Curriculum for Mathematics

At Humshaugh C of E (Aided) First School, we want our children to have a love of Mathematics and to appreciate how many elements of maths are crucial, transferable life skills. We support our children to make strong connections between mathematical concepts and use these to progress their learning and understanding across other subject areas such as Science.

We aim for our children to explain and reason their Mathematics confidently to justify, argue or prove a line of enquiry using developed Mathematical vocabulary. We encourage children to be the problem solvers of the future, who persevere, embrace challenge and enjoy the feeling of success. Problem solving is an area that all teachers are developing so that children feel confident to use different approaches to find multiple answers to a wide range of problems. Use of NCETM and NRich is enabling children to tackle problems using different strategies and methods.

At Humshaugh First School, our Quality First daily Maths lessons are planned and sequenced using National Curriculum objectives so that new knowledge and skills build on what has been taught before. Our teachers follow a range of approaches such as the White Rose Maths Scheme and Andrell Big Maths for Number, using the steps to ensure that the children understand key elements before moving on. A variety of teaching styles are used with concrete materials and manipulatives (such as Numicon, Denes, place value counters and cubes) being used at the start of topics and supporting

pupils when needed. Our children are encouraged to use these materials freely and create pictorial representations to support their calculations before moving onto abstract number sentences.

The use of 'Flashback four' is embedded across the school from EYFS - Y4. Flashback four is additional to the daily maths lesson and happens at the start of every Maths lesson. Its purpose is to develop fluency and strengthen memory recall through continued practise and recall opportunities.

In line with our Vision, 'Being Good Soil', we aim for our young mathematicians to cultivate a strong foundation so they can problem solve as future critical thinkers and to manage future finances prudently and responsibly, to be able to analyse data and organise their lives in an ethical and responsible way.

At Humshaugh First School, our maths curriculum is based on the Statutory framework for the early years foundation stage and the National curriculum in England: mathematics programmes of study. We also pay regard to Development Matters - Non-statutory curriculum guidance for the EYFS and Mathematics guidance: key stages 1 and 2.

We recognise that maths is an interconnected subject, in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but it is our intention that pupils will make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. We also provide opportunities for pupils to apply their mathematical knowledge to science and other subjects.

Through our maths curriculum we aim to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

All schools are required to set out their school curriculum for mathematics on a year-by-year basis and make this information available online. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Early Years Foundation Stage (Nursery and Reception)

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes

Key stage 1 (Year 1 and Year 2)

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the 4 operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practise at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower key stage 2 (Year 3 and Year 4)

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 x 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

Subject Progression Grid for Mathematics

Place Value				
	Counting	**Represent**	**Use & Compare**	**Rounding & Problems**
Nursery	• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Recite numbers past 5. • Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Show 'finger numbers' up to 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 6.			
Reception	Children at the expected level of development will: • Have a deep understanding of numbers to 10, including the composition of each number and all number bonds up to 10. • Subitise (recognise quantities without counting) up to 6.			
Year 1	• 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 two's, fives and tens.	• Identify and represent numbers using objects and pictorial representations. • Read and write numbers to 100 in numerals. • Read and write numbers from 1 to 20 in numerals and words.	• Give a number, identify one more and one less. • Recognise Teen numbers.	• Reason about the location of numbers to 20 within the linear number system including comparing using < > and =

Year 2	• Count in steps of 2, 3 and 5 from 0, and in tens from any number, forwards and backward.	• Read and write numbers to at least 100 in numerals and words. • Identify, represent and estimate numbers using different representations, including a number line.	• Recognise the place value of each digit in a two-digit number. • Compare and order numbers from 0 up to100; use < > and = signs.	• Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiples of 10. • Use place value and number facts to solve problems.
Year 3	• Know that 10 tens are equivalent to 1 hundred and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. • Count from 0 in multiples of 4, 8, 50 and 100; • Find 10 or 100 more or less than a given number.	• Read and write numbers up to 1000 in numerals and words. • Identify, represent and estimate numbers using different representations.	• Recognise the place value of each digit in a three-digit number. • Compare and order numbers up to 1000.	• Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiples of 10. • Solve number problems and practical problems involving these ideas.

Year 4	• Know that 10 ten hundreds are equivalent to 1 thousand and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. • Count in multiples of 6, 7, 9, 25 and 1000. • Count backwards through zero to include negative numbers.	• Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value. • Identify, represent and estimate numbers using different representations.	• Recognise the place value of each digit in a four-digit number. • Find 1000 more or less than a given number. • Compare and order numbers beyond 1000.	• Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiples of 10. • Round any number to the nearest 10, 100 or 1000. • Solve number and practical problems that involve all of these ideas.

