Forever learning: Limitless potential for every child

Maths Progression of Skills

Subject: Maths			Leader: Sally Tully	
	Foundation Stage		Key Stage 1	
Area/Aspect/Element	Nursery	Reception	Year 1	Year 2
Place Value	● Compares two small groups of up to five objects, ● saying when there are the same number of objects ● in each group, e.g. You've got two, I've got two. Same! ● Counting ● May enjoy counting verbally as far as they can go ● Points or touches (tags) each item, saying one ● number for each item, using the stable order of ● 1,2,3,4,5. ● Uses some number names and number language ● within play, and may show fascination with large ● numbers ● Begin to recognise numerals 0 to 10 ● Cardinality ● Subitises one, two and three	● Uses number names and symbols when comparing numbers, showing interest in large numbers - Estimates of numbers of things, showing understanding of relative size Counting ● - Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 ● - Increasingly confident at putting numerals in order 0 to 10 (ordinality) Cardinality ● Engages in subitising numbers to four and maybe five ● Counts out up to 10 objects from a larger group ● Matches the numeral with a group of items to show how many there are (up to 10) Composition ● Shows awareness that	● Count to **twenty**, forwards and backwards, beginning with 0 or 1, from any given number. ● Count, read and write numbers to **20** in numerals and words. ● Given a number, identify one more or one less. ● Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	● Read and write numbers to at least 100 in numerals and words. ● Recognise the place value of each digit in a two-digit number. ● Identify, represent and estimate numbers using different representations including the number line. ● Compare and order numbers from 0-100; use < > and = signs. ● Use place value and numbers facts to solve problems. ● Count in steps of 2,3,5 and 10s from any number forwards and backwards.

	objects (without ● counting) ● Counts up to five items, recognising that the last ● number said represents the total counted so far ● (cardinal principle) ● Links numerals with amounts up to 5 and maybe ● beyond ● Explores using a range of their own marks ● and signs to which they ascribe mathematical ● meanings ● Composition ● Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers ● Beginning to use understanding of number to ● solve practical problems in play and meaningful activities ● Beginning to recognise that each counting number is one more than the one before ● Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same	numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects ● Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three ● Have a deep understanding of number to 10, including the composition of each number;- Subitise (recognise quantities without counting) up to 5; ● Verbally count beyond 20, recognising the pattern of the counting system; ● -Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. ● Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.		
Addition and subtraction		● In practical activities, adds one and subtracts one with numbers to 10 ● Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or	● Represent and use number bonds and related subtraction facts within 20 ● Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. ● Add and subtract one-digit and two-digit numbers to 20,	● Represent and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. ● Add and subtract numbers using concrete objects, pictorial representations, and mentally, including; a two-digit number and ones, a two-digit number and

		"-" ● Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. ● Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	including zero. ● Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7=_ – 9	tens, two two-digit numbers; addition three one digit numbers. ● Show that the addition of two numbers can be done in any order and subtraction of one number from another cannot. ● Solve problems with addition and subtraction; using concrete objects and pictorial representations, including those involving numbers. Quantities and measures; applying their increasing knowledge of mental and written methods. ● Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Multiplication and division		● Explore and represent how quantities can be distributed equally.	● Count in multiples of twos, fives and tens. ● 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.	● Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers ● Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs ● Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ● Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Shape	Chooses items based on their shape which are appropriate for the child's purpose Responds to both informal language and common shape names Shows awareness of shape similarities and differences between objects Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes Attempts to create arches and enclosures when building, using trial and improvement to select blocks	● Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes - Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes ● Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build ● Chooses familiar objects to	● Recognise and name common 2-D shapes, including: (for example, rectangles (including squares), circles and triangles) ● Recognise and name common 3-D shapes, including: (for example, cuboids (including cubes), pyramids and spheres.)	● Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. ● Identify and describe the properties of 3-D shapes, including the number of edges, vertices

		create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat		and faces. ● Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] ● Compare and sort common 2-D and 3-D shapes and everyday objects.
Length and height	In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items	● Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy ● Becomes familiar with measuring tools in everyday experiences and play	● Measure and begin to ● record lengths and ● heights. ● Compare, describe ● and solve practical ● problems for: lengths ● and heights.	● Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels ● Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

Weight and volume	In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items	• Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Becomes familiar with measuring tools in everyday experiences and play	• Measure and begin to record mass/weight, capacity and volume. • - Compare, describe and solve practical problems for mass/weight.	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (liters/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • -Compare and order lengths, mass, volume/capacity and record the results using >, < and =
Fractions			• 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.	• Recognise, find, name and write fractions 1/2, 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. • Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2
Time	-Recalls a sequence of events in everyday life and stories	• Beginning to experience measuring time with timers and calendars • Is increasingly able to order and sequence events using everyday language related to time	• Sequence events in chronological • 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	• Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show w the number of minutes in an hour and the number of hours in a day. • Compare and sequence intervals of time.

			solve practical problems for time ● Measure and begin to record time	
Position and direction	● Responds to and uses language of position and direction ● Predicts, moves and rotates objects to fit the space or create the shape they would like	● Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints ● Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualizing how they will look (spatial reasoning) ● May enjoy making simple maps of familiar and imaginative environments, with landmarks	● Describe position, direction and movement, including whole, half, quarter and three quarter turns.	● Describe position, direction and movement, including whole, half, quarter and three quarter turns.
Money		● Recognise and use symbols for pounds and pence, combine amounts to make a particular value.	● Recognise and use symbols for pounds and pence, 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.	● Recognise and use symbols for pounds and pence, 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.