Maths Progression Ladder

	Place Value	FDP	Four Operations	Shape/Time/Money	Measurement	Statistics
Foundation ARE	Count reliably with numbers from 1 to 20. Put numbers 1-20 in order. Say what is one more and one less with numbers 1-20.	Find half of an amount to 10 (with resources).	Add and subtract two single-digit numbers using objects. Add and subtract by counting on or back to find the answer. Solve problems involving doubling, halving and sharing.	Recognise, create and describe patterns. Name basic 2D and 3D shapes. Use mathematical language to talk about shapes and everyday objects. Use everyday language to talk about time and money.	Use everyday language to talk about size, weight, capacity, position and distance.	
Foundation Greater Depth	Estimate the number of objects and check quantities by counting up to 20.		Solve practical problems that involve combining groups of 2, 5 or 10. Solve practical problems by sharing into equal groups.	Estimate and compare and order objects and talk about properties and time.	Estimate, measure, weigh and compare and order objects and talk about properties, positon and time.	

Maths Progression Ladder

	Place Value	FDP	Four Operations	Shape/Time/Money	Measurement	Statistics
Year 1	Count up to 50 objects. Read and write numbers from 1 to 100 in numerals and words. Say what number comes next, is one more / less I can count in 2s, 5s and 10s Compare and order numbers using the equals sign. Count to and across 100, from 0 or 1, or any given number – forward s and backwards	Understand and name a half as one of two equal parts of an object, shape or quantity. Find half of a shape, length or container. Halve an even number of objects to 10 Recognise, find and name ¼ as one of four equal parts, using objects, shapes or quantities	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs, using related vocabulary Represent and use number bonds and related subtraction facts within 20. Add and subtract one digit and two digit numbers to 20 including zero. Solve one step problems with addition and subtraction to 20, using concrete objects and pictorial representations. Solve one step problems involving multiplication and division (sharing up to 30 between 2,3,5,10), using images and arrays Solve problems involving doubling, halving and sharing practically between 2. Solve missing number problems, e.g 7 = ? -9	Recognise and name 2D shapes (e.g. rectangles (including squares), circles and triangles) and 3D shapes (e.g. cuboids including cubes, pyramids and spheres. Visualise and name common 2D and 3D shapes Sequence events in chronological order using language such as before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Know the days of the week, weeks, months and years Show the time to the nearest hour Order the events and explain the sequence Solve problems involving time (quicker, slower, earlier, later) Show the time to the nearest half hour Sequence events in chronological order using a timeline, ordinal numbers and appropriate language Describe position, directions and movements using half, quarter and whole turns. Know whole, half, quarter and three-quarter turns Recognise the value of different coins and notes Recognise coin values and solve money problems	Compare objects and put 3 in order Compare and order lengths Talk about: lengths and heights (e.g. long/ short, longer/ shorter, tall/ short, double/ half), Measure and begin to record: lengths and heights Solve practical problems involving measures such as longer than, etc Talk about: mass or weight (e.g. heavy/ light, heavier than, lighter than), capacity/ volume (full/ empty, more than/ less than, quarter)	Statistics are not covered in Year 1.
1GD *see mastery documents	• Identify missing numbers in sequence • Children make conjectures e.g true and false and explain why ('Convince me') • Manipulate digit cards – smallest number, largest number, less than 30, etc • Finding the odd one out in a series of numbers. • 'If I count on from 0 in 5s, will I land on…'	♦ Children investigate shapes and amounts that can and cannot halve. ♦ Can everything that can halve, quarter? ♦ Use diagrams and images to find equivalence. ♦ What fractions of shapes are shown, when they are not in equal parts? ♦ Shade halves in different ways. ♦ Halve different foods e.g ½ an apple, ½ of 4 strawberries, ½ of a piece of banana.	• Children use a range of contexts and wording in problems. • Children give questions to partner. • Children become more confident with using the bar model. • Find different possibilities in word problems, not one answer • Inverse word problems (one step) e.g 'Gemma thought of a number….' • Price lists – what could I buy with 20p? • Change • Addition/Subtraction diagrams with answer only – finding all possibilities • 3 step addition/subtraction with missing numbers • Magic number grids	• Children investigate and sort a range of shapes – what is the same? What is different? • Odd one out • Find shapes from description of properties • 5 questions to find out which shape I am thinking of… • Children sort using their own criteria, as well as others. • Children apply ordinal numbers to everyday events. • Children work with simple maps and charts to describe position and movement. •	• Children become familiar and competent with a range of measuring equipment. • Children measure practically in a range of contexts, such as cooking, building, etc. • Compare lengths/weights e.g one is halve the length of another, which is longer, 2 of one or 3 of the other? • True and false with comparing measurements • Using only ….coins, could you make? What can't you make? • Finding dates on calendar e.g Party on the 3rd Friday of the month. • Time problems involving quicker/slower • Put missing minute hand on clock based on position of hour hand.	