Addition and Subtraction

	Recall, Represent, Use	Calculations	Solve Problems
Nursery	• Experiment with their own symbols and marks as well as numerals. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer than'.		
Reception	Children at the expected level of development will: • Explore the composition of numbers to 10 e.g. pairs of numbers that make any number up to 10. • Automatically recall number bonds for numbers 0–5 and some to 10 (including subtraction facts) and some number bonds to 10, including double facts. • Be able to count on and back to add and subtract numbers to 10.		
Year 1	• Develop fluency in addition and subtraction facts within 10. • Read, write and interpret mathematical statements involving addition, subtraction 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.
Year 2	• Secure fluency in addition and subtraction facts within 10, through continued practice. • Recall and use addition and subtraction facts to 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	• Solve problems with addition and subtraction using concrete objects and pictorial representations including those involving numbers, quantities and measure.

	fluently, and derive and use related facts up to 100. • Show that addition can be done in any order (commutative) and subtraction of one number From another cannot. • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	- adding three one-digit numbers	• Solve problems with increasing knowledge of mental and written methods.
Year 3	• Secure fluency in addition and subtraction facts that bridge 10, through continued practice. • Estimate the answer to a calculation and use inverse operations to check answers.	• 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 column addition and subtraction.	• Solve problems involving missing number problems, using number facts, place value and more complex addition and subtraction.
Year 4	• Estimate and use inverse operations to check answers to a calculation.	• Add and subtract numbers with up to four digits using formal written methods of column 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			
	Recall, Represent, Use	**Calculations**	**Solve Problems**
Nursery	• Share objects so everyone has the same (e.g. one bowl for each bear in Goldilocks) • Explore fair / unfair in relation to amounts, when sharing.		
Reception	• Distribute items evenly, for example 'put three in each bag' or give the same number of pieces of fruit to each child.		
Year 1	• Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple and count forwards and backwards through the odd numbers.	• Begin to use the language of 'lots of' and 'sharing'.	• 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
Year 2	• Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplications. • Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations. • 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	• Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division 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.

	order (commutative) and division odd one number by another cannot.		
Year 3	• Recall multiplication facts and corresponding division facts in the 10, 5, 2, 3, 4 and 8 multiplication tables. • Recognise products in these multiplication tables as multiples of the corresponding number.	• 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 strategies 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.
Year 4	• Recall multiplication and division facts for multiplication tables up to 12x12. • Multiply and divide whole numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size. • Understand the commutative property of multiplication. • Use place value, know 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 a 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 • Solve division problems with two-digit dividends and one-digit divisors that involve remainders and interpret remainders appropriately according to the context.

Fractions

	Recognise and Write	Compare	Calculations	Solve Problems
Nursery	• Share objects so everyone has the same (e.g. one bowl for each bear in Goldilocks) • Explore fair / unfair in relation to amounts, when sharing.			
Reception	• Distribute items evenly, for example 'put three in each bag' or give the same number of pieces of fruit to each child.			
Year 1	• 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.			
Year 2	• Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity.	• Recognise the equivalence of 2/4 and ½.	• Write simple fractions for example, 1/2 of 6= 3	
Year 3	• Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	• Recognise and show equivalent fractions using diagrams. • Compare and order unit fractions, and fractions with the same denominators.	• Add and subtract fractions with the same denominator within one whole.	• Find unit fractions of quantities using known division facts (multiplication tables fluency) • Reason about the location of any

	• Count up and down in tenths. • Recognise that tenths arise from dividing an object into 10 equal parts. • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions. • Recognise and use unit fractions and non-unit fractions of amounts.			fraction within 1 in the linear number system.
Year 4	• 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 improper and mixed fractions with the same denominator, including bridging whole numbers.	• Reason about the location of any mixed number in the linear number system. • Solve problems and calculate quantities, using unit and non-unit fractions where the answer is a whole number.

Decimals and Percentages			
	Recognise and Write	**Compare**	**Calculations and Problems**
Year 4	• Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to 1/4, 1/2, ¾.	• 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.

Measure				
	Using Measures	**Money**	**Time**	**Area and Volume**
Nursery	• Make comparisons between objects relating to size, length, weight and capacity e.g. count down on the calendar - yesterday/tomorrow.			
Reception	• Compare length, weight and capacity • Begin to know the seasons and months of the year			
Year 1	• Compare, describe and solve practical problems for: - lengths and heights - mass/weight - capacity and volume - time • Measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume	• Recognise and know the value of different denominations of coins and notes.	• Sequence events in chronological order using language: 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 the hands on a clock face to show these times. • Compare, describe and solve practical problems for time (quicker, slower, earlier, later).	

