

Knowledge of progression at Studley Infants

	Nursery	Reception	Year 1	Year 2
Place Value				
Count	- Recite numbers past 5 - Say one number for each item in order: 1,2,3,4,5.	- Count objects, actions and sounds. - Verbally count beyond 10, recognising the pattern of the counting system	- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
Representing the number	- Develop fast recognition of up to 3 objects, without having to count them individually - know that the last number reached when counting a small set of objects tells you how many there are in total - show 'finger numbers' up to 5.	- Subitise (recognise quantities without counting) up to 5 - Link the number symbol (numeral) with its cardinal value to 10 - Explore the composition of each number to 10. - Explore and represent patterns within numbers up to 10 including odd and even numbers	- 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	- read and write numbers to at least 100 in numerals and in words - identify, represent and estimate numbers using different representations, including the number line
Use and compare	- link numerals and amounts for example, showing the right number of objects to match the numeral, up to 5. - Experiment with their own symbols and marks as well as numerals. - Compare quantities using language, 'more than, fewer than'.	- compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity - understand the one more and one less than relationship between consecutive numbers - given a number, identify one more and less up to 10.	given a number, identify one more and one less up to 100	- recognise the place value of each digit in a two-digit number (tens, ones) - compare and order numbers from 0 up to 100; use <, > and = signs
Problems			Solve concrete and pictorial problems.	use place value and number facts to solve problems
Addition and subtraction				

Calculations		Automatically recall number bonds to 5.	- add and subtract one-digit and two-digit numbers to 20, including zero - represent and use number bonds and related subtraction facts within 20 - read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) sign	- 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 - adding three one-digit numbers - recall and use addition and subtraction facts to 20 fluently, and derive the use of related facts up to 100 - show that addition of two numbers 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.
Problems			solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	- 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
Multiplication and division				
Recall/Use		Automatically recall some double facts to 10	Automatically recall double facts to 10	recall and use multiplication and division facts for the 2, 5 and 10

		Explore and represent patterns within numbers to 10 including double facts and how quantities can be distributed equally.		multiplication tables, including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
Calculations			- adding equal groups - making equal groups by sharing and grouping	- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs - Automatically recall half facts to 20.
Problems			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	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Fractions				
Recognise and write			- 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 $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
Compare				Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
Calculations				write simple fractions for example, $\frac{1}{2}$ of $6 = 3$

Measurement				
Using Measures	• make comparisons between objects relating to size, length, weight and capacity • to begin to use size language (big, small, bigger, smaller, large, little, full, empty, short, long)	• Compare size (big, small, little, large), mass (heavy, light), length/height (long, short, tall) and capacity (full, empty, least, most).	• compare, describe and solve practical problems for: ➤ lengths and heights (longer/shorter than, same as, taller than) ➤ mass/weight (heavier/lighter than, same as) ➤ capacity and volume (nearly full, nearly empty, half and quarter full) ➤ time (o'clock, half past) • measure and begin to record the following: ➤ lengths and heights ➤ mass/weight ➤ capacity and volume ➤ time (hours, minutes, seconds)	• 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 =
Money			• recognise and know the value of different denominations of coins and notes	• 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

Time	begin to describe and order an sequence of events, real or fictional, using words such as ‘first, then, next, last’	- Begin to order key events in day, use and describe events using key language; day, night, morning, afternoon, today, tomorrow, yesterday, after, before. - Measure time in simple ways of 10 more sleeps to go.	- sequence 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 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 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
Geometry				
2d shapes	- talk about and explore 2d shapes using informal language: sides, corners, straight, round. - Combine shapes to make new ones e.g. a bigger triangle - 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 - Notice and correct an error in a repeating pattern - Extend and create ABAB patterns	- Begin to recognise and select 2d shapes (circles, triangles, rectangles and squares). - Select, rotate and manipulate shapes in order to develop spatial awareness skills. - Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can. - Copy, complete and continue repeating patterns.	- recognise and name common 2- D shapes in different orientations [for example, rectangles (including squares), circles and triangles] - To understand the meaning of 2d.	- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line - 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 shapes and everyday objects
3d shapes	- Talk about and explore 3d shapes using informal language: sides, round, corners - Select shapes appropriately: flat	- know which 3d shapes can stack, roll and explain why. - Select, rotate and manipulate shapes in order to develop spatial awareness skills.	recognise and name common 3- D shapes in different orientations [for example, cuboids (including cubes), pyramids and spheres]	recognise and name common 3- D shapes [for example, cuboids (including cubes), pyramids and spheres]

	surfaces for building, a triangular prisms for a roof - Combine shapes to make new ones- an arch etc. - Extend and create ABAB patterns – stick, leaf, stick, leaf	Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can.	To understand the meaning of 3d.	compare and sort common 3-D shapes and everyday objects
Position and direction	- 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’.	- begin to understand and use positional language to describe objects - explore and understand that we can make maps and plans to represent places and use these to see where things are in relation to other things	describe position, direction and movement, including whole, half, quarter and three-quarter turns	- 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)
Statistics				
Present and interpret data				interpret and construct simple pictograms, tally charts, block diagrams and simple tables
Solve statistical problems				- 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