2017-18

Expectations
MATHEMATICS
Year 1-6

Year 1 MATHEMATICS

Aspect	Autumn	Spring	Summer
Number and Place Value	• I count to and across 20, forward and backward, beginning with 0 or 1, or from any given number. • I count in multiples of 2s and 10s. • I read and write numbers to 100 in numerals	• I count to and across 50, forward and backward, • Given a number, I can identify 1 more or 1 less • I can count in multiples of 5s.	• I count to and across 100, forward and backward, • I read and write numbers from 1 – 20 in numerals and words • I can count to and across 100 forward and backward
Addition and Subtraction	• I read, write and interpret mathematical statements involving + - = signs. • I represent and use number bonds and related subtractions facts within 10.	• I add and subtract 1-digit and 2-digit numbers to 20, including zero. • I solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.	• I add and subtract 1-digit and 2-digit numbers to 20, including zero. • I represent and use number bonds and related subtractions facts within 20.
Multiplication and Division		• I solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of my teacher.	
Fractions	• I recognise, find and name a half as one of two equal parts of an object, shape or quantity. • I recognise, find and name a half as one of two equal parts of an object, shape or quantity.	• I recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	

Measures	Geometry
• I compare, describe and solve practical problems for: Lengths and heights and mass/weight • I compare, describe and solve practical problems for capacity and volume • I recognise and know the value of different denominations or coins and notes. • I sequence events in chronological order using language (e.g. before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening). • I recognise and use language relating to dates, including days of the week, weeks, months, years. • I measure and begin to record the following: mass/weight • I measure and begin to record the following: Length and heights; • I compare, describe and solve practical problems for: Time • I can measure and begin to record the following: Capacity and volume • I can tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	• I recognise and name common 2D shapes, including: 2D, e.g. circles, triangles • I identify and describe common 2D shapes, including: rectangles (including squares) circles, triangles • I describe position, direction and movement, including half, quarter and three-quarter turns • I describe position, direction and movement, including half, quarter and three-quarter turns and link to shapes • I recognise and name common 3D shapes, including: cuboids (including cubes), pyramids, spheres.

Greater Depth					
YEAR 1 MATHEMATICS					
Number and Place Value	**Addition & Subtraction**	**Multiplication & Division**	**Fractions**	**Measures**	**Geometry**
• I count forwards and backwards up to and beyond 100 with confidence. • I count on and back in 1s, 2s, 5s and 10s in context. • I use the terms one more than and one less than in different contexts. • I cope with reasoning and deeper thinking place value problems.	• I add and subtract 1-digit and 2-digit numbers to 20 at speed showing confidence and fluency. • I can apply my knowledge of number to solve a one-step problem involving addition and subtraction.	• I can apply my knowledge of number to solve a one-step problem involving multiplication and division.	• I use half and quarter in many different contexts, including within the environment.	• I recognise all coins and notes and know their value and use them in practical situations to pay for items bought. • I use my knowledge of time to know when key events happen during the day or year, e.g., lunchtime, home time, birthday, Christmas, Easter, etc.	• I recognise different 2D and 3D shapes in the classroom, at home and in the outside environment.

- I rarely make a mistake when working to the Year 1 national expectations.
- I can explain all Year 1 number operations to others in my class.
- I cope with reasoning and thinking problems related to the Year 1 expectations for number, measurement and geometry.
- When it is appropriate, I apply all mathematical operations I know to other areas of the curriculum.
- I explain to others how I have arrived at an answer to a mathematical problem and at the same time deepen my own understanding.
- I work independently and reach a conclusion without referring to my teacher.