Year 2	• Choose and use appropriate standard units to estimate and measure using rulers, scales, thermometers and measuring vessels. ➢ length / height in any direction (m/cm) ➢ mass (kg/g) ➢ temperature (°C) ➢ capacity (litres/ml) to the nearest appropriate unit. • 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.	
Year 3	• 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.	
Year 4	• Convert between different units of measure. • 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.	• Find the area of rectilinear shapes by counting squares and using known multiplication facts.

Geometry				
	2D Shapes	**3D Shapes**	**Angles and Lines**	**Position and Direction**
Nursery	• 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'. • Understand position through words alone – for example, "The bag is under the table with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'. • Select shapes appropriately: flat surfaces for building and triangular prism for a roof etc. • Combine shapes to make new ones, an arch, a bigger triangle etc. • 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. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern. • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'			
Reception Early Learning Goals	• To explore characteristics of everyday objects and shapes and use mathematical language to describe them. • To recognise, create and describe patterns. • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. • Continue, copy and create repeating patterns.			
Year 1	• Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	• Recognise and name common 2-D shapes, including: cuboids, cubes, pyramids and spheres (not always similar to each other).		• Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

	• Recognise and name common 2-D shapes, including: rectangles, squares, circles and triangles.			
Year 2	• Identify and describe the properties of 2-D shapes, including the number of sides. • Identify 2-D shapes on the surface of 3-D shapes. • Compare and sort common 2-D 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.	• Identify line symmetry in a vertical line.	• 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).
Year 3	• Draw polygons by joining marked points and identify parallel and perpendicular sides.	• Make 3-D shapes using modelling materials; recognise 3-D shapes in different	• Recognise angles as a property of shape or a description of a turn and identify	• Identify right angles, recognise that two right angles make a half

		• orientations and describe them.	right angles in 2D shapes presented in different orientations. • Identify whether angles are greater than or less than a right angle. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	turn, three make three quarters of a turn and four a complete turn.
Year 4	• Identify regular polygons including equilateral triangles and squares, as though in which the side lengths and angles are equal. • Find the perimeter of regular and irregular polygons. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Reflect shapes in a line of symmetry. • Complete a symmetric figure or pattern with		• Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry.	• Describe positions 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.

	respect to a specified line of symmetry. • Compare and classify polygons, including quadrilaterals and triangles, based on their properties and sizes.			

Statistics		
	Present and Interpret	**Solve problems**
Reception	• Begin to record simple tallies and pictograms e.g. Favourite colour or food.	
Year 1	• Interpret and construct simple pictograms and tally charts.	•
Year 2	• 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.
Year 3	• Interpret and present data using bar charts, pictograms and tables.	• Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.
Year 4	• 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.

MATHEMATICAL UNDERSTANDING TOPIC OVERVIEWS EYFS

Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Getting to Know You			Just Like Me!			It's Me 1 2 3!			Light and Dark			Consolidation	
Spring	Alive in 5!			Growing 6, 7, 8			Building 9 and 10			Consolidation				
Summer	To 20 and Beyond			First Then Now			Find My Pattern			On The Move				

Autumn

Week 1	Week 2	Week 3		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Getting to Know You			Phase	Just Like Me!			It's Me 1 2 3!			Light and Dark		
Opportunities for settling in, introducing the areas of provision and getting to know the children.			Number	Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.			Measure, Shape and Spatial Thinking	Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		

Spring

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing zero Comparing numbers to 5 Composition of 4 & 5			6, 7 & 8 Combining 2 amounts Making pairs			Counting to 9 & 10 Comparing numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-shapes Spatial Awareness Patterns		

Summer

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase	To 20 and Beyond			First Then Now			Find my Pattern			On the Move		
Number	Building Numbers Beyond 10 Counting Patterns Beyond 10			Adding More Taking Away			Doubling Sharing & Grouping Even & Odd			Deepening Understanding Patterns and Relationships		
Spatial Thinking	Spatial Reasoning (1) Match, Rotate, Manipulate			Spatial Reasoning (2) Compose and Decompose			Spatial Reasoning (3) Visualise and Build			Spatial Reasoning (4) Mapping		

Mathematics Overview Year 1 & 2

		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	KB	Number and Place Value				Addition and Subtraction						Assess and Review/ Consolidate	
	LO	Shape										Assess and Review/ Consolidate	
Spring	KB	Y1 Place Value Y2 Money					Y1 Additn & Subtractn Y2 Mult & Division					Assess and Review/ Consolidate	
	LO	Length and Height						Mass and Volume					
Summer	KB	Y1 Mult & Div Y2 Time			Fractions			Place Value within 100			Money		
	LO	Mass, Capacity and Temperature			Statistics				Position and Direction				

