Completing bar charts from information provided – identifying intervals of scales	Comparing and ordering angles (using right angle as a benchmark	Perpendicular lines (where lines could also be diagonals)	Classifying regular and irregular polygons	Calculate perimeter in rectilinear shapes (presented on 1cm² squared paper)
3	Subtraction – regrouping hundreds into tens only	Mixed Practice	Interpreting and inferring information from bar charts (including multi-step questions)	Identify internal angles in 2-D shapes	Parallel lines are straight lines	Drawing and constructing polygons (property focus on vertices and congruence)	Know that different rectangles can have equal perimeters
4	Subtraction – regrouping hundreds and tens	Understanding multi-step part whole worded problems	More complex bar chart problems	Classifying shapes using internal angles as a property	Parallel sides	Drawing and constructing polygons (properties)	Finding the perimeter of regular shapes
5	Missing number subtraction problems	Understanding simple comparison problems			Vertical lines		Finding perimeter of rectangles and regular polygons by measuring
6	Mixed and multi-strategy practice						Solving problems and providing proof with perimeter

The Maths Curriculum for Year 3

Spring Term 1

	Week 1	Week 2		Week 3	Week 4	Week 5
Unit	**Multiplication—3, 4 and 8 Times Tables including Counting**	**Division—1, 2, 3, 5, 4 and 8 Times Tables**	**Multiplication—Strategy, Associative and Distributive Laws**	**Statistics— Pictograms and Scales Bar Charts**	**Multiplication and Division Word Problems**	**Fractions—Finding Fractions of Discrete and Continuous Quantities**
	By the end of this unit children will be able to: • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	By the end of this unit children will be able to: • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	By the end of this unit children will be able to: • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know,	By the end of this unit children will be able to: • Interpret and present data using bar charts, pictograms and tables	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • 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
Suggested support for children with additional needs	• Concrete apparatus for making arrays then moving to pictorial representations in book • Use of songs and chants to aid retention of times tables	• Use of online tools such as Times Table Rockstars to focus on specific gaps in times tables for home learning	• Multiplication grids available / visual times tables in the classroom • Making links between patterns of known times tables e.g. 2s and 5s	• Provide a pre-drawn graph for data to be populated on • Explore the different forms of mathematical representation and discuss how data collected in a table can be transferred to a bar chart / line graph to display the information differently. • Open ended questioning about the collected data.	• Ensure worded problems are supportive of children's reading ability and mathematical vocabulary is explained • Access to concrete resources to aid understanding as modelled in previous learning sequences	• Pictorial representations of fractions • Use cubes and link them to the bar model representation • Concrete apparatus for a set of objects to find fractions of with practical opportunities throughout.
Step	**LS16**	**LS17**	**LS18**	**LS19**	**LS20**	**LS21**
1	Understand that counting up in multiples is also repeated addition	Division by sharing using manipulatives	Doubling and halving	Making links between bar charts and pictograms	Worded problems based on equal groups	Exploring unit fractions and non-unit fractions

2	Learning multiplication facts through building arrays	Division by grouping using manipulatives	Halving two-digit numbers	Completing pictograms from information provided	Rate worded problems involving money	Find and write fractions of a discrete set of objects
3	Learning multiplication facts through visualising arrays (developing recall)	Linking multiplication and division using arrays	Associative law	Interpreting and inferring information from pictograms (including multi-step questions)	Combination worded problems	Find and write fractions as continuous quantities
4	Developing counting strategies for 3x and 4x tables	Learning division facts through visualising arrays (developing recall)	Distributive law up to 10 x 10		Mixed bar model examples including measures and time	A range of fraction worded problems including multi-step
5		Rehearsing division facts	Distributive law for 2-digit numbers			

The Maths Curriculum for Year 3

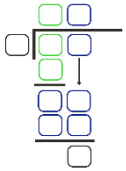
Spring Term 2

	Week 1	Week 2	Week 3	Week 4	Week 5
Unit	**Ordering and Comparing Fractions**	**Adding and Subtracting Fractions with the Same Denominators**	**Fractions—Problem Solving with Unit and Non-Unit Fractions**	**Multiplication—Multiply Multiples of Ten**	**Multiplication—Formal Written Multiplication**
	By the end of this unit children will be able to: • Recognise and show, using diagrams, equivalent fractions with small denominators • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	By the end of this unit children will be able to: • Add and subtract fractions with the same denominator within one whole • (for example, 5/7 + 1/7 = 6/7)	By the end of this unit children will be able to: • Solve problems that involve all of the above [fraction objectives from Year 3]	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • 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

Suggested support for children with additional needs	• Model diagrams to represent equivalent fractions • Provide diagrams to aid understanding • Use of foam fraction resources to make links to fractions and decimal equivalences	• Use cubes to support bar model understanding and adding fractions to make 1. • Bar model examples of fractions with the same denominator so children can relate the fraction size with the given fraction.	• Model diagrams to represent equivalent fractions • Foam fractions to support comparing fractions • Support with retention of strategies to solve problems involving fractions	• Use place value sliders to model the physical movement of numbers between columns as they become 10 times larger • Use place value counters when multiplying by 10 so children can make links to number size and place holders.	• Scaffold layout of formal written method in books • Use of part whole model to break down calculations through partitioning • Use of apparatus such as dines to support partitioning 2 and 3-digit numbers
Step	**LS22**	**LS23**	**LS24**	**LS25**	**LS26**
1	Finding fractions of shapes	Finding complements of 1	Problem solving involving fractions of shape	Explore the effect of scaling by ten	Multiplying two-digit numbers by ones using distributive law (no regrouping)
2	Compare and order unit fractions	Adding fractions with the same denominator	Ordering and comparing a range of fractions	Explore the effect of scaling by ten on place value	Multiplying two-digit numbers by ones using distributive law (with regrouping)
3	Compare and order fractions with the same denominator	Subtracting fractions with the same denominator	Mixed worded problems including multi-step	Multiplying multiples of ten by one-digit where the product is less than 100	Introducing short multiplication with no regrouping
4	Exploring equivalence	Applying the addition and subtraction of fractions with the same denominator		Multiplying multiples of ten by one-digit where the product is greater than 100	Short multiplication with regrouping of ones into tens only
5	Showing equivalence with accurate diagrams				Short multiplication with regrouping of ones and tens

