

Loders CE Primary Academy

Mathematics Skills Progression

Strand	Foundation Stage			Stage One		Stage Two		Stage Three	
Problem Solving	Plan play making decisions about what is needed.	Begin to understand maths ideas in everyday situations by using them in role play.	Compare and talk about small quantities and numbers.	Begin to count and measure by direct comparison in practical maths activities.	Sort, count and measure by direct comparison in practical maths activities.	Use maths with increasing accuracy in classroom activities (e.g. role play).	Find a starting point and relevant information when problem solving.	Begin to adopt a systematic approach or suggested model to solve a problem.	Deconstruct a maths problem and find the important information needed to solve it.
	Talk about the objects used in play.	Use objects to help solve practical problems. (e.g. laying the table in the homecorner)	Begin to identify own mathematical problems based on own interests.	Make connections and use prior knowledge to solve familiar/similar practical problems in a new context with support. e.g. finding the total number of farm animals in two fields	Make simple connections and use prior knowledge to solve practical problems. e.g. choosing criteria for sorting buttons gingerbread men	Identify the mathematical knowledge needed to solve practical problems. e.g. use coins to pay for a drink and a meal in the café	Begin to transfer mathematical knowledge and use it to solve problems. e.g. find the difference between...	Use prior mathematical knowledge to solve problems. e.g. buy a number of items for 10p with £2	Identify a range of different approaches that can be used to solve a problem. e.g. find ways of making 25p with silver coins working systematically
	Count reliably up to 10 objects.	Use practical apparatus to model a problem. e.g. using multilink to share 6 sheep between 3 trailers.	Use objects and pictures to represent and solve one-step problems	Use place value and number facts to solve one-step problems.	Solve simple one-step addition/subtraction problems and missing numbers problems.(multiplication & division with support) e.g. $7 = \square - 9$	Solve simple problems involving addition and subtraction of numbers, using concrete objects and pictorial representations, including, quantities and measures and money of the same unit including giving change.	Use reasoning about place value and number facts to solve problems. Apply increasing knowledge of mental and written methods to solve problems.	Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction.	Solve problems including missing numbers involving multiplication and division, including positive integer scaling problems and correspondence problems in which 'n' objects are connected to 'm' objects.
Communicating	Use simple everyday words to describe objects and groups. Create and experiment with symbols and marks representing ideas of number.	Shows an interest in representing numbers. Represent numbers using fingers, marks on paper or pictures.	Record using marks they can interpret and explain.	Begin to represent maths work with objects and pictures.	Represent maths work with objects and pictures.	Represent and record work using concrete apparatus and pictorial representations.	Represent and record work using simple diagrams. Restate the problem in own words.	Use and interpret diagrams with increasing independence. Explain a problem in my own words.	Organise work systematically, begin to pose questions in order to clarify the problem.
	Respond to simple questions about my play using everyday words.	Show curiosity about numbers by offering comments and asking questions.	Respond to questions about my work using some mathematical words.	Talk about maths work using everyday language.	Talk about maths work using mathematical vocabulary and terms.	Explain the steps taken using an increasing range of mathematical words and terms. Check work using apparatus.	Use jottings to support explanation of the steps taken and explain why an answer is correct in simple terms. Check my own work with support.	Explain what has been done verbally and where appropriate in writing. Explain why an answer is or is not correct.	Explain what has done and record in writing where appropriate using key statements. (e.g. It must be...because...)
Reasoning	Talk about play using everyday words.	Talk about what has been done using everyday words.	With support draw simple conclusions from my work.	Begin to draw simple conclusions from work. e.g. describe simple patterns and relationships between numbers	Draw simple conclusions from work. Predict what might come next. e.g. Which is the largest set?	Make predictions and test these by generating examples. e.g. The next block in the pattern will be blue because...	Predict what will come next in a simple pattern or sequence and continue it.	Explain why an answer is correct. e.g. I think the answer is 12 because it is the next multiple of 3	Find examples that meet simple general statements. e.g. Every multiple of 4 is a multiple of 2
	Take part in action rhymes and songs.	Recall and repeat action rhymes and songs.	Copy and recreate a simple pattern (e.g. clap/stamp).	Recognise and create repeating patterns with objects and shapes.	Create and talk about a simple pattern using objects or numbers. e.g. red/red/blue/orange	Continue and describe patterns of objects, shapes and numbers e.g. red triangle, blue circle, yellow square, blue square blue square or 2,4,6,8	Describe and explain patterns and relationships between objects, shapes and numbers. e.g. The next number in the pattern is 9 because it is the next odd number...	Respond to questions about patterns and their relationships. e.g. What if...?, How could you test...?, Can you predict...?	Identify and use patterns, relationships to make a simple general statement. e.g. I think that...All will...because
