Dovecotes Primary School Knowledge Progression Maths			
Early Years			
	By the end of Little Doves	**By the end of Nursery**	**By the end of Reception**
Place Value	- I say some numbers in play. - I can join in finger rhymes with numbers. - I understand how to count in everyday contexts but may sometimes skip numbers, e.g. 1-2-3-5. - I react to changes of amounts in a group of up to 3 objects. - I know how to compare amounts by saying 'lots', 'more' or 'same'. - I am beginning to notice numerals within the environment.	- I know how to recite numbers to and beyond 5. - I understand how to show 'finger numbers' to 5. - I recognise up to 3 objects quickly without having to count them (subitising). - I know that the last number reached when counting a small set of objects tells you how many there are in total. - I understand that I need to say 1 number for each item in order (1-1 correspondence). - I can experiment with symbols and marks as well as numerals so that I can record scores for example. - I link numerals to amount, e.g. showing the right amount of objects to match the numeral 5. - I understand how to solve real world maths problems with numbers up to 5.	- I know how to count beyond 10 verbally. - I understand the one more/less relationship between consecutive numbers. - I know how to count objects, sounds and actions. - I know how to subitise numbers to 5. - I understand how to subitise larger numbers by subitising smaller groups within a number, e.g. 6 as 3 and 3. - I know how to recognise and order numbers to 10 and explore the composition of numbers to 10. - I understand how to compare numbers. - I am able to link the numerical symbol with its cardinal number value.
Addition and Subtraction	I am able to take and give back 2 or 3 from a group in everyday situations.	- I know how to extend and create ABAB patterns - stick - leaf - stick - leaf - I notice and correct errors in patterns.	- I know how to automatically recall number bonds for numbers 0-10 (Addition). - I know how to automatically recall number bonds for numbers 0-10 (Subtraction).
Multiplication and Division	I can notice patterns and arrange things in patterns. For example; polka dots, stripes.	I understand how to identify patterns and can talk about them. For example; stripes on clothes. I can also use informal language like 'pointy', 'spotty' etc.	I am able to continue, copy and recreate patterns.
Measurement	- I climb and squeeze into different types of spaces. For example; tyres, tunnels, dens/boxes. - I am able to compare size and weight by using gesture and some language. For example; big, tall, heavy.	- I understand that I can make comparisons between objects that relate to size, length, weight and capacity. - I know how to compare quantities using vocabulary; 'more than', 'fewer than'. - I am beginning to describe a sequence of events, real or fictional, using words such as 'first', 'then….'.	- I know how to compare length, weight and capacity. - I am able to order and sequence events using everyday language related to time. - I understand how to begin to measure time with timers and calendars etc.
Geometry	- I am able to complete an inset jigsaw. - I know how to build with a range of equipment. - I am able to combine different objects. For example; blocks and stacking cups - putting them inside each other and then removing. - I respond to some spatial and positional language. - I am beginning to understand some talk about immediate, past and future.	- I explore 2D and 3D shapes (For example; circles, rectangles, triangles and cuboids) and know how to use informal mathematical language to talk about them ('sides', 'corners'; 'straight', 'flat', 'round'). - I show understanding when selecting shapes appropriately for building or creating pictures and models. For example; flat surfaces for building, a triangular prism for a roof etc. - I combine shapes to make new ones such as an arch, a bigger triangle etc enabling me to build sophisticated constructions.. - I understand position through words alone. For example; 'The bag is on the table' - with no pointing. - I know how to describe a familiar route. - I understand that I can talk about routes and locations using words such as 'in front of' and 'behind'.	- I am able to talk about and explore 2D and 3D shapes using informal language. - I know how to select, rotate and manipulate shapes in order to develop spatial reasoning skills. - I can compose and decompose shapes (Recognise that a shape can have shapes within it - just like a number)

FDP			
Statistics			