Maths Progression Ladder

	Place Value	FDP	Four Operations	Shape	Measurement	Statistics
Year 2	Read and write two and three digit numbers in figures and words. Recognise the place value of each digit in 2 digit numbers Count in steps of 2,3,5 and in tens from any number, forwards and backward from zero up to 100 (and beyond). Compare and order numbers to 100 using <, > and = Partition 2 digit numbers into different combinations of 10s and 1s (ie. 43 = 30 + 13) Recognise odd and even numbers.	Recognise, find, name and write fractions 1/2, 1/4., 2/4, 1/3 and ¾ of a length, shape, set of objects, or quantity. Write simple fractions e.g ½ of 6 = 3. Count in halves up to 10. Recognise equivalent of ½ and 2/4	Use the knowledge that subtraction is the inverse of addition to make related number sentences. Recall and use addition and subtraction facts to 20 fluently Use addition and subtraction facts to 20 to derive facts to 100. Use practical and informal methods to add and subtract a 2 digit and 1 digit number Use practical and informal methods to add and subtract a 2 digit and a tens number Mentally subtract a 2 digit number from a 2 digit number with no regrouping. Use practical and informal methods to add and subtract a 2 digit and 2 digit number Solve one step addition and subtraction problems in different contexts. Recall doubles of numbers to 20 and corresponding halves. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables. Understand that multiplication can be done in any order but that division cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, and subtraction and images and known facts. Calculate the value of an unknown in a number sentence e.g 9 = _ - 7	Order and arrange combinations of mathematical objects in patterns and sequences. Recognise and name triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres from groups of shapes or pictures. Identify and describe the properties of 2D shapes, including the number of sides and symmetry in a vertical line. Identify and describe properties of 3D shapes, including the number of edges, vertices and faces. Identify 2D shapes on the surface of 3D shapes for example a circle on a cylinder and a triangle on a pyramid. Know that properties are the same regardless of size. Recognise all common 3D shapes Sort 2D and 3D shapes according to one criteria.	Begin to measure and record length and mass. Compare and order lengths, mass and record the results using <, > and =. Choose and use appropriate standard units to estimate and measure length/ height in any direction (m/cm); mass (kg/g); Read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given 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. Begin to measure and record capacity and time Compare and order volume/ capacity and record the results using <, > and =. Choose appropriate units or estimating and measuring. Choose and use appropriate standard units to estimate and measure temperature (ºC); capacity (litres/ ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Tell the time for o'clock and half past and show on clock face. Know the number of minutes in an hour and hours in a day. Tell the time for quarter to and quarter past and show on a clock face Know clockwise and anti-clockwise in turns and link to the clock face	Ask questions and collect information by counting. Construct and use tally charts to show information. Interpret and construct simple pictograms and block charts. Ask and answer questions about totalling and comparing categorical data.