Number and Place Value	Recites some number names in sequence. Say and use number names in familiar contexts.	Recites numbers in order to 10. Uses some number names accurately. Shows and interest in numerals in the environment.	Read, write, count and order numbers to 20. Select the correct numeral to represent 1 to5, then 1 to 10 objects. Recognises numerals 1 to 5.	Count to and across 100 forwards and backwards from 0 or 1, or any given number.	Count, read and write numbers to 100 in numerals and words (to 20). Recall and use number bonds to 20+.	Read, write and order numbers to 100+ in numerals and words.	Compare, and order numbers from 0 up to 100 using the signs =, <, >.	Read, write, order, count, and compare numbers to 1000 in numerals and words.	Count from 0 in multiples of 4, 8, 50 and 100,

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	Know that numbers identify how many objects in the set.	Count out three or four objects by saying one number after each item.		Compare and order objects, e.g. first, second, third and indicate quantity, e.g. 3 apples, 2cm				
Count reliably up to 10 everyday objects by removing them from the set on by one.	Counts objects to 10 beginning to count beyond 10. Count reliably 10 everyday objects using 1to1 correspondence. Recognises that anything can be counted including, steps, claps or jumps.	Count reliably with numbers from one to 20. Count an irregular arrangement of up to 10 objects. Count actions or objects that cannot be moved. Count out up to six objects from a larger group.	Identify, estimate and represent numbers using objects and pictorial representation, Use the language of equal to, more than, less than (fewer), most, least.	Recognise place value in numbers beyond 20 by reading, writing and counting and comparing numbers up to 100, supported by objects and pictorial representation.	Recognise the place value of each digit in a two digit number, partition in to multiples of 10 and 1.	Recognise 0 as a place holder.	Recognise the place value in each digit of a three digit number and partition in to multiples of 100, 10, 1 in a range of different ways.	Round three-digit and four-digit numbers to the nearest 10, 100, 1000 and give estimates for their sums.
Identify one more/less than a number 1 to 5. Count on to 5 and back to 1.	Identify one more/less than a number 1 to 9. Count on to 10 and back to 1.	Say which number is one more/less than a given number to 20 Say the number that is one more than a given number. Count in twos to at least 10+.	Given a number identify one more/less than a given number to 20+.	Identify one more/less for any given number to 100+.	Recognise odd and even numbers and explain why a number is odd or even..	Find 10 or 100 more or less than a given number to 100+.	Find 10 or 100 more or less than a given number to 1000+.	Identify, estimate and represent numbers in different ways.
Estimate and then count up to 5 objects in a group.	Estimate and then count up to 10 objects in a group.	Estimate how many objects can be seen and check by counting.	Estimate a number of objects that can be checked by counting. 1 to 1 correspondence, in a line, by removal from the set	Estimate a number of objects that can be checked by grouping and counting. e.g. counting in 2s	Identify, estimate and represent numbers in different ways. e.g. using a number line Recognise that the addition/multiplication of two numbers can be done in any order. Commutative Law and Subtraction cannot.	Round three-digit numbers to the nearest 10,100. Recognise and use the inverse relationship between addition and subtraction to check calculations and find missing numbers.	Read Roman Numerals from I to XII.	Estimate the answer to a calculation and use the inverse to check answers.

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Mental Maths	Recall and sing an increasing range of number rhymes and songs. e.g. 10 green bottles, 10 in the bed, five little speckled frogs Count groups of up to 10 objects. Count groups of up to 5 objects. Count to 5 and back to 1.	Says the number than is 'one more' or 'one less' than a given number. Count groups of up to 10 objects. Count to 10 and back to 1.	Can add 'one more' or 'one less' to numbers 1 to 9. Recall addition and subtraction facts to 5+.	Add and subtract numbers to 10.	Add and subtract one digit and two digit numbers to 20+, including 0.	Add mentally a one digit number/multiple of 10 to any two digit number. e.g. $18 + 7 =$, $24 + 20 =$	Add / subtract mentally a one digit number/multiple of 10 to/from any two digit number. e.g. $18 + 7 =$, $24 + 20 =$, $38 - 7 =$, $57 - 20 =$	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 mentally. A two-digit number and a single-digit number Two, two digit numbers.
		Count to 5 and back to 1.	Count on and back from zero to find an answer. (in ones, twos)	Recall all pairs of numbers with a total of 10 e.g. 8+2.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	Add one digit and two digit numbers to 20+.(Concrete objects, pictorial representations and mentally) e.g. a two-digit number and ones a two-digit number and tens two two-digit numbers three one—digit numbers	Recall and use fluently addition and subtraction facts to 20+ and derive and use related facts up to 100.	Recall addition facts to 100. e.g. $37 + 63 = 100$	Recall number pairs that total 1000. e.g. $120 + 500 = 620$
	Count on and back from zero to 20. in ones, two, tens			Count on and back from a given number to 20+. In ones, twos, fives, tens	Recall the multiplication tables: 2x, 5x, 10x.	Recall the multiplication tables: 2x, 5x, 10x and the corresponding division facts.	Recall the multiplication tables: 2x, 4x, 5x, 10x..	Recall the multiplication tables: 3x, 4x, 8x, 10x and the corresponding division facts.	