Mathematics Overview Year 3 & 4
Shape, Space and Measure

		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn LO	Y3	Shape					STEM WEEK	Assessme	Statistics		Assessme	Length & Perimeter	STEM WEEK
	Y4	Shape						Assessme	Statistics	Assessme	Consolidation& Problem Solving	Length & Perimeter	
Spring LO	Y3	Length & Perimeter					STEM WEEK	Assessme	Mass & Capacity				
	Y4	Length & Perimeter				Consolidation & Problem Solving		Assessme	Area	Assessme	Position and Direction		Consolidation & Problem Solving
Summer LO	Y3	Assessme	Time					Assessme	Money			Assessme	Consolidation & Problem Solving
	Y4	Assessme	Time			Consolidation & Problem Solving		Assessme	Assessment			Assessme	Consolidation & Problem Solving

Mathematics Overview Year 3 & 4
Number

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn JL	**Number: Place Value**				**Number: Addition and Subtraction**				**Number: Multiplication and Division**			
Spring JL	**Number: Multiplication and Division**				**Number: Fractions**				**Number: Fractions and Decimals**			
Summer JL	**Number: Place Value**				**Number: Addition and Subtraction**				**Number: Multiplication and Division**			

Ready-to-progress criteria and the curriculum

The ready-to-progress criteria in this document are organised into 6 strands, each of which has its own code for ease of identification. These are listed below. *Measurement* and *Statistics* are integrated as applications of number criteria, and elements of measurement that relate to shape are included in the *Geometry* strand.

Ready-to-progress criteria strands	Code
Number and place value	**NPV**
Number facts	**NF**
Addition and subtraction	**AS**
Multiplication and division	**MD**
Fractions	**F**
Geometry	**G**

The table below is a summary of the ready-to-progress criteria for all year groups.

Strand	Year 1	Year 2	Year 3	Year 4
NPV	1NPV–1 Count within 100, forwards and backwards, starting with any number.		**3NPV–1** Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. →	**4NPV–1** Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. →
		2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. →	**3NPV–2** Recognise the place value of each digit in *three*-digit numbers, and compose and decompose *three*-digit numbers using standard and non-standard partitioning. →	**4NPV–2** Recognise the place value of each digit in *four*-digit numbers, and compose and decompose *four*-digit numbers using standard and non-standard partitioning. →
	1NPV–2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = →	**2NPV–2** Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. →	**3NPV–3** Reason about the location of any *three*-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. →	**4NPV–3** Reason about the location of any *four*-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. →

Strand	Year 1	Year 2	Year 3	Year 4
NPV			**3NPV–4** Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. →	**4NPV–4** Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. →
NF	1NF–1 Develop fluency in addition and subtraction facts within 10. →	**2NF–1** Secure fluency in addition and subtraction facts within 10, through continued practice. →	**3NF–1** Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	
	1NF–2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. →		**3NF–2** Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. →	**4NF–1** Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. →
				4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.
			3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). →	**4NF–3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) →

Strand	Year 1	Year 2	Year 3	Year 4
AS	1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	**2AS–1** Add and subtract across 10.	**3AS–1** Calculate complements to 100.	
	1AS–2 Read, write and interpret equations containing addition (+), subtraction (−) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	**2AS–2** Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".	**3AS–2** Add and subtract up to three-digit numbers using columnar methods.	
		2AS–3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.	**3AS–3** Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	
		2AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.		

Strand	Year 1	Year 2	Year 3	Year 4
MD		**2MD–1** Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	**3MD–1** Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	**4MD–1** Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. →
		2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).		**4MD–2** Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.
				4MD–3 Understand and apply the distributive property of multiplication. →

Strand	Year 1	Year 2	Year 3	Year 4
F			**3F–1** Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	
			3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency). →	
			3F–3 Reason about the location of any fraction within 1 in the linear number system. →	**4F–1** Reason about the location of mixed numbers in the linear number system.
				4F–2 Convert mixed numbers to improper fractions and vice versa.
			3F–4 Add and subtract fractions with the same denominator, within 1. →	**4F–3** Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
G	1G–1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. →	**2G–1** Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. →	**3G–1** Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.	

Strand	Year 1	Year 2	Year 3	Year 4
G				
	1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations. →		**3G–2** Draw polygons by joining marked points, and identify parallel and perpendicular sides. →	**4G–1** Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. →
				4G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.
				4G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.