Maths Progression Ladder

Year 2 Greater Depth	• Count in 3s to start making links to thirds • Start to set numbers out in columns to prepare for formal methods. • Connect the 10s to place value and 5s to divisions on a clock face. •	• Make links between sequences and fractions. • Count up and down in fractions to zero • Make links between different representations of fractions including a range of 2D and 3D shapes, as well as numerical values. • *Use and construct fraction walls to find links between different fractions*. • *Can find and compare different fractions of amounts*.	♦ Children hone skills within appropriate number range within a range of contexts. ♦ Children have practical situations in which to apply skills e.g the shop ♦ *Solve word problems involving more than one step.* ♦ Children make their own decisions on resources and representations. ♦ *Use multiplication facts to make deductions about outside known facts.* ♦ *Complex missing number problems* ♦ *Remainders when dividing* ♦ *Recognise the relationship between complex repeated addition to write simplified multiplication.* ♦ Relate multiplication and division sentences to fractions e.g 8÷2 = ½ of 8 ♦ Children become more fluent with calculating mentally through a range of games and activities. ♦	• Read and write the names of shapes that re appropriate for reading and spelling • Draw lines and shapes with a straight edge. • Apply directional language to partners and robots. • Work with patterns of shapes included those in different orientations • Children practise using appropriate equipment to draw shapes accurately. • *Find the similarities and differences between different shapes in relation to properties*	• *Children measure with increasing accuracy, reading to the nearest division on a scale.* • Compare measures using 'half as..' 'twice as…' • Become fluent in counting and recognising coins – say amounts properly and use symbols • Know the equivalence of pounds and pence e.g 312p = £3.12 • *Become fluent in telling time on analogue clock and recording it. Tell and write the time to 5 minute intervals and show on an analogue clock*	- Extract and interpret information given in pictograms, tables and tally charts. - Construct bar charts and pictograms where the symbol represents a group of unit; decide how to represent data and an appropriate scale