	Recall and sing rhymes involving doubles, e.g. 10 fat sausages.	Double 1, 2, and 3.	Recall the doubles and halves for numbers to 5.	Recall the doubles and halves for numbers to 10.	Recall the doubles and halves for numbers to 10+.	Recall the doubles and halves for numbers to 20.	Recall the doubles and halves for numbers to 20+.	Recall the doubles of numbers to 50. e.g. $32 + 32 =$	Recall significant doubles and halves for numbers to 100. e.g. $10 + 10 =$, $50 + 50 =$

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Operations Addition	Know that a group of things changes in quantity when something is added or taken away. Count everyday objects and talk about 'How many' altogether. Select a number of objects from a group when asked for example, 'please give me one', etc.	Count two sets of objects to 10 and talk about the 'joining' to find the 'total'. Separate a group of three or four objects in different ways, recognising that the total is still the same. Compares two groups of objects, saying when they have the same number.	Using quantities and objects add and subtract two single digit numbers. Begin to use the vocab involved in adding, e.g. add, plus, more than. Recognise that addition involves the combining of two groups or sets.	Use apparatus to make all pairs of numbers with a total of 10+.	Recall, represent and use number bonds and related subtraction facts within 20. Recall and use number bonds to 20+.	Recall and use addition facts to 20+ fluently.	Use addition facts to 20 fluently to derive related facts to 100.	Make all number statements for 100.	Generate addition statements using two and three-digit numbers (100+)
	Use some language of quantities, e.g. 'more' and 'a lot' Use everyday words in practical activities about adding. e.g. together, all	Use maths words when talking about addition. e.g. add, more total sum	Count on and back to find an answer. Find the total number of items in two groups by counting all of them. Add by counting on from the largest number to 10+.	Add one digit numbers to a two-digit numbers that do not bridge a 10s. (10+)	Add one digit and two digit numbers to 20+.(including zero).	Recognise that when adding the need to 'count on' from the largest number.	Add by rounding to the nearest 10.	Add/count on to the next 100.	Add two-digit and three-digit numbers using formal written methods of columnar addition. Use inverse to estimate and check answers to calculations.
	Use words such as 'more' when comparing two groups of objects.	Find one more or less from a group of up to five objects, then ten objects.	Add a number of objects to 10.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	Add one-digit numbers to a two-digit numbers that bridge 10 (20+)	Add one digit and two digit numbers to 20+.(Concrete objects, pictorial representations and mentally) e.g. a two-digit number and ones a two-digit number and tens two two-digit numbers 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. Add two, two-digit numbers that bridge 10s.	Add two-digit numbers that bridge 10s and 100s.	Add near multiples of 10 when adding two or three-digit number.
	Talk about 'more' and 'less' in practical activities.	Find one 'more' than a number from 1 to 10.	Use the language of 'more' and 'fewer' to compare two sets of objects	Use a number line to model the addition of single-digit numbers to 10+.	Use a number line to model the addition of a one digit and two-digit number (20+).	Use a number line to model the addition of a two, two-digit number (20+).	Add by partitioning and identifying near doubles.	Add using decimal notation to one place.	Add using decimal notation to two places.
Operations Subtraction	Knows that a group of things changes in quantity when something is added or taken away. Remove everyday objects from a set to 5+ and talk about 'less' . Use everyday words in practical activities about taking away. e.g. take away, less	Take everyday objects away from a set of object to 10. Talk about 'less' and 'difference'. Use maths words when talking about 'taking away'. e.g. subtract, take away minus	Using quantities and objects add and subtract two single digit numbers. Know that subtraction is 'taking away' and finding out 'how many are left'.(10+) Know that subtraction is 'taking away' a smaller group from a larger group Begin to use the vocab involved in adding and subtracting. In practical activities 'count back' from the largest number.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	Recall, represent and use number bonds and related subtraction facts within 20. Begin to 'count back' when subtracting to find out how many are left.	Recall and use subtraction facts to 20+ fluently. Subtract one digit and two digit numbers to 20+.(Concrete objects, pictorial representations and mentally) e.g. a two-digit number and ones a two-digit number and tens two two-digit numbers three one—digit numbers	Use subtraction facts to 20 fluently to derive related facts to 100. Show that the addition of two numbers can be done in any order (Commutative) and subtraction of one number from another cannot. Make all related number sequences up to 50+ e.g. 6+8=14,8+6=14,14-6=8, 14-8=6)	Generate and solve subtraction statements for 100.	Generate and solve a wide range of subtraction statements with two and three-digit numbers 100+.
				Use a number line to 'count back'.	Use a number line to subtract groups of one and/or two-digit numbers.	I can subtract two-digit numbers that bridge 10s and 100s.	Subtract two-digit and three-digit numbers that bridge 10s and 100s.	Subtract two-digit and three-digit numbers using formal written methods of columnar subtraction.	