Key Stage One	
Year 1	**Year 2**

	Year 1	Year 2
Place Value	➤ Say the number that is one more and one less than any given number up to 100. ➤ Count, read and write numbers to 20 in numerals. ➤ **Compare and order nos. up to 100 using appropriate mathematical vocabulary.** ➤ **Count to and across 100, forwards and backwards, beginning with 0 or 1, or any given number.** ➤ **Count forwards in 1s, 2s, 5s and 10s.** ➤ **Count, read and write numbers to at least 100 in numerals and 20 in words.** ➤ **Partition a two-digit number into tens and ones.** ➤ **Identify and represent numbers using objects and pictorial representations inc. number line, and use language: equal to, more than, less than, most, least** ➤ **Make numbers using objects and number lines.** ➤ <u>Understand mathematical statements up to 100 involving +, - and = signs.</u> ➤ <u>Partition a 2-digit number into tens and ones, using resources to support/explain thinking.</u>	➤ Say the number that is one more and one less than any given number up to 100 **(Y1).** ➤ Count, read and write numbers to at least 100 in numerals and 20 in words. **(Y1 and 2)** ➤ Compare and order numbers up to 100 using appropriate mathematical vocabulary. ➤ Count to and across 100, forwards and backwards, beginning with 0 or 1, or any given number. ➤ Count forwards in 1s, 2s, 5s and 10s. ➤ **Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.** ➤ Read and write numbers to at least 100 in numerals **and words.** ➤ **Partition a 2-digit number into tens and ones, using resources to support/explain thinking.** ➤ **Identify, represent and estimate numbers using different representations, including the number line.** ➤ Make numbers using objects and number lines (Y1). ➤ **Compare and order numbers both increasing and decreasing from 0 to 100 using less than, more than and equal to.** ➤ **Solve problems relating to place value.** ➤ <u>**Add and subtract three single digit numbers together in my head.**</u>
Addition and Subtraction	➤ Answer addition and subtraction no. bonds to 10. ➤ Add two single digits to 20. ➤ **Add a single digit number to a 2-digit number up to 20.** ➤ **Add three single digits up to 20.** ➤ **Subtract a single digit from a 2-digit number up to 20.** ➤ **Read, write and interpret statements involving +, - and = signs.** ➤ **Represent and use number bonds and related facts within 20.** ➤ **Understand the words add, put together, total.** ➤ **Understand the words find the difference, take away, subtract.** ➤ **Solve one-step problems that involve addition up to 100, using apparatus if necessary.** ➤ **Solve one-step problems that involve subtraction from 100, using apparatus if necessary.** ➤ <u>Solve missing number problems that involve addition up to 100, using apparatus if necessary.</u> ➤ <u>Solve missing number problems that involve subtraction from 100, using apparatus if necessary.</u> ➤ <u>Represent and use number bonds and related subtraction facts to 20, starting to memorise.</u>	➤ Recall at least four of the six number bonds to 10 and reason about associated facts. ➤ Add and subtract two 2-digit numbers where no regrouping is required (no crossing tens). ➤ **Add two numbers that have tens and units with efficient strategies, including the column method with no carrying, using concrete objects, pictorial representations and mental methods.** ➤ **Subtract two numbers that have tens and units with efficient strategies, including the column method with no carrying, using concrete objects, pictorial representations and mental methods.** ➤ **Recall all number bonds to 10 and use these to reason bonds to 20.** ➤ **Show that two numbers can be added in any order but not when subtracting.** ➤ **Solve simple addition and subtraction word problems up to 100 using concrete objects and pictorial representations, increasing knowledge of mental and written methods.** ➤ <u>**Apply and explain increasing knowledge of mental and written methods.**</u> ➤ <u>**Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.**</u> ➤ <u>**Use reasoning about numbers and relationships to solve more complex problems and explain thinking using concrete objects/pictorial representations.**</u> ➤ <u>**Recall all number bonds to 20 and use this to reason bonds to 100.**</u>