Maths Progression Ladder

	Place Value	FDP	Four Operations	Shape/Money	Measurement	Statistics
Year 3	Read and write numbers to 1000 in numerals and words Understand place value of numbers to 1000 Represent and compare number values to 1000, using < > and =. Count from zero in multiples of 4, 8, 50 and 100; find 100 more or less than a given number Use inverses to find missing whole numbers in problems such as 'I think of a number, double it and add 5. The answer is 35. What was my number?'	Recognise, find and write fractions including unit and non-unit fractions with small denominators Count up and down in tenths; recognise that tenths arise from dividing by 10 Recognise equivalents to ½ Identify pairs of fractions that total 1 (or less than 1 whole)– add and subtract fractions with the same denominator Compare and order unit fractions with the same denominator Solve problems involving finding fractions, as well as adding, subtracting and ordering fractions with the same denominator	Mentally add and subtract numbers, e.g 3 digit and ones, 3 digit and tens and 3 digit and hundreds Add and subtract three digit numbers using formal column methods Mentally recall and use multiplication and division facts for the 3, 4 and 8 times tables Know and use multiples of 2,3,4,5,8,10,50 and 100. Connect doubling to the 2, 4 and 8 times tables Write and calculate mathematical statements using known facts: including 2 digit x 1 digit, progressing to formal written methods Solve one-step and two-step whole number problems, all operations, with numbers to 1000 (not higher than 'number) Solve missing number problems involving all 4 operations, including scaling problems.	Solve problems involving amounts of money in £ and p Add and subtract amounts of money, giving change, using both £ and p (record £ and p separately) Recognise right angles in shapes in different orientations Know straight line is 2 right angles Recognise angles bigger and smaller than 90°, using acute and obtuse Recognise that 2 right-angles is a half turn, 3 is three-quarters and 4 right angles is a whole turn Recognise angles as a property of a shape or a description of a turn Recognise horizontal and vertical lines; Find pairs of parallel and perpendicular lines	Measure, compare, add and subtract variety of measurements Compare and use mixed units and use simple equivalents e.g 5m = 500cm Read and interpret partially numbered scales Understand perimeter and measure in simple 2D shapes Solve problems involving all of the above. Record and compare times, in terms of second, minutes, hours, noon, midnight, morning, afternoon Seconds in a minute, days in each month, days in a year and leap year. Tell and write time from analogue clock (including Roman Numerals from I – XII), 12 hour Read analogue time to the nearest minute Read and understand 24 hour clocks. Calculate time durations under and over an hour.	Extract and interpret information presented in simple tables, lists, bar charts and pictograms, – use a key to interpret represented data. Present data using bar charts, pictograms and tables. Solve one step and two step problems, such as 'How many more?' and 'How many fewer?' using information presented in scaled bar chart, pictograms and tables.
3GD *see mastery documents	- Use a variety of representations, including measures, to continue counting in ones, tens and hundreds. – identify numbers represented from different resources - Make largest numbers, smallest with resources - Make conjectures and reason about what numbers can and cannot be made e.g if I add 3 to a number ending in 7, the final digit will always be zero… - Insert missing digits to make numbers that are smaller/larger/in order	• Understand the link between unit fractions and division by integers • Recognise unit and non-unit fractions as numbers on a number line (beyond 1) • Interpret mixed numbers and position on a number line • Practise adding and subtracting fractions with the same denominator. • Draw a diagram to show what has happened in problem. • True or false with diagrams. • If this is 2/5, what does the whole look like? • Find all possibilities of equalling 1. • Reason about amount shaded using clues. • Link problems to simple fractions	• Always, sometimes, never statements with calculations • Identify correct and incorrect calculations to solve a problem. • Calculations involving money and measures – different possibilities. • Children answer questions about calculations without doing them e.g which involves carrying? • Find relationships between multiplication statements. • Write additions as multiplication statements. • Write a story for different calculations. • Complete missing digits in formal calculations	• use the eight compass points to describe direction; • Start to give directions between different locations. • Describe the properties of 2D and 3D shapes, embedding main vocabulary. • Sort shapes, including angles by one criteria • True or false statements • How many different shapes on a pin-board? • Connect decimals and rounding to drawing and measuring straight lines in centimetres.	• Find start and end times • Children work practically with a range of scales. • Show broken ruler – how could we work out the length of something with this? • Difference in lengths shown on different parts of ruler • Children start to compare sizes of different containers e.g height vs width • Reason about comparisons with 3 objects compared. • Someone has 5 coins, what is the biggest amount they can have? The smallest amount? • Work out proportions of an amount e.g £35 altogether, but one has £4 more than the other. • Read clocks with only hour hand.	♦ Create different charts to display same data ♦ Children interpret a range of graphs and charts with different scales. ♦ Children answer patterns and investigate trends. ♦ Children start creating their own charts to represent data given or collected. ♦ Combine data to create one graph.

