




YEAR 1 MATHS RAINBOW PLANNING

Y1 SKILL	 Measuring length	<ul style="list-style-type: none"> choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers compare and order lengths and record the results using $>$, $<$ and $=$
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Term	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	Number – Place Value (within 10)					Calculation – Addition & Subtraction (within 10)					Geometry	Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.						
Whole class teaching & tutor table	Term 1 Week 1 1. Sort objects 2. Count objects 3. Count objects from a larger group Week 2 4. Represent objects 5. Recognise numbers as words (enhancements in CP) 6. Count on from any number Week 3 7. 1 more 8. Count backwards within 10 (enhancements in CP) 9. 1 less Week 4 10. Compare groups by matching (enhancements in CP) 11. Fewer, more, same 12. Less than, greater than, equal to Week 5 13. Compare numbers 14. Order objects and numbers 15. The number line (enhancements in CP)					Week 6 1. Introduce parts and wholes 2. Part whole models (enhancements in CP) 3. Write number sentences Week 7 (including writing number sentences) 1. Fact families – addition facts 2. Number bonds within 10 3. Systematic number bonds within 10 (enhancements in CP) Term 2 Week 1 (including writing number sentences) 4. Number bonds to 10 5. Add together Consolidate in NECTM learning time and through enhancements Week 2 (including writing number sentences) 6. Add more 7. Addition problems Consolidate in NECTM learning time and through enhancements Week 3 (including writing number sentences) 8. Find a part 9. Subtraction – find a part Consolidate in NECTM learning time and through enhancements Week 4 (including writing number sentences) 10. Fact families – the eight facts 11. Subtraction - take away/cross out (How many left?) Consolidate in NECTM learning time and through enhancements Week 5 (including writing number sentences) 12. Take away (How many left?) 13. Subtraction on a numberline Consolidation of addition and subtraction in NECTM time and through enhancements					Week 7 1. Recognise and name 3D shapes* 2. Sort 3D shapes 3. Recognise and name 2D shapes* 4. Sort 2D shapes 5. Patterns with 2D and 3D shapes Consolidate in NECTM learning time							
Continuous provision																		
Short input (5 th NECTM time slot)																		
*no planning, needs to be done from scratch																		

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Spring	Number – Place Value (within 20)				Addition & Subtraction (within 20)			Number – Place Value (within 50)			Measurement: length and height Measurement: weight and volume	
Whole class teaching & tutor table	Term 3				Week 5:			Week 4:			Week 6:	
Continuous provision	Week 1				1. Add by counting on within 20			1. Count from 20-50			Whole class input on vocabulary and measure then activities set up for continuous provision that all children had to complete:	
Short input (5th NECTM time slot)	2. Understand 10				2. Add ones using number bonds			2. 20, 30, 40 and 50 enhancements in CP			1. Compare length and height	
*no planning, needs to be done from scratch	Consolidate in NECTM learning time and through enhancements				Consolidate in NECTM learning time and through enhancements			3. Count by making groups of 10			2. Measure length using objects	
	Week 2				Week 6:			Week 5:			3. Measure length in cm	
	3. Understand 11, 12 and 13				3. Find and make number bonds to 20 (taught over 2 lessons)			5. Partition in to tens and ones enhancements in CP			Whole class input on vocabulary and measure then activities set up for continuous provision that all children had to complete:	
	4. Understand 14, 15 and 16				4. Doubles enhancements in CP			6. The number line to 50			1. Heavier and lighter	
	5. Understand 17, 18 and 19				5. Near Doubles enhancements in CP			7. Estimating on a number line to 50			2. Measure mass	
	Consolidate in NECTM learning time and through enhancements				Term 4			Week 6:			3. Compare mass	
	Week 3				Week 1:			8. 1 more, 1 less			4. Full and empty	
	6. Understand 20				6. Subtract ones using number bonds			Consolidate in NECTM learning time and through enhancements			5. Compare volume	
	7. 1 more 1 less (NCETM) enhancements in CP				7. Subtraction – counting back						6. Measure capacity	
	8. The number line to 20				Consolidate in NECTM learning time and through enhancements						7. Compare capacity	
	Week 4				Week 2:							
	9. Use a number line to 20				8. Subtraction – finding the difference enhancements in CP							
	10. Estimate on a number line				Consolidate in NECTM learning time and through enhancements							
	11. Compare numbers to 20 (NCETM) enhancements in CP				Week 3:							
	12. Order numbers to 20				9. Related facts*							
					10. Missing number problems*							
					Consolidate in NECTM learning time and through enhancements							