	Uses some language of quantities, e.g. 'more' and 'a lot'	Begin to make comparisons between two quantities ,using simple mathematical vocab.	Compare two sets of objects to find the 'smallest' set.(up to 10+)	Begin to compare two sets (up to 10+) to find the difference.	Recognise that addition is the 'inverse' of subtraction when calculating and use known facts.	Find the difference between two sets or groups.(up to 20+)	Find the difference between two sets or groups. (up to 50+)	Find the difference between sets or groups. (up to 100)	Find the difference between sets or groups (up to 100+)

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	Talk about more and less in practical activities.	Find one less than a given number of objects from 1 to 10+.	Use the language of 'more' and 'fewer' to compare two sets of objects	Subtract a one digit number from a number up to 10+.	Subtract one and two-digit numbers from 20. (Including zero)	Use a number line to subtract two two-digit numbers.	Use jottings to record the strategies I use.	Subtract near multiples of ten when subtracting two and three numbers.	Use expanded partitioning to subtract 2digit and 3-digit numbers.
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Operations Multiplication	Find and match pairs. e.g. snap, picture cards etc	'Count on' in twos to 10+.	Count in twos, fives and tens from zero.	Count in multiples of twos, fives and tens from different starting points.	Recall and use the multiplication tables: 2x, 5x, 10x, use to derive division facts. Recognise odd and even numbers.	Calculate statements for multiplication and division within multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. Count in steps of 2, 3, or 5 from 0 and in tens from any number.	Recall and use the multiplication and division facts for 2x, 5x, 10x up to 100. e.g. $100 \div 5 = 20$, $20 \times 5 = 100$ including recognising odd and even numbers	Write and calculate statements for multiplication and division using multiplication tables, including two-digit numbers times one-digit numbers. Using mental and formal written methods. Count from 0 in multiples of 4, 8, 50 and 100.	Recall and use the multiplication and division facts for 4x, 8x, 3x, 6x multiplication tables. e.g. $36 \div 6 = 6$, $6 \times 6 = 36$ $72 \div 8 = 9$, $9 \times 8 = 72$
	Talk about groups of objects as part of my play. e.g. I have two sock and Sam has two socks...that's 4 altogether.	Model doubles for numbers to 10 in practical situations. (e.g. lining up in pairs, sorting animals into 2 fields)	Model the doubles of all numbers to at least 10 using apparatus. (e.g. Compare bears, Multilink)	Recall the doubles of all quantities numbers to 20. recognise that doubling is the addition of two equal amounts.	Recall the doubles of quantities and numbers to 20+.	Show that the multiplication of 2 numbers can be done in any order (commutative) and division of one number by another cannot.	Recall the doubles of all numbers to 100.	Recall the doubles of all numbers to 100+. Use knowledge of halving to 'undo' doubling.	Recall the doubles of two-digit numbers and use these to calculate doubles of multiples of 10 and 100.
			Model repeated addition with apparatus.	Represent repeated addition as arrays.	Use a number line to model and record repeated addition.	Use repeated addition and arrays to represent and solve multiplication problems.	Use a number line to represent and solve multiplication problems.	Use Expanded Grid method to represent and solve multiplication problems.	Use the Grid method to multiply a two digit number by a one digit number.
Operations Division	Take part in number rhymes and number songs. e.g five little speckled frogs, five little men in a flying saucer	'Count on' and 'back' in twos from 10+	Share groups of objects etc (e.g. a pizza into 4 pieces, 10 grapes between 5 people)	Recognise, find and name a half as one of two equal parts of an object, shape or quantity. (to 20)	Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Calculate statements for multiplication and division within multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.	Recall and use the multiplication and division facts for 2x, 5x, 10x up to 100. e.g. $100 \div 5 = 20$, $20 \times 5 = 100$ including recognising odd and even numbers	Write and calculate statements for multiplication and division using multiplication tables, including two-digit numbers times one-digit numbers. Using mental progressing to formal written methods.	
		Model halves of even numbers to 6.	Recall the halves of even numbers to 10.	Use apparatus to model sharing (Repeated subtraction). e.g. 3 lines of 4 when sharing 12 grapes between three people	Find simple fractions of objects, shapes and quantities (Using Arrays)	Use repeated subtraction on a number line to record and solve division problems. Use Arrays to model and solve division problems.	Recall the halves of numbers to 20+. Use knowledge of the doubles of onedigit numbers to derive the halves of multiples of 10.	Recall the halves of odd and even numbers to 50+ e.g. half of 27 is 13.5 Use Partitioning e.g. $28 \div 2 = 14$ $20 \div 2 = 10$ $8 \div 2 = 4$	Recall the halves of numbers to 100+ e.g. half of 36.5 is 18.25 Use knowledge of the doubles of two-digit numbers to derive the halves of multiples of 10 and 100. Use apparatus to model division calculations with remainders.