Maths Progression Ladder

	Place Value	FDP	Four Operations	Shape	Measurement	Statistics
Year 4	Recognise the place values in 4 digit numbers (beyond 1000) Order and compare numbers beyond 1000 I can find 1000 more or less than a given number Read roman numerals to 100 (I – C) Know that over time system changed to include zero and place value Count in multiples of 6, 7, 9, 25 and 1000 Count backwards and forwards through zero to include negative numbers Round any number to the nearest 10, 100 or 1000 Use place value to make approximations and estimate answer to a calculation and use inverse to check answers	Recognise and show, using diagrams, families of equivalent fractions. Count up and down in hundredths and recognise that they arise from dividing by 100 or dividing tenths by 10 Recognise and write decimal equivalents to ¼, ½ and ¾, 1/10 and 1/100. Add and subtract fractions with the same denominators. Solve fraction problems with larger amounts and non-unit fractions, where the answer is a whole number. Compare and order 1DP and 2DP decimals in context, with the same amount of decimal places Recognise and write decimal equivalents of any amounts of tenths and hundredths. Round decimals with 1DP to the nearest whole number. Multiply and divide whole numbers by 10 and 100, using knowledge of ones, tenths and hundredths	Add and subtract 4 digit numbers using column addition and subtraction Derive all multiplication facts to 12x 12 and know the corresponding division facts. Use place value and known facts to multiply and divide mentally; including by 0 and 1 Multiply 3 numbers Recognise and describe number relationships e.g multiples and factors. Know square numbers and their relationships Multiply 2 and 3 digit numbers by a single digit using formal method Solve problems with numbers over 1000 Check work and correct if needed, using inverses and rounding. Solve missing number problems involving addition and subtraction. Solve missing number problems involving multiplication and division, including positive integer scaling problems and correspondence problems.	Recognise and name most quadrilaterals Recognise and name types of triangles. Compare and sort objects using more than one criteria, including quadrilaterals and triangles, such as properties and sizes Recognise acute and obtuse angles, compare by size. Identify reflective symmetry in patterns and 2D shapes Draw and complete shapes with reflective symmetry Complete a shape along a mirror line Use and interpret coordinates in the first quadrant. Translate shapes horizontally and vertically, using language such as up, down, left and right Plot specific points and draw sides to complete a given polygon.	Find areas by counting squares and explaining method Estimate, compare ad calculate different measures including money in £ and p Solve simple money problems involving fractions and decimals to 2DP. Use decimals in the context of money and measures to 2DP and solve problems. Convert time between analogue, 12 hour and 24 hour. Solve problems involving converting between time durations and measures. Convert larger units to smaller units using decimals to 1DP Measure and calculate the perimeter of rectangular shapes in m and cm	Use Venn and Carroll diagrams to record their sorting and classifying of information, using 2 criteria Represent collected data in frequency diagrams Make decisions about the most appropriate frequency diagram to represent particular data Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts. Solve comparison, sum and difference problems using information from charts, pictograms, tables and other graphs
Year 4 Greater Depth	- Finding different ways of writing same number. - Negative numbers in context e.g seal level and different depths – mark on scale. - Continue sequences involving decimals - Predict later appearances in a sequence e.g the 19th, etc. - Connect estimating and rounding to measurement - Put Roman Numerals in historical context so children know how the number system has changed - Make up own numeral system. - Find missing parts of bar models. - Begin to use short multiplication and division - Fill in missing digits in multi-step calculations - Use <>= to compare calculations in balancing – reason rather than calculate. - True or false with product of 2 and 3 numbers – are they equal? - Manipulate the factors in multiplications by 1 more/1less – what do you notice?	• Connect tenths and hundredths to place value and decimal measure • Extend adding and subtracting fractions to using mixed numbers and improper fractions (beyond 1 whole) • Use <> = to compare fractions of amounts. • Draw diagrams of fraction in many different ways. • Show 1/3 of a shape, draw the whole shape. • Sometimes, always, never statements • Use digit cards to make largest decimal and smallest decimal. • Calculate recipes using proportions.	• Round up or down with remainders when appropriate • Write a problem for a bar model. • Give examples of problems where you would use different types of methods.	• Start to classify types of triangle and quadrilateral • Complete shapes which has some sides already completely at oblique angles on a grid. • Use coordinates accurately on maps and grids, in relation to positions and shapes • Investigate when a shape has reflective symmetry and when it does not • Write coordinates in pairs. • Reason about regular and irregular, amount of right-angles, etc. • Line of symmetry? True or False?	• Start to express perimeter algebraically • Compare the impact of scales with different step sizes • Investigate different shapes with the same area/perimeter • Use multiplication to convert from larger to smaller units. • Connect different tiles and calculate perimeters and areas. • Order volumes with different unit representations. •	♦ Interpret scales using a greater range of scales ♦ Start interpreting scales where the reading falls between divisions ♦ Compare the same data shown on different scales/charts ♦ Use line graphs to explain changes over time ♦ What would happen if….? ♦ Make a story to fit a line graph.