Multiplication and Division	➤ Tell you what doubling and halving are. ➤ Solve problems through doubling, halving and sharing **(Rec)** ➤ **Use counting forwards in 1s, 2s, 5s and 10s to answer multiplication facts.** ➤ **Say what the signs x and ÷ mean.** ➤ **Solve one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with support.**	➤ Tell you what halving and doubling are. **(Y1)** ➤ **Recall and use multiplication and division facts for 2, 5 and 10 times tables, including recognising odd and even numbers.** ➤ **Calculate mathematical statements for multiplication and division within the x tables and write them using the x, ÷ and = signs.** ➤ **Show that two numbers can be multiplied in any order but not when dividing.** ➤ **Solve one-step multiplication and division problems using apparatus if required (Y1 and 2)**

	➢ Count backwards in 1s, 2s, 5s and 10s up to 100 from any number. ➢ **Solve 1-step problems up to 20 using my knowledge of multiplication using objects, graphs, charts and arrays with my teacher's help.** ➢ **Solve 1-step problems up to 20 using my knowledge of division using objects, graphs, charts and arrays with my teacher's help.**	➢ **Recall and use multiplication and division facts for 2, 5 and 10 to calculate multiplication facts outside the times tables.** ➢ **Explain what happens to the tens and ones when counting on/back in multiples of 2, 3, 5 and 10.** ➢ **Solve multi-step multiplication and division problems in various contexts, using resources.**
Measurement	➢ Recognise and know the value of different coins and notes. ➢ **Find different ways of making the same amount of money with different coins** ➢ **Tell the time to the hour and half past the hour and draw the hands on a clock face to show this.** ➢ **Tell you the difference between days, months and years and sequence events chronologically.** ➢ Compare quantities and objects (size, weight, capacity, position, distance, time and money) through use of everyday language **(Rec).** ➢ **Measure, compare length and height of 2+ objects and write results in centimetres and metres.** ➢ **Measure, compare mass of 2+ objects by weighing them and writing results in grams/kilograms.** ➢ **Measure how long things take and write my results in minutes, seconds and hours.** ➢ **Measure capacity and volume and write my results in millilitres, litres and cubes, reading scales in divisions of 1s, 2s, 5s and 10s.** ➢ **Describe objects as heavier, lighter, longer, shorter, faster, slower, etc.** ➢ **Solve practical problems relating to what I have learned in measurement.**	➢ Recognise and use symbols for pounds (£) and pence (p) and know that 100p = £1. ➢ Know the value of different coins. ➢ Find different ways of making the same amount of money with different coins **(Y1)** ➢ **Find different ways of making the same amount of money with different coins (Y1) using larger amounts up to £5.** ➢ Tell the time to the hour and half past the hour and draw the hands on a clock face to show this **(Y1)** ➢ **Say how many minutes are in an hour and how many hours are in a day.** ➢ **Tell and write the time to the nearest fifteen minutes, and draw the hands to show these times.** ➢ **Measure how long things take and write my results in minutes, seconds and hours (Y1)** ➢ **Read scales in divisions of ones, twos, fives and tens.** ➢ **Compare and order length, height, mass, temperature and capacity using <, > and =.** ➢ **Choose and use appropriate standard units to estimate and measure length and height, mass, temperature and capacity.** ➢ **Add and subtract different amounts of money and work out the change from a £5 note.** ➢ **Read the time on a clock to the nearest five minutes.** ➢ **Read scales where not all numbers on the scale are given and estimate points between.** ➢ **Understand 0˚C and 100˚C and estimate the outside room temperature.**
Geometry	➢ Name some common 2D shapes from a group of shapes or from pictures. ➢ **Tell you whether a 2D object is a rectangle (including a square), triangle, circle or oval.** ➢ **Recognise and name common 2D/3D shapes e.g. cuboids, cubes, pyramids and spheres.** ➢ **Describe the turn of an object using whole, half, quarter and three quarter turns.** ➢ **Say when things have made half, quarter and three quarter turns.** ➢ **Plan a short route using simple commands.**	➢ Name some common 2D and 3D shapes from a group of shapes or from pictures. ➢ **Name, describe and sort 2D shapes, by the number of sides, right angles and lines of symmetry.** ➢ **Name, describe and sort 3D shapes, by the number of edges, corners, faces and right angles.** ➢ **Identify 2D shapes on the surface of 3D shapes.** ➢ **Make my own symmetrical shapes by drawing lines using a ruler.** ➢ **Describe similarities and differences of 2D and 3D shapes.** ➢ **Describe the turn of an object using right angles, quarter, half and three quarter turns, clockwise and anti-clockwise.** ➢ **Identify different nets for cubes.**