Fractions and Decimals	Share objects as part of play. e.g. fruit at snack time	Talk about what happens when groups of objects are shared. e.g. we had four, Sam had two and I had two.	Begin to recognise one half e.g. an orange, a group of 4 animals etc.	Use the fraction one half. e.g. fold paper in half	Practically half an even number of objects to 10+ or a simple 2D shape.	Recognise, find, name and write a $\frac{1}{2}$, $\frac{2}{4}$, $\frac{1}{3}$ and $\frac{1}{4}$ of a length, shape, set of objects or quantity. RF3	Find one half/quarter/three-quarters of a set of objects and shade a shape.	Read and write proper fractions, recognise that the denominator is the parts of the whole and the numerator as the number of parts.	Add and subtract fractions with the same denominator within one whole. e.g. $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$ ASF1 Compare and order unit fractions and fractions of the same denominators.
			Talk about sharing and grouping in practical situations.	Share and divide objects in half and quarters. e.g. object-based arrays	Use objects and apparatus to represent sharing and dividing. e.g. apparatus-based arrays	Use pictures and symbols to create Pictorial arrays e.g. half of 4 cakes is 2	Recall, and write simple fractions. e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Recognise, find and write fractions of a discrete set of objects, unit fractions and non-unit fractions with small denominations, (e.g. $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{16}$ of 12 litres)	Recognise and use fractions as numbers, unit fractions and non-unit fractions with small denominators.
			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.	Use objects and apparatus to represent half or a quarter of an object, shape or quantity.	Use pictures and symbols to create record equivalent fractions. e.g. half a cake is the same as 2 quarters.	Count in fractions up to 10 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. e.g. On a number line, use of squared paper to represent and compare a half with 2 quarters.	Use diagrams to compare fractions and establish equivalents. Recognise simple equivalents. (Half of a £ is 50p)	Recognise and show using diagrams equivalent fractions with small denominators. e.g. $\frac{1}{2} = \frac{2}{4}$ Match simple equivalent decimals and fractions, half-0.5, quarter-0.25

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		Use everyday language related to money.	Find ways of making the equivalent of 2p, 5p, 10p e.g. $1p + 1p = 2p$	Find different ways of making totals. e.g. $10p = 5p + 5p$, or $2p + 2p + 1p + 5p$ etc	Find and add the equivalents for 2p, 5p, 10p, 20p, 50p, £1, £2	Combine values to make a given amount. e.g. 59p	Find different combinations of coins that equal the same amount of money. e.g. 87p	Count up and down in 10ths and find $1/10^{\text{th}}$ of a quantity.	Count up and down in tenths and recognise that tenths arise from dividing an object into 10 equal parts and dividing one-digit numbers or quantities by 10.
	Use coins in play.	Recognise coins. e.g. 1p, 2p, 5p, 10p	Match coins to coins values. e.g. 1p, 2p, 5p, 10p	Recognise and know the value of coins and notes. e.g. 1p, 2p, 5p, 10p, 20p, 50p, £1 etc	Find totals in pence or pounds. Find totals and pay in pence and pounds.	Find totals, pay with coins and give change.	Begin to use £ and p notation. $£1 + 50p = _$	Use £ and p notation. e.g. $£2.10 + 31p =$	Add and subtract amounts of money giving change using both £ and p.
Geometry 2D Shapes	Show an interest in shapes in the environment. Show awareness of similarities in shapes in the environment.	Begin to use mathematical names for 'flat' 2D shapes. Begin to talk about shapes of everyday objects, e.g. 'round', 'tall' Select a particular named shape.	Recognise, name and find simple 2D shapes, circles, squares, triangles, rectangles. Use words such as 'square' and 'smaller' to describe the shape and size of flat shapes.	Recognise and name common 2D shapes, e.g. rectangle (including squares), circles and triangles	Use everyday language and shape properties to sort and describe a range of features of 2D shapes.	Recognise and describe the properties of 2D shapes e.g. number of sides/edges, corners, faces and line of symmetry in a vertical line.	Compare and sort common 2D shapes and everyday objects (e.g. shapes with right angles)	Describe the properties of 2D shapes using accurate language, including lengths of lines and acute and obtuse angles greater or less than a right angle.	Identify, draw, make, visualise and describe properties of rectangles, triangles and regular polygons.
	Begin to categorise objects according to shape.	Talk about shapes and the way in which they are being used. Use 2D shapes appropriate for task, e.g. making pictures	Talk about and describe everyday objects and shapes using mathematical language. Begin to use mathematical terms to describe shapes.	Use everyday language to describe some features of familiar 2D shapes. e.g. sides and corners	Name and describe objects that turn around a shape. e.g. scissors, a frame around a door or window	Name and describe 2D shapes, e.g. circle, square, triangle, rectangle, pentagon, hexagon and octagon.	Name and describe an increasing range of 2D shapes. e.g. quadrilaterals, polygons	Recognise and describe angles as a property of shape or a description of a turn.	Identify right angles, recognise how many are needed to make a half turn, threequarter, full turn etc.