The Maths Curriculum for Year 3

	Summer Term 1						
	Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**		**Week 6**
Unit	**Division Problem Solving—Sharing and Grouping**	**Division—Two and Three-Digit Numbers by One-Digit Numbers including Halving**	**Multiplication, Division and Fractions—Scaling and Correspondence Problems**	**Division—Long Division**	**Time—Hours, Minutes, Seconds, Days, Weeks, Months, Years and Telling the Time**		**Time– Duration**
	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • 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	By the end of this unit children will be able to: • Know the number of seconds in a minute and the number of days in each month, year and leap year	By the end of this unit children will be able to: • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	By the end of this unit children will be able to • Compare durations of events [for example, to calculate the time taken by particular events or tasks]
Suggested support for children with additional needs	• Multiplication grids available • Concrete apparatus available to support the concept of division linked to sharing	• Multiplication grids available • Place value sliders • Scaffold layout of formal written method in books	• Multiplication grids available • Place value sliders • Scaffold layout of formal written method in books • Use of bar model to aid missing number problems	• Scaffold layout of formal written method in books • Place value counters to model sharing given numbers equally into different sized groups	• Repetition of telling the time and build in opportunities throughout the school day	• Provide clocks to children so they can make links between analogue and digital. • Scaffold with visual	• Use clocks to support visual understanding of time duration • Make links to known durations such as times within the school day e.g. break, lessons, lunch • Use of stopwatches to provide context to the length of a minute / 60 seconds.

				Provide a template to structure calculations e.g. 		prompts of Roman Numerals to refer to, daily links to roman numeral dates written in books.	
Step	**LS27**	**LS28**	**LS29**	**LS30**	**LS31**	**LS32**	**LS33**
1	Division by sharing – part whole problems	Place value revision	Solving integer scaling problems	Revision of quotients and remainders when sharing	Understand how days, months and years are related	Recognising intervals on an analogue clock	Time to the nearest hour
2	Division by sharing – comparison problems	Halving 2- and 3-digit numbers	Varying the unknown within correspondence problems	Introducing the long division method (sharing ones)	Finding complements and intervals of 60	Telling the time to the nearest minute on an analogue and digital clock	Adding hours and minutes
3	Division by grouping	Sharing 2- and 3-digit numbers by ones with no regrouping	Mixed problems involving fractions	Long division of tens and ones with no regrouping		Understanding Roman numerals on clocks	Subtracting hours and minutes
4	Using known facts to solve missing number problems	Sharing 2- and 3-digit numbers by ones with regrouping		Long division of tens and ones with regrouping		Understanding am and pm	Duration of time
5		Linking base facts to division				Estimating time and using timers	Finding unknown start and end times from given duration of events
6							Comparing the duration of events

The Maths Curriculum for Year 3

	Summer Term 2					
	Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**
Unit	**Securing the Four Operations with Whole Number including Problem Solving**		**Place Value and Decimals—Ten Times Greater and Ten Times Smaller and Regrouping**	**Place Value and Decimals—Estimation, Comparing and Rounding**	**Measures—Measuring and Problem Solving**	**3-D Shape—Building and Identifying Properties.**
	By the end of this unit children will be able to: • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • 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 • Add and subtract amounts of money to give change, using both £ and p in practical contexts		By the end of this unit children will be able to: • 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	By the end of this unit children will • Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	By the end of this unit children will be able to: • Count up and down in tenths • Compare and order numbers up to 1000	By the end of this unit children will be able to: • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	By the end of this unit children will be able to: • Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
Suggested support for children with additional needs	• Pictorial representation of the bar model • Multi-sensory approach including concrete apparatus such as cubes, dines, PV counters, PV Sliders. • Make links to known strategies from earlier learning sequences to build independence when approaching problem solving in maths		• Use place value sliders to model the physical movement of numbers between columns as they become 10 times larger • Use place value counters when multiplying by 10 so	• Rounding mountain as a visual representation • Provide number lines to support comparing and ordering and support children to find known benchmarks e.g. halfway. Provide benchmarks if necessary	• Concrete apparatus to develop the concepts of weight and capacity and make real-life links • Opportunities to physically measure length, mass and capacity	• Access to 2D and 3D shapes of different sizes. Larger ones will support children with poor motor skills • Use of easily mouldable material to support development of motor skills

		children can make links to number size and place holders.				
Step	**LS34**	**LS35**	**LS36**	**LS37**	**LS38**	**LS39**
1	Securing addition and subtraction	Ten times smaller than 1 is a tenth	Place value with decimal numbers	Order and compare place value of numbers with 1 decimal place	Measuring and comparing lengths	Building three-dimensional shapes
2	Applying multiplication and division, including working systematically	Recording tenths as decimal numbers	Regrouping decimal numbers	Estimate decimal numbers	Measuring and comparing mass, volume and capacity	Recognising three-dimensional shapes in different orientations
3	Adding amounts of money	Finding unknown tenths from known wholes		Round decimal numbers to nearest whole numbers	Using and comparing mixed units	Describing the faces of polyhedra
4	Subtracting amounts of money	Finding unknown wholes from known tenths			Adding and subtracting involving measures	Describing three-dimensional shapes
5	Worded problems involving money				Measure problems involving scaling	