FDP	➢ **Recognise, find and name a half of an object, shape or quantity.** ➢ **Recognise, find and name a quarter of an object, shape or quantity.** ➢ **Tell you what happens if you add two equal halves of a shape together.** ➢ **Tell you what happens if you add four equal quarters of a shape together.** ➢ **Use and apply what I have learned about fractions to various contexts.**	➢ Recognise, find and name a half of an object, shape or quantity **(Y1)** ➢ **Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a number or shape.** ➢ **Explain how two quarters is the same as one half.** ➢ **Explain how to use fractions when solving problems, e.g. using two quarters = one half.**
Statistics	➢ **Create tally charts, block diagrams, simple tables with an adult's support.** ➢ **Ask and answer questions about the information in a simple table.**	➢ **Interpret and create simple pictograms, tally charts, block diagrams, simple tables.** ➢ **Ask and answer questions about the information in a simple table.**

Key Stage Two				
	Year 3	**Year 4**	**Year 5**	**Year 6**
Place Value	➢ Count in steps of 2, 3 and 5 from 0, and in 10 from any number, forward/backward. ➢ **Count from 0 in steps of 4, 8, 50, 100 and find 10/100 more/less than a given number.** ➢ Read and write numbers to at least 1000 in numerals **and words.** ➢ **Understand the place value of each digit up to 100.** ➢ **Use the symbols <, > and = to represent equal to, less than and more than.** ➢ **Compare and order numbers to 1000.** ➢ **Solve number/practical problems relating to place value, comparing and ordering numbers.** ➢ <u>**Identify what each digit is worth in 4-digit numbers and find multiples of 10 more or less.**</u>	➢ Count from 0 in steps of 4, 8, 50, 100 and find 10/100 more/less than a given number. ➢ **Count in multiples of 6, 7, 9 and 25.** ➢ Read and write 4-digit numbers in numerals and words. ➢ **Recognise place value of 4-digit numbers, including finding 1000 more/less than a given number.** ➢ **Divide a 1- or 2-digit number by 10 or 100 and identify how this affects place value.** ➢ **Use the symbols <, > and = accurately.** ➢ **Compare and order numbers up to 10,000.** ➢ **Round any number up to 10,000 to the nearest 1000 or multiple of 10 up to this.** ➢ **Round decimals with 1dp to the nearest whole.** ➢ **Read and write Roman numerals to 100 (C).** ➢ **Solve number/practical problems that involve place value, rounding and Roman numerals.** ➢ <u>**Count backwards through zero and give a range of numbers that are greater than -5.**</u>	➢ Count forwards and backwards in steps of powers of 10 for any numbers up to 1,000,000. ➢ Work with, understand and identify the value of digits in numbers up to 10,000, or **1,000,000** including decimals. ➢ **Understand how multiplying and dividing whole numbers by 10, 100, 1000 affects place value.** ➢ **Interpret negative numbers in context.** ➢ **Order numbers with varying amounts of digits, including decimals up to 2 decimal places.** ➢ **Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 or 100,000.** ➢ **Round decimals with 2dp to the nearest whole or tenth.** ➢ **Read and write Roman numerals to 1000 (M)** ➢ **Solve number/practical problems that involve place value, rounding, Roman numerals and negative numbers.** ➢ <u>**Find differences between negative numbers.**</u>	➢ Work with, understand and identify the value of digits in numbers up to 10,000, **10,000,000,** including decimals. ➢ **Understand how multiplying and dividing by 10, 100, 1000 affects place value (inc. decimals).** ➢ **Use negative numbers in my work, including finding differences.** ➢ **Order decimal numbers with up to 3 decimal places, including differing amounts of digits.** ➢ Round any number, including decimals, to the nearest multiple of 10, whole number or tenth. ➢ Read and write Roman numerals to 1000 (M). ➢ **Solve number/practical problems that involve large numbers, rounding, Roman numerals and negative numbers.** ➢ <u>**Add and subtract using negative numbers.**</u>