	Talk about simple patterns in pictures.	Talk about shapes and arrange shapes in different ways. e.g. shapes that can be joined together.	Create and describe simple patterns. e.g. red blue, red blue Use familiar objects and common shapes to create patterns and build objects..	Continue patterns and describe repeating patterns, e.g. shapes that tessellate.	Use one or more shape to create and describe repeating patterns.	Identify shapes in different positions and orientations.	Order and arrange combinations of objects in patterns and sequences.	Identify and describe simple number patterns and sequences.	Recognise right angled, isosceles, equilateral and scalene triangles and describe their properties. Recognise angles that are greater than or less than 90 degrees.

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Geometry 3D Shapes	Show an interest in shapes in the environment. Show awareness of similarities in shapes in the environment.	Begin to use mathematical names for 'solid' 3D shapes. Begin to talk about shapes of everyday objects, e.g. 'round', 'tall' Select a particular named shape.	Recognise, name and find simple 3D shapes. (e.g. cubes, spheres and cones) Use words such as 'circle' or 'bigger' to describe the shape and size of solids	Recognise and name common 3D shapes. e.g. cuboids (including cubes pyramids and spheres).	Use everyday language and shape properties to compare, sort and describe a range of features of 3D shapes. e.g. cubes, spheres cones, cuboids, cylinder	Recognise and describe the properties of 3D shapes. e.g. edges, vertices and faces	Identify 2D shapes on the surface of 3D shapes, e.g. a circle on a cylinder and a triangle on a pyramid	Draw and make 3D shapes using modelling materials.	Model and draw an increasing range of 3D shapes according to their properties.
	Begin to categorise objects according to shape. Talk about 3D structures in the environment.	Talk about shapes and the way in which they are being used. Use 3D shapes appropriate for task, e.g. boxes to make a pirate ship.	Talk about and describe everyday objects and shapes using mathematical language. Begin to use mathematical terms to describe shapes.	Use everyday language to describe some features of familiar 3D shapes. e.g. round, straight	Use simple mathematical language to describe some features of common 3D shapes. e.g. faces, sides, corners	Name and describe 3D shapes, e.g. cuboids, prisms, cylinders cones	Compare and sort common 3D shapes and everyday objects e.g. triangular and square based pyramids, triangular prisms	Recognise 3D shapes in different orientations and describe their properties using accurate language including lengths of lines and angles	Identify, draw, make, visualise and describe properties of 3D shapes, e.g. a cone, cube, cuboid, triangular prism, triangular /square based pyramid.
			Use familiar objects and common shapes to create patterns and build objects.	Describe models made from construction kits.	Use construction kits to make nets of cubes and cuboids	Use construction kits and squared paper to make nets of cubes and cuboids.	Use construction kits and squared paper to enlarge the nets of cubes and cuboids.	Use construction kits and squared paper to make nets of cubes, cuboids and pyramids,	Recognise the nets of a cone, cube, cuboid and prism.
Position, Direction and Movement	Use everyday words to describe my actions. e.g. stop, go, turn around	Use positional language, to talk about the position of people, and objects. e.g. I'm in front of Jack	Use every day language to describe positions, directions, and movement. (e.g. forwards,	Describe positions (e.g. in front of, first, second, third) direction (e.g. forwards, diagonally), and distance (close, near) etc	Recognise and respond to language about whole, half and quarter turns.	Follow and give simple instructions involving position; direction and movement. e.g. first, move forward 3 steps...	Read and record the position, direction and movement using appropriate mathematical vocabulary.	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	Draw lines of symmetry in simple shapes and recognise shapes with no symmetry.

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			backwards and turn). Describe the relative position of objects and shapes. e.g. between, in front of, behind						
			Talk about things that turn. (e.g. a bike, clock, washing machine)	Describe position, direction and movement including whole, half, quarter and three quarter turns in both directions.	Recognise and make whole, half, quarter and three quarter turns, connect turning clockwise with movement on a clock face.	Recognise and use whole, half and quarter turns both clockwise and anticlockwise.	Recognise that a right angle represents a quarter turn, 2 right angles a half turn, and three right angles a three quarter turn.	Draw the reflection of a shape in a vertical/horizontal mirror line where the line touches the sides of the shape.	Draw the reflection of a shape in a vertical/horizontal mirror line which does not touch the sides of the shape.