Term	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Summer	Multiplication and division			Number: fractions		Geometry – position and direction	Number – Place Value		Money	Time		Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.
Whole class teaching & tutor table	Term 5			Week 4:		Week 6:	Term 6		Week 5:	Week 6:		
Continuous provision	Week 1:			1. Recognise a half of an object or shape		1. Describe turns	Week 1:		1. Unitising	Early work – write the days of the week		
Short input (5 th NECTM time slot)	1. Count in 2s			2. Find a half of an object or shape		2. Describe position – left and right	1. Count from 50-100		2. Recognise coins	1. Before and after		
	2. Count in 10s			3. Recognise half of a quantity		3. Describe position – forwards and backwards	2. Tens to 100		3. Recognise notes	2. Days of the week		
	3. Count in 5s			4. Find half of a quantity		4. Describe position – above and below	Consolidate in NECTM learning time and through enhancements		4. Count in coins	3. Months of the year		
	Consolidate in NECTM learning time and through enhancements			Consolidate in NECTM learning time and through enhancements		5. Ordinal numbers				4. Hours, minutes and seconds		
	Week 2:			Week 5:			Week 2:			5. Tell the time to the hour		
	4. Recognise equal groups			5. Recognise a quarter of an object or shape			3. Partition into tens and ones			Week 7:		
	in CP			6. Find a quarter of an object or shape			4. The number line to 100			6. Tell the time to the half hour		
	5. Add equal groups*			7. Recognise a quarter of a quantity			Consolidate in NECTM learning time and through enhancements			Consolidate in NECTM learning time and through enhancements		
	6. Make arrays*			8. Find a quarter of a quantity			5. 1 more, 1 less (NCETM)					
	Week 3:			Consolidate in NECTM learning time and through enhancements			6. Compare numbers with the same number of tens					
	7. Make doubles* enhancements in CP						Consolidate in NECTM learning time and through enhancements					
	8. Make equal groups – grouping						Week 4:					
	9. Make equal groups – sharing*						7. Compare any two numbers					
							Consolidate in NECTM learning time and through enhancements					
*no planning, needs to be done from scratch												

Year 1 - Mathematics

Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. **It is essential to everyday life**, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a **sense of enjoyment and curiosity** about the subject.

Aims

The national curriculum for mathematics aims 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.

Mathematics 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 **pupils should make rich connections across mathematical ideas** to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

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.

Information and communication technology (ICT)

Calculators should not be used as a substitute for good written and mental arithmetic. They should therefore only be introduced near the end of key stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure. In both primary and secondary schools, teachers should use their judgement about when ICT tools should be used.

Spoken language

The national curriculum for mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. **They must be assisted in making their thinking clear to themselves as well as others and teachers** should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Key Stage 1 Mathematics (Years 1 & 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 four 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 practice 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.

Year 1 – Overview

Number, place value & algebra

Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.

Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.

They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.

They recognise and create repeating patterns with objects and with shapes.

Calculation

Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.

Pupils combine and increase numbers, counting forwards and backwards.

They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.

Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.

They make connections between arrays, number patterns, and counting in twos, fives and tens.

Fractions, Decimals & Percentages

Pupils are taught half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape.

Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.

Measurement

The pairs of terms: mass and weight, volume and capacity, are used interchangeably at this stage.

Pupils move from using and comparing different types of quantities and measures using non-standard units, including discrete (for example, counting) and continuous (for example, liquid) measurement, to using manageable common standard units.

In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler, weighing scales and containers.

Pupils use the language of time, including telling the time throughout the day, first using o'clock and then half past.

Geometry – Properties of Shape

Pupils handle common 2-D and 3-D shapes, naming these and related everyday objects fluently.

They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.

Geometry – Position and Direction

Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.

Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.

Statistics

Pupils should continue to build on visual representations of information experienced in Early Years.

Year 1 Key Objectives		Best Fit: 1.1 Emerging / 1.2 Expected / 1.3	
Exceeding			
Number and place value	Calculation		
	Addition and subtraction	Multiplication and division	
<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none">count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given numbercount, read and write numbers to 100 in numeralscount in multiples of twos, fives and tensgiven a number, identify one more and one lessidentify and represent numbers using objects andidentify and represent numbers using pictorial representations including the number lineuse the language of: equal to, more than, less than (fewer), most, leastread and write numbers from 1 to 20 in numerals and words.	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none">read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signsrepresent and use number bonds and related subtraction facts within 20add and subtract one-digit and two-digit numbers to 20, including zerosolve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none">solve one-step problems involving multiplication and division, by calculating the answer using concrete objects,solve one-step problems involving multiplication and division using pictorial representations and arrays with the support of the teacher.	
		Statistics	
		<p><i>No Key Objectives</i> However pupils should continue to build on visual representations of information experienced in Early Years.</p>	
Fractions and Decimals	Measures	Geometry	
<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none">recognise, find and name a half as one of two equal parts of an object, shaperecognise, find and name a half of a quantityrecognise, find and name a quarter as one of four equal parts of an object, shaperecognise, find and name a quarter of a quantity.	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none">compare, describe and solve practical problems for:<ul style="list-style-type: none">lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]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]time [for example, quicker, slower, earlier, later]measure and begin to record the following:<ul style="list-style-type: none">lengths and heightsmass/weightcapacity and volumetime (hours, minutes, seconds)recognise and know the value of different denominations of coins and notessequence events in chronological order using language [for example, 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 yearstell the time to the hour and half past the hourdraw the hands on a clock face to show these times. [hour and half past the hour]	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none">recognise and name common 2-D and 3-D shapes, including:<ul style="list-style-type: none">2-D shapes [for example, rectangles (including squares), circles and triangles]3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	
		<p><i>Pupils should be taught to:</i></p> <p>describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p>	