Addition and Subtraction	➢ Recall the number bonds to 10 and 20. ➢ Add and subtract numbers with up to 3-digits where no regrouping (crossing tens) is required. ➢ **Add numbers with up to 3-digits, using the column method with carrying and exchanging.** ➢ **Subtract numbers with up to 3-digits, using the column method with carrying and exchanging.** ➢ **Mentally add and subtract a hundreds number to/from a 3-digit number.** ➢ **Solve missing number addition and subtraction problems.** ➢ <u>**Estimate the answer to a calculation.**</u> ➢ <u>**Check my answer to missing number problems by using the inverse.**</u>	➢ Add and subtract 3-digit numbers using the column method. ➢ **Add and subtract 4-digit numbers using column methods.** ➢ **Solve 2-step problems by deciding which operation to use and why.** ➢ <u>**Make a sensible estimation and check the answer using the inverse.**</u> ➢ <u>**Use reasoning about numbers and relationships to solve more complex problems and explain.**</u>	➢ Add and subtract numbers with up to 4-digits using column methods. ➢ **Perform mental calculations, selecting effective strategies where appropriate.** ➢ **Add and subtract whole numbers with more than 4-digits, including using formal written methods.** ➢ **Accurately solve addition and subtraction multi-step problems, deciding which operations to use.** ➢ <u>**Check answers using inverse operations for addition and subtraction.**</u> ➢ <u>**Use rounding to check answers to calculations.**</u> ➢ <u>**Explain reasoning behind methods and chosen calculations and why they work.**</u>	➢ Perform mental calculations including larger numbers. ➢ Add and subtract whole numbers with more than 4- digits, including using formal written methods. ➢ **Use knowledge of the order of operations when calculating (BODMAS).** ➢ **Solve real life mathematical problems, with several steps, deciding which operation to use and also using other known methods to check answers (all 4 operations).** ➢ <u>**Check answers using estimation/rounding and inverse.**</u> ➢ <u>**Explain reasoning behind methods and why they work for all 4 operations.**</u>

	➤ **Use reasoning about numbers and relationships to solve more complex problems and explain thinking.**			
Multiplication and Division	➤ Say what halving is and halve given even numbers up to 50. ➤ **Answer multiplication facts for the 2, 3, 4, 5, 8, 10, 11 times tables rapidly.** ➤ **Multiply a 2-digit number by a single digit using a simple grid.** ➤ **Answer division facts for the 2, 3, 4, 5, 8, 10, 11 times tables rapidly.** ➤ **Divide using repeated subtraction.** ➤ **Solve missing number problems, e.g. a x 5 = 20** ➤ **Recall and use multiplication and division facts for 2, 3, 4, 5, 8, 10, 11 to calculate multiplication facts outside the times tables** ➤ **Solve multi-step multiplication and division problems, using apparatus if required.**	➤ Answer multiplication facts for the 2, 3, 4, 5, 8, 10, 11 times tables rapidly. ➤ **Rapidly recall all times tables up to 12 x 12 to answer both multiplication and division facts.** ➤ **Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written methods.** ➤ **Multiply three numbers together.** ➤ **Say all the square numbers.** ➤ **Work out the factor pairs and use them in mental calculations.** ➤ **Use long division (chunking) to divide 3-digit by any number up to, and including 12.** ➤ **Use short division to divide 3- and 4-digit numbers by any number up to and including 12.** ➤ **Solve multi-step multiplication and division problems, explaining thinking.** ➤ **Recall and use multiplication and division facts for all times tables to 12 x 12 to calculate multiplication facts outside the times tables.** ➤ **Calculate the prime factors and work out the factors within any number up to 144.** ➤ **Solve mathematical problems using a systematic approach.**	➤ Rapidly recall all times tables up to 12 x 12 to answer both multiplication and division facts. ➤ Multiply numbers up to 4-digits by a 1-digit number using a formal written method. ➤ **Multiply numbers up to 4-digits by a 1-digit and 2-digit number using a formal written method.** ➤ **Recognise and use squared and cubed numbers and correct notation.** ➤ **Identify multiples and be able to find all factor pairs.** ➤ **Use the vocabulary of 'prime numbers', 'prime factors' and 'composite (or non-prime) numbers' and I can say if a number is a prime number** ➤ **Divide numbers up to 4-digits by a 1-digit number using a formal written method.** ➤ **Divide numbers up to 4-digits by a 2-digit number using a formal written method.** ➤ **Solve problems involving multiplication and division using my knowledge of factors, multiples, squares and cubes and scaling by simple fractions.** ➤ **Check answers using inverse operations for multiplication and division.** ➤ **Use the square root sign accurately and confidently.** ➤ **Explain reasoning behind methods and why they work.