						Make and describe right angles including turns between compass points.	Use a set square to draw and identify right angles in 2D shapes		
	Move forwards, backwards and turn.	Follow and give simple instructions to others. e.g. stop, go, forward, back turn	Use everyday language to describe movement including programmable toys.	Use the simple language of position to describe the movements of programmable toys.	Use the language of position to describe the movements of an increasing range of vehicles.	Describe directions on a square grid. (e.g. two squares to the left, 1 back)	Record directions on a square grid.	Recognise that 2 right angles make a half turn, three right angles make three quarters of a turn and four make a complete turn. Recognise angles as a description of a turn.	Identify whether angles are greater than or less than a right angle. Recognise that a straight line, (180 degrees) is equivalent to two right angles (90 degrees)
				Describe patterns in the environment. e.g. tessellating patterns.	Describe simple symmetrical patterns in the environment. e.g. butterfly, ladybird	Recognise reflective lines of symmetry in a simple patterns and 2D shapes.	Recognise lines of symmetry in a range of patterns and 2D shapes	Plot points on a grid where the rows and columns are labelled.	Describe and find the position of a square on a square grid.
Measures Length	Talk about objects in the environment.	Use words such as longer or shorter to compare quantities, Find a range of long and short objects.	Use everyday language to describe and compare objects of different lengths and heights. e.g. long/short, longer/shorter, tall/short, double/half Order two or three items by length or height.	Compare order and describe a group of objects. e.g. Shortest/tallest, longest/shortest.	Compare order, describe and solve practical problems using a range of objects of different lengths. e.g. longer/shorter than a metre	Use standard measures, m and cm to estimate, order, compare and measure length.	Estimate and compare length using centimetres and metres, using > <, =	Measure, compare, add and subtract length (m/cm/mm)	Read and record scales accurately, where appropriately to the nearest tenth of the unit. (e.g. On a 0-1m scale with 200cm intervals recognise that half way between 400cm and 600cm is 500cm)
	Begin to use the language of size. Begin to categorise objects according to size.	Use language such as long/short longer than/shorter than to describe the size and shape of objects.	Measure and record length and height using own units. Identify the shortest/longest. Use the language of comparison e.g. long/short, longer/shorter, tall/short, double/half	Use non-standard measure to measure length. e.g. multilink	Use simple equipment to measure and record length. e.g. a meter stick divided in to 10cm intervals	Use m/cm to measure the length of a range of objects.	Choose and use appropriate standard units to estimate and measure length/height in any direction to nearest appropriate unit. e.g. ruler, tape measures, trundle wheel	Read scales to the nearest divisions. e.g. 2, 5, 10 Interpret the divisions between the numbers on the scale. e.g. scale from 0 to 25 in intervals of 1 with a scale numbered in 5s	Interpret intervals and divisions on partially numbered scales and record readings accurately. Measure, compare, add and subtract.
Measures Mass	Talk about objects in the environment.	Use words such as heavier or lighter to compare quantities, Find a range of heavy and light objects.	Use everyday language to describe and compare objects of different size and mass. e.g. heavy/light, heavier than/lighter than Order two or three items by weight.	Compare order and describe a group of objects or quantities. e.g. heavy/light, heavier than/lighter than	Compare order, describe and solve practical problems using a range of objects of different mass/weight. .e.g. more or less than 1Kg.	Use standard measures, kg and g to estimate, order, compare and measure mass.	Estimate and compare mass using kilograms and grams, > <, =	Measure, compare, add and subtract mass (kg/g)	Read and record scales accurately, where appropriately to the nearest tenth of the unit. (e.g. On a 0-1Kg scale with 200g intervals recognise that half way between 400g and 600g is 500g)
	Begin to use the language of mass. Begin to categorise objects according to mass.	Use language such as heavy/light heavier than/lighter than to describe the size and shape of objects.	Measure and record mass using own units. Identify the heaviest/lightest. Use the language of comparison e.g. e.g. heavy/light, heavier than/lighter than	Use non-standard measures to mass. e.g. Lever balance, bucket scales	Use simple equipment to measure and record mass, e.g. multiples of 100g weights	Use kilograms and grams to measure the mass of a range of small objects.	Choose and use appropriate standard units to estimate and measure mass to nearest appropriate unit. e.g. dial and digital scales	Read scales to the nearest divisions. e.g. 2, 5, 10 Interpret the divisions between the numbers on the scale. e.g. scale from 0 to 25 in intervals of 1 with a scale numbered in 5s	Interpret intervals and divisions on partially numbered scales and record readings accurately. Measure, compare, add and subtract.