Maths Progression Ladder

	Number/Place Value	FDP	Four Operations	Shape	Measurement	Statistics
Year 5	Read, write, order and compare numbers to at least 1,000,000 and show value of each digit Count forwards and back in powers of 10 to 1,000,000 Interpret negative numbers in context. Count forwards and backwards in positive and negative whole numbers, through zero Carry out simple calculations with negative numbers Solve problems involving ordering, adding and subtracting negative numbers Round any number to 1,000,000 to the nearest 10, 100, 1000, 10, 000 and 100,000. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals Know the properties of prime numbers, including prime factors and composite (non-prime) numbers Establish if a number to 100 is a prime number and recall primes to 19.	Compare and order fractions when denominators are all multiples of the same number Identify, name and write equivalent fractions of a given fraction, represented visually using tenths and hundredths. Convert fractions to the same denominator. Convert mixed numbers to improper fractions and vice versa - write mathematical statements > 1 using these Add and subtract fractions with same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by a whole number Order decimals to 3DP Round decimals with 2DP to the nearest whole number and to 1DP. Multiply and divide whole numbers and decimals by 10, 100 and 1000. Read and write decimal numbers as fractions. Recognise and use thousandths and relate them to decimal numbers Understand percentage of part of 100, Show 10th and 100th as percentage Change fractions out of 100 to decimals and vice versa. Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 4/5 and 4/5, as well as fractions with denominator a multiple of 10 or 20.	Add and subtract mentally with increasingly large numbers Add and subtract numbers with more than 4 digits, including using formal written methods Identify multiples and factors; identify factor pairs for 2 digit whole numbers, common factors and common multiples. Recognise and use square numbers using the correct notation. Recognise and use cube numbers using the correct notation. Multiply and divide numbers mentally using known facts Multiply numbers up to 4 digits by a 1 or 2 digit number, starting to use long multiplication with 2 digit numbers Divide numbers to 4 digits by a one digit number using short division; interpret remainders for appropriately for the context Solve one and two step problems involving whole numbers to 1,000,000, involving addition and subtraction, multiplication and division using knowledge of factors, multiples, squares and cubes. Use inverses to find missing numbers, including decimals. Understand the meaning of the equals sign, such as 'balancing sums' including those using division, such as 20 + • = 100 ÷ 4 Use rounding to check calculations and determine levels of accuracy Solve problems involving decimals to 3DP	Construct a triangle from the length of 2 sides and the angle between them. Identify 3D shapes, including cubes and other cuboids, from 2D representations. Distinguish between regular and irregular polygons based on equal sides and angles Find the perimeter of composite rectangular shapes Use squares in row x amount of rows to find area of rectangle – compare areas Estimate the area of irregular shapes Estimate the volume of a cuboid (use blocks and capacity) Convert between metric units to 2DP (use knowledge of place value) Measure and calculate using known imperial measurements and metric equivalent Reflect simple shapes in a mirror line, identify describe and represent, Draw shape after reflection or translation Visualise and draw on shapes after reflections, translations and rotations about 90° or 180° and know that the shape has not changed.	Angles are measured in degrees Estimate and compare acute, obtuse and reflex angles Draw given angles and measure in degrees Identify angles at a point and whole turn, angles on a straight line and ½ turn, other multiples of 90° Calculate angles around a point Use the properties of rectangles to deduce related facts and find missing lengths and angles. Calculate time durations over an hour. Read and interpret time tables. Solve problems involving converting units of time.	Complete, read and interpret information in tables, including timetables Solve comparison, sum and difference problems using information from charts, pictograms, tables and other graphs
Year 5 GD	- Give the place value of digits in all larger numbers – explore millions in population and stadium capacity etc. - Use digits 0 – 9 to write largest number, smallest, can you make all numbers?	• When adding and subtracting fractions, include mixed numbers and improper fractions – solve problems • Give fractions that have denominators that are multiples – which is bigger? • Statement comparing two fractions – is it correct?	• Check all results and ensure they are reasonable, including with fraction and decimal answers • Solve puzzles including decimals – magic squares, pyramids • Bar Model questions with unknown values.	• Recognise pairs of perpendicular lines in shapes and patterns • Estimate and compare all types of angle, including reflex	• Begin to find areas of shapes by splitting into rectangles • Find area using whole and half squares • Use timetables to plan journeys • Calculate area from scale drawings	• Become fluent with readier a range of graphs and scales • Present collected information in a variety of ways.