**	➤ Perform mental calculations including larger numbers. ➤ Multiply numbers up to 4-digit by a 1-digit number using formal written method. ➤ Multiply 1-digit numbers with up to 2 decimal places by whole numbers. ➤ **Multiply 4 digit by 2-digit numbers.** ➤ **Use knowledge of the order of operations when calculating (BODMAS).** ➤ Identify common factors, multiples and prime numbers. ➤ **Divide numbers up to 4-digits by a 2-digit number using formal written methods and express remainders as whole numbers, fractions or by rounding.** ➤ **Solve real life mathematical problems, with several steps, deciding which operation to use and also using other known methods to check answers (all 4 operations).** ➤ **Check answers using estimation/rounding and inverse.** ➤ **Check answers to division, considering multiplication questions related to the answer.** ➤ **Explain reasoning behind methods and why they work for all 4 operations.**
Measurement	➤ Add and subtract amounts of money up to £100. ➤ **Calculate change from a £10 note.** ➤ Say how many minutes are in an hour and how many hours are in a day **(Y2).** ➤ Tell and write the time to the nearest fifteen minutes, and draw the hands on a clock face to show these times **(Y2).** ➤ **Read the time to nearest five minutes (Y2).** ➤ **Tell and write time to nearest minute.** ➤ **Tell and write the 12-hour and 24-hour time using Roman numerals** ➤ **Use am/pm, morning, afternoon, noon/midday, midnight.** ➤ **Calculate and compare how long events and tasks will take and know the number of seconds in a**	➤ **Calculate change from a £20 note or any amount (coins/notes) by counting on mentally.** ➤ Tell and write the time to the nearest minute and use appropriate vocabulary **(Y3 & 4)** ➤ **Read the time on a clock both past and to the hour (Y3)** ➤ **Convert between analogue and digital clock for 12- and 24- hour times.** ➤ Use am/pm, morning, afternoon, noon/midday, midnight **(Y3)** ➤ Calculate and compare how long events and tasks will take and know the number of seconds in a minute/days in a month/year/leap year etc.**(Y3)** ➤ **Read scales where not all numbers on the scale are given and estimate points in between (Y3)**	➤ Tell and write the time to the nearest minute and use appropriate vocabulary **(Y4)** ➤ Convert between analogue and digital clock for 12- and 24- hour times **(Y4)** ➤ Convert between different units of measure, including time **(Y4)** ➤ **Convert between different units of metric measures.** ➤ **Use all four operations to solve problems involving length, mass, time, volume, money including conversions (e.g. seconds, minutes, days, weeks).** ➤ Calculate the perimeter (formula) and area (counting squares) of rectangles and squares. ➤ **Measure and calculate the perimeter of composite shapes in cm/m.** ➤ **Calculate and compare the areas of squares and rectangles using sq cm and**	➤ Convert between different units of metric measures **(Y5)** ➤ **Convert measurements of length, weight, volume and time up to 3.d.p e.g. 0.345kg = 345g.** ➤ **Estimate capacity in L/ml and volume using cm cubed blocks (Y5)** ➤ **Convert between miles and km.** ➤ **Use approximate equivalences between metric units and common imperial units such as inches, pounds, ounces & pints (Y5)** ➤ **Solve problems involving different units of measures with 3d.p. (Y5 and 6)** ➤ Calculate and compare the areas of squares and rectangles using square centimetres and square metres and estimate the area of irregular shapes.

	(Col 1)	(Col 2)	(Col 3)	(Col 4)
	➢ minute/days in a month/year/leap year etc. ➢ Read scales in divisions of ones, twos, fives and tens **(Y2).** ➢ **Read scales where not all numbers on the scale are given and estimate points in between (Y2).** ➢ **Estimate, measure, compare, order, add, subtract: lengths, masses, temperatures, capacities (Y2 and Y3).** ➢ **Measure the perimeter of a square or rectangle using squares/given lengths.** ➢ **Read the time on a clock both past and to the hour (Y3)** ➢ **Read scales where not all numbers on the scale are given and estimate points in between (Y3)**	➢ Measure, compare, add and subtract: lengths, masses and capacities **(Y3)** ➢ **Convert between different units of measure, including units of time.** ➢ Measure the perimeter of a square or rectangle using squares and/or given lengths **(Y3)** ➢ **Recall and use the formula for measuring the perimeter of a square or rectangle.** ➢ **Find the area of a square or rectangle by counting squares.** ➢ **Solve some measure and money problems involving fractions and decimals to 2dp.** ➢ **Estimate capacity in L/ml.