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Measures Capacity & Volume	Talk about objects in the environment.	I can use words such as most or least to compare quantities. Find a range of containers to 'fill' and 'empty' .	Use everyday language to describe and compare objects of different capacity. e.g. fullest/emptiest, fuller than /emptier than Order two or three items by capacity.	Compare order and describe the capacity of a group of containers. e.g. empty, half full, full, more, less, half, quarter.	Compare order, describe and solve practical problems linked to the capacity of a range of containers e.g. more/less than a litre.	Use standard measures, l and ml to estimate, order, compare and measure capacity.	Estimate and compare capacity using millilitres and litres, > <, =	Measure, compare, add and subtract volume/capacity (l/ml)	Read and record scales accurately, where appropriately to the nearest tenth of the unit. e.g. On a 0-1L scale with 200ml intervals recognise that half way between 400ml and 600ml is 500ml
	Begin to use the language of capacity. Begin to categorise objects according to capacity.	Use language such as full/empty more/less to describe the capacity of containers.	Measure and record capacity using own units. Use the language of comparison using terms such as, empty, half full, full, more, less, half, quarter.	Use non-standard to measure and record the capacity of a container. e.g. Cups, spoons etc	Use simple equipment to measure and record capacity. e.g. A Jug measuring in 100ml units	Use litres and millilitres to measure the capacity of a range of containers.	Choose and use appropriate standard units to estimate and measure volume and capacity to nearest appropriate unit. e.g. scaled measuring vessels	Read scales to the nearest divisions. e.g. 2, 5, 10 Interpret the divisions between the numbers on the scale. e.g. scale from 0 to 25 in intervals of 1 with a scale numbered in 5s	Interpret intervals and divisions on partially numbered scales and record readings accurately. Measure, compare, add and subtract.
						Choose and use appropriate standard units to estimate and measure temperature to nearest appropriate unit. e.g. thermometers			

Strand	Foundation Stage			Stage One		Stage Two		Stage Three	
Measures Time	Anticipate specific time-based events such as meal times or home time.	Name and talk about familiar time based events e.g. the start of the school day	Use everyday language to describe the passage of time. e.g. quicker, slower, earlier, later Order and sequence familiar events. e.g. routine of the day	Sequence and order the events/days in chronological order e.g. first, before, after, next morning, afternoon, evening etc	Recognise and use language for days in a week, weeks, months and years. Compare order, describe and solve practical problems involving different periods of time.	Compare and sequence intervals of time	Know and use units of time and begin to recognise the relationship between them. (minutes in an hour, number of hours in a day)	Know the number of seconds in a minute and the number of days in each month, year and leap year. Use vocab such as o'clock, am/pm, morning afternoon, noon, midnight.	Compare durations of events, e.g. calculate the time taken by a particular event or task
	Become aware of past and future e.g. before, later, soon.	Use everyday words to describe the passing of time. e.g. first, now, next, later	Measure short periods of time in simple ways.	Read and record o'clock and the half hour and draw hands on a clock face to show these times. Use timing devices to measure time.	Read and record the time to the quarter hour. Use timing devices to measure and record time.				
Statistics Processing and representing data	Sort and tidy away objects and toys.	Sort and a group from a mixed group of objects. e.g. All the cups, all the bears	Sort objects into groups according to given criteria. e.g. 2 sets	Sort and group objects using own simple criteria. e.g. 2 or more sets	Choose criteria to sort a variety of objects.	Sort objects according to two given criteria. e.g. triangle/not triangle, blue/not blue	Sort according to two or more criteria.	Solve one step and two step questions, e.g. How many more? How many fewer, using information contained within simple scaled pictograms, bar charts and tables. e.g.2, 5, 10 units per cm	Construct graphs with simple scales of one, two, five or 10 with increasing accuracy
	Put objects and toys away in the right place/container.	Use words such as greater and smaller to compare quantities.	Identify which set an object belongs to. e.g. the spoon goes in the spoon set	Talk about reasons for placing objects in to a set. e.g. the blue plate belongs in the blue/plate section	Explain how objects have been classified. e.g. all of the animals with 4 legs, all of the animals with 2 legs Use pictures to record work.				
Statistics Interpreting data	Sort and tidy away objects and toys.	Sort and a group from a mixed group of objects. e.g. All the cups, all the bears	Talk about my group of objects. I collected all the cups they are all the same colour.	Explain how objects have been sorted e.g. big cups, small cups	Ask questions and explain in how objects have been sorted e.g. All the big blue cups	Ask and answer simple questions by counting the number of objects in each	Ask and answer questions about totalling and comparing categorical data.	Draw simple conclusions about data in a simple block graph/computer database and pose questions about the data.	Interpret and present data in tables, diagrams; tally charts pictograms and bar

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						category and sorting by quantity. e.g. the most popular ice-cream flavour	e.g. strawberry is the most popular flavour because it is the biggest group		charts Venn/Carroll diagrams.
	Put objects and toys away in the right place/container.	Use words such as greater and smaller to compare quantities.	Identify the ' smallest ' and ' biggest ' groups of objects.	Order groups of objects according to size.	Identify simple facts. e.g. strawberry had the most votes	Identify more than one fact. e.g. more people voted for strawberry than chocolate	Extract information from graphs and charts where the scale is in ones, twos and fives.	Extract information from graphs and charts where the scale is in ones and twos and use this to solve simple problems.	Interpret scales on bar and line graphs by reading the scale between the divisions. e.g. reading 22 on a scale labelled in 5s
									Extract information from a range of scaled graphs and charts.