Maths Progression Ladder

	- Reason with temperatures – why do you think I falls, rises? Difference between coldest and warmest. - Use one number sentence (decimals, negatives) to predict others that would also be true. - Explain reasoning from a statement e.g If I keep subtracting 3 from 397, I will get to zero. - All numbers have an even amount of factors. True or False? - Fill in missing values in equivalent calculations – some multi-step.	- Which fraction is closer to one? - Fill in empty boxes in calculation to give biggest answer/smallest answer. - Shade grid in different way to the same proportion is shaded.	• Explore problems with multiple solutions e.g ribbon cut into equal parts – what could they be? • True and False with equivalent equations	• Find a range of angles with different shapes and dissections; make links between angles • Use angle facts to find missing angles in problems. • Angles using a compass – which direction? • Statements about shapes – true or false? • Draw net of shape – accurately measured.	• Use conventional markings for parallel lines and right angles. • True or False equivalent statements. • Calculate unknown from comparisons with known. • Find as many possibilities of rectangles with same area/perimeter	• Solve problems with timetables – which is quickest? Best route? Which bus? • Use line graph to predict further data.

Maths Progression Ladder

	Place Value/Four Operations	FDP	Algebra/Ratio	Shape and Measurement	Statistics
Year 6	Read, write, order and compare numbers to 10,000,000 and determine the value of each digit Round any whole number to a required degree of accuracy Order negative numbers in context and calculate intervals across zero Find the difference between positive and negative integers or negative and negative Perform mental calculations, including with mixed operations and large numbers. Identify common factors, common multiples and prime numbers to 2 digits Use long multiplication and division for solving problems that involve multiplying and dividing any three digit and four digit number by any two-digit number Divide 4 digit numbers by 2 digit numbers using short division Interpret remainders as whole number, fractions, or rounding appropriately Use brackets appropriately, e.g. – know and use the order of operations, including brackets Apply inverse operations to check a range of sums and solve problems. Break several step problems into smaller steps Choose efficient methods when solving problems Solve multi-step problems in contexts, using all 4 operations, choosing appropriate methods to use	Use common factors to simplify fractions and common multiples to express fractions in the same denomination Compare and order any fractions >1 Add and subtract fractions with different denominators and mixed numbers using equivalent fractions (start with fractions with the same denominators and move onto more varied problems) Multiply simple pairs of proper fractions, writing the answer in simplest form Divide proper fractions by whole numbers Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples e.g for every egg you need 3 spoonfuls of flour. Identify the value of each digit in numbers to 3 decimal places Know value of digits to 3DP and multiply and divide numbers to 3DP by 10, 100 and 1000 Multiply or divide decimal numbers to 2DP by a single digit, using formal methods. Express quantity as percentage of another, calculate percentages and use percentages for comparison Use the equivalents of fractions, decimals and percentage to compare proportions Recall and use equivalences between simple fractions decimals and percentages to compare proportions in different contexts. Solve problems involving decimals and check reasonableness of decimal answers using rounding Solve problems involving the calculation of percentages.	Begin to use simple formulae Express missing number problems algebraically. Find pairs of numbers that satisfy an expression with 2 unknowns Enumerate possibilities of combinations for 2 variables Generate and describe linear number sequences Construct, express in symbolic form, and use simple formulae involving one or two operations, Understand simple ratio Use ratio and proportion vocabulary to describe the relationship between two amounts Solve problems involving the relative size of 2 quantities where missing values can be found by multiplication and division facts. Enlarge 2-D shapes, given a centre of enlargement and a positive whole-number scale factor Enlarge shapes, where the scale factor is known or can be found Solve problems involving similar shapes where the scale factor is known or can be found.	Illustrate and name the parts of circles, including radius, diameter and circumference Read and interpret coordinates in all 4 quadrants Draw and translate simple shapes on the co-ordinate plane and reflect them in the axes. Recognise, describe and build simple 3D shapes, including making nets. Draw 2D shapes with increasing accuracy, using given dimensions and angles Compare and classify quadrilaterals, triangles and regular polygons from properties Reason about special triangles and quadrilaterals Recognise angles at a point, in a straight line, and vertically opposite and find missing angles Use angles and symmetry in polygons to find missing angles. Use alternate, corresponding and vertically opposite angles. Find unknown angles in any triangles, quadrilaterals and regular polygons Recognise that shapes with the same areas can have different perimeters and vice versa Use the formula for finding area of shapes Calculate the areas of parallelograms and triangles (use formula) Find the volume of cuboids. (use formula) Calculate, estimate and compare volume of cubes and cuboids Read, write and convert between standard measurements using decimal notation to 3DP Calculate length of journey. Convert between miles and kilometres – Connecting to line graphs Solve problems involving conversions of measurements to 3DP	Continue to use venn and carroll diagrams to record the sorting and classifying of information Understand and use the mean of discrete data. Interpret and construct pie charts where it is not necessary to measure angles Interpret simple pie charts Interpret graphs and diagrams, including pie charts, and draw conclusions Create and interpret line graphs where the intermediate values have meaning, e.g. draw and use a conversion graph for pounds and euro