** ➢ **Find the area of a square or rectangle using the formula**	➢ sq m and estimate the area of irregular shapes. ➢ **Use approximate equivalences between metric units and common imperial units such as inches, pounds, ounces & pints** ➢ **Estimate capacity in L/ml and volume using cm cubed blocks** ➢ **Measure and calculate the perimeter and area of irregular and/ or composite shapes**	➢ **Measure and calculate the perimeter and area of irregular and/ or composite shapes (Y5)** ➢ **Calculate the area of parallelograms and triangles.** ➢ **Recognise that even though shapes have the same area, the perimeter may be different.** ➢ **Use a formula to find area and volume of shapes.** ➢ **Estimate, find and compare the volume of cubes and cuboids using cubic cm and cubic m.**
Geometry	➢ Identify, name and describe 2D and 3D shapes from a group of shapes or pictures. ➢ **Draw horizontal, vertical, perpendicular and parallel lines.** ➢ **Know a right angle has 90˚ and a straight line has 180˚ and so identify if an angle is more/less.** ➢ **Use a compass to draw a circle with a radius up to 10cm.** ➢ **Describe the turn of an object using right angles, quarter, half and three quarter turns (Y2).** ➢ **Make different nets for cubes and cuboids.**	➢ Identify, name and describe 2D and 3D shapes from a group of shapes or pictures **(Y3 and 4).** ➢ Draw horizontal, vertical, perpendicular and parallel lines **(Y3).** ➢ Identify lines of symmetry in 2D shapes, presented in different orientations. ➢ Know a right angle has 90˚ and a straight line has 180˚ and so identify if an angle is more/less **(Y3).** ➢ **Identify acute and obtuse angles.** ➢ **Compare and order angles up to two right angles by size.** ➢ **Use and plot co-ordinates in the first quadrant, and translate shapes in the first quadrant.** ➢ **Make different nets for cubes and cuboids (Y3).** ➢ **Make and identify different nets for cubes, cuboids and other common 3D shapes** ➢ **Compare 2D shapes, including quadrilaterals and triangles, based on their properties and sizes.**	➢ Identify, name and describe 2D and 3D shapes from a group of shapes or pictures **(Y4).** ➢ Distinguish between regular/irregular polygons based on reasoning about equal sides/angles. ➢ Identify acute and obtuse angles and compare and order angles up to two right angles by size **(Y4).** ➢ **Identify multiples of 90˚; angles at a point on a straight line and ½ a turn; angles at a point and one whole turn; reflex angles and compare different angles.** ➢ **Compare 2D shapes, including quadrilaterals and triangles, based on their properties and sizes (Y4).** ➢ **Draw squares, rectangles and all triangles from given dimensions and angles with a protractor.** ➢ **Use the properties of rectangles to find missing lengths and angles.** ➢ Use and plot co-ordinates in the first quadrant, and translate shapes in the first quadrant **(Y4).** ➢ **Identify, describe and represent the position of a shape following a reflection or translation in all four quadrants, using the appropriate language, and know that the shape has not changed.** ➢ **Make and identify different nets for cubes, cuboids and other common 3D shapes (Y4).**	➢ Use the properties of rectangles to find missing lengths and angles **(Y5).** ➢ Distinguish between regular/ irregular polygons based on reasoning about equal sides and angles **(Y5 and 6).** ➢ Identify multiples of 90˚, angles at a point on a straight line and ½ a turn, angles at a point and whole turn; reflect angles and compare different angles **(Y5).** ➢ **Classify both 2D and 3D geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.** ➢ **Identify properties of quadrilaterals: square rectangle, trapezium, kite, rhombus, parallelogram.** ➢ **Work with angles meeting at a point, on a straight like or vertically opposite; find missing angles.** ➢ **Name the parts of circles, inc. radius, diameter, circumference; know D=2R.** ➢ **Draw and translate shapes using co-ordinates and reflect them on the grid (4 quadrants).**
FDP	➢ Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a number or shape **(Y2).**	➢ Compare and order fractions with the same denominator. ➢ **Add and subtract fractions with the**	➢ Compare and order numbers with the same number of decimal places up to one decimal place **(Y4).**	➢ Compare, order and simplify fractions, including those >1. ➢ Read, write, order and compare numbers

	Column 1	Column 2	Column 3	Column 4
	➢ **Add and subtract fractions with the same denominators.** ➢ **Understand what tenths are and count up/down in tenths.** ➢ **Find pairs of fractions that add up to a whole.** ➢ **Find and write fractions of objects with small denominators.** ➢ **Compare and order fractions with the same denominator.** ➢ **Explain how to use fractions when solving problems, e.g. using two quarters = one half (Y2).** ➢ <u>**Show using diagrams, equivalent fractions with small denominators.**</u> ➢ <u>**Find non-unit fractions with small denominators of a set of objects.**</u> ➢ <u>**Solve fraction problems using what I know so far about fractions.**</u>	**same denominator.** ➢ **Understand what hundredths are and can count up and down in hundredths.** ➢ **Calculate equivalent fractions of a given fractions including tenths and hundredths.** ➢ **Compare and order fractions with the same denominator.** ➢ **Compare and order numbers with the same number of decimal places up to 1dp.** ➢ **Calculate decimal equivalents to ¼, ½ and ¾.** ➢ **Use fraction equivalents and knowledge of fractions when solving problems.** ➢ <u>**Solve harder fraction problems using what I know so far about fractions.**</u>	➢ Add and subtract fractions with the denominator that is the same/ multiple of the same number. ➢ Add and subtract decimals up to 3dp. ➢ **Recognise mixed numbers and improper fractions; convert from one to the other and write mathematical statements >1 as a mixed no.** ➢ **Multiply proper fractions and mixed numbers by whole numbers up to 10, using resources.** ➢ **Compare and order fractions whose denominators are the same/multiples of the same.** ➢ **Read, write, order and compare numbers wth up to 3dp.** ➢ **Read and write decimal numbers as fractions.** ➢ **Explain that per cent relates to 'number of parts per hundred'.** ➢ **Write percentages as a fraction with denominator 100 and begin to find simple percentages.** ➢ **Solve problems which require knowing percentage and decimal equivalents of $^1/_2$, $^1/_4$, $^1/_5$, $^2/_5$, $^4/_5$ and those with a denominator of a multiple of 10 or 25.** ➢ <u>**Solve problems which require answers to be rounded to specified degrees of accuracy.**</u>	with up to 3dp. **(Y5).** ➢ **Add and subtract fractions with different denominators using equivalent fractions.** ➢ Add and subtract decimals up to 3dp **(Y5).** ➢ **Understand, add and subtract mixed numbers and improper fractions.** ➢ **Explain how fractions relate to division and calculate decimal fraction equivalents.** ➢ **Multiply simple pairs of proper fractions and write the answer in its simplest form.** ➢ **Divide proper fractions by whole numbers.** ➢ **Recall equivalences between simple FDP** ➢ Explain that per cent related to 'number parts per hundred' **(Y5).** ➢ Find 10% of any number and use this to find other percentages, e.g. 5%, 20% ➢ Write percentages as a fraction with denominator 100 and begin to find simple percentages **(Y5).** ➢ **Find a percentage of any given number.** ➢ **Use written division methods in cases where the answer has up to 2dp.** ➢ <u>**Solve problems which require answers to be rounded to specified degrees of accuracy (Y5).**</u>
Statistics	➢ **Interpret and create bar charts, pictograms and tables.** ➢ **Solve one step and two step questions such as 'How many more?' and 'How many fewer?'**	➢ Interpret/create bar charts, pictograms and tables and solve one-step and two-step 'how many more' questions **(Y3).** ➢ **Solve a problem by collecting data, presenting it in a bar chart or line graph and interpreting it.**	➢ Solve a problem by collecting data, presenting it in a bar chart or line graph and interpreting it **(Y4).** ➢ **Solve comparison, sum and difference problems using information presented in line graphs.** ➢ **Complete, read and interpret information presented in pie charts/ tables, including timetables.**	➢ **Interpret pie charts and graphs and use them to solve problems.** ➢ **Construct pie charts and graphs and use them to solve problems.** ➢ **Calculate and interpret the mean as an average.**
Algebra, Ratio and Proportion				➢ **Use a letter (e.g. n or x) to show a missing number such as 10 – x = 5.** ➢ **Explain how to use simple formulae such as n – 10 = 2.** ➢ <u>**Find pairs of numbers that satisfy an equation with two unknowns, e.g. 2a+3b if a=2 and b=3.**</u> ➢ <u>**List possible answers to missing numbers e.g. listing possible answers of a and b in a + 6 = b – 10.**</u> ➢ <u>**Solve problems involving ratio and proportion.**</u>

				➢ **Solve problems involving similar shapes that have been changed by a scale factor.** ➢ **Solve problems about unequal sharing.**