Maths Progression Ladder

Year 6 Greater Depth	- Find the prime number decomposition of any number - use all four operations with decimals to two places - Use approximations, inverse operations and tests of divisibility to estimate and check results - Find a percentage increase/decrease. - Make generalisations about sequences e.g numbers that will or will not be in the sequence – compare different sequences – why are they similar? - Statements about number card or different cards – can out work out which number is which? - True and false statements involving rounding with different levels of accuracy. - Temperature problems involving rising and falling by different increments. - Give other children's strategies for solving sums – would they work? - Give problem with all digits missing but the answer – what would make it work? Is there only one way? - Work out numbers from their difference and other criteria. - Find calculation which is the odd one out. - Which calculation would be easier to work out? Why? Can you change this to make it easier?	- Use conversions between fractions, decimals and percentages to order amounts - Solve a range of problems including fractions, decimals and percentages of amounts - Work backwards from a fraction to find a whole - From fraction, identify whole length and compare with other. - Find the odd one out with fractions and proportions. - Give FDP that represent spaces on numberline. - Identify how a pizza was cut up from the final fraction remaining. - Answer true or false statements about properties of fractions.	- Recognise proportionality in contexts where the relations are in the same ratio. - evaluate expressions by substituting numbers into them - Is there one whole number that fits all statements? - Calculate with negative numbers in the context of temperature - Recognise equivalent expressions - Compare prices, which is better value? - What are x and y when…? - Problems involving an estimated amount – do you think they are correct? - Show word problem to match ratio bar model. - Find ages, based on combined and other criteria. - Find total number based on fraction left.	- Draw nets and shapes accurately using measuring tools and conventional labels for lines and angles - Compare relationships algebraically - recognise order of rotation symmetry • rotate shapes, through 90° or 180°, when the centre of rotation is a vertex of the shape, and recognise such rotations • reason about shapes, positions and movements, predict missing co-ordinates of vertices • Reflect shapes using an axis • Reason about angles between clock hands at different times. • Find angles in bisected shapes using angles knowledge. • Work out angles in triangle from comparisons • Compare circle and oval –what is the same/different? • Reason about nets. •	• Relate areas of parallelograms and triangles to rectangles • Use formulas to calculate • Introduce compound units for speed and apply to science • Explain time using decimals. • Calculate height based on criteria in different forms. • Compare methods of finding area of complex shape – which is correct? • If the perimeter of a shape is bigger, will the area be? • Find cuboids with the same volume – what is the same/different? • Solve problem involving comparing qualities e.g doubles each day vs. increases by 10.	♦ design and use two-way tables ♦ Link percentages and 360° to pie charts ♦ Estimate using pie charts – link to fractions. ♦ Estimate angles needed to represent data. ♦ Compare different lines on a graph.