Year 2 MATHEMATICS

Aspect	Autumn	Spring	Summer
Number and Place Value	• I count in steps of 2, 3, 5 and 10 from 0, and in tens from any number, forward and backward. • I read and write numbers to at least 100 in numerals and in words. • I recognise the place value of each digit in a 2-digit number.	• I compare and order numbers from 0 up to 100; use < > and = signs. • I can partition two-digit numbers into different combinations of 10s and 1s.	•
Addition and Subtraction	• I recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. • I add and subtract numbers mentally, including: 2-digit numbers and ones; 2-digit numbers and tens; two 2-digit numbers; adding three 1-digit numbers.	• I understand that addition of any two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	• I recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.
Multiplication and Division	• I recall multiplication and division facts for the 2, 5 and 10 tables, including recognising odd and even numbers.	• I recall multiplication and division facts for the 2, 5 and 10 tables and use to solve problems. • I calculate the mathematical statements for multiplication and division within the multiplication tables and write them using the x ÷ = signs. • I understand that multiplication of two numbers can be one in any order (commutative) and division of one number by another cannot.	• I recognise that division is the inverse of multiplication and use to check calculations.
Fractions		• I write simple fractions and recognise the equivalence. • I recognise, find, name and write factions 1/3, 1/4, 2/4, 1/2, 3/4 of a length, shape, set of objects, or quantity.	

Measures	Geometry	Statistics
• I compare and order lengths, mass, and record the results using >, < and =. • I recognise and use symbols for pounds (£) and pence (p); combine amounts to make particular values. • I compare and order volume/capacity and record the results using >, < and =. • I solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. • I choose and use appropriate standard units to estimate and measure: length/height in any direction (m/cm); mass (kg/g) to the nearest appropriate unit, using rulers and scales. • I can read scales in divisions of 1s, 2s, 5s and 10s in practical situations where all numbers on the scale are given. • I tell and write the time to quarter past/to the hour and draw the hands on a clock face to show these times. • I choose and use appropriate standard units to estimate and measure: temperature (·C); capacity (l/ml) to the nearest appropriate unit, using thermometers and measuring vessels. • I compare and sequence intervals of time. • I find different combinations of coins that equal the same amounts of money. • I solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. •	• I identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. • I identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. • I identify 2D shapes on the surface of 3D shapes. • I order and arrange combinations of mathematical objects in patterns and sequences. • I 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). I compare and sort common 2D and 3D shapes and everyday objects.	• I interpret and construct: pictograms; tally charts; block diagrams and simple tables. • I ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. I ask and answer questions about totalling and compare categorical data.

Greater Depth					
YEAR 2 MATHEMATICS					
Number and Place Value	**4 Operations (+, -, x, ÷)**	**Fractions**	**Measures**	**Geometry**	**Statistics**
• I count reliably at speed forwards and backwards up to 100 in 2s, 3s, 5s and 10s.	• I apply my knowledge of number up to 100 to solve problem involving more than one step involving addition and more complex missing number problems. • I understand that if 4 + 5 is 9 then 40 + 50 is 90. • I can use known multiplication facts to make deductions (eg reason that 18x5 cannot be 92 as multiples of 5 end in 5 or 0) • I can find remainders (eg know that 15 divided by 5 is 3 so 16 divided by 5 will have 1 left over) • I can rewrite + statements as simplified x statements (eg 10+10+10+5+5=3x10+2x5= 4x10)	• I explain to others when shapes and numbers are accurately divided into thirds, quarters, halves and three quarters. • I can find and compare fractions of amounts.	• I measure, compare, add and subtract using common metric measures. • I tell the time to 5 minute intervals in both analogue and digital and relate one to the other. • I know when it is sensible to measure in m or cms.; kg or gms.; l or ml.; hours or minutes. • I 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. • I can read scales in divisions of 1s, 2s, 5s and 10s where not all numbers on the scale are given.	• I know about right angles and where they can be seen in the environment. • I can describe the similarities and differences of shape properties.	• I know when it is sensible to show information in a graph.

- I rarely make a mistake when working to the Year 2 national expectations.
- I can explain all Year 2 number operations to others in my class.
- I cope with reasoning and thinking problems related to the Year 2 expectations for number, measurement, geometry and statistics.
- When it is appropriate, I apply all mathematical operations I know to other areas of the curriculum.
- I explain to others how I have arrived at an answer to a mathematical problem the same time deepen my own understanding.
- I work independently and reach a conclusion without referring to my teacher.
- I can explain my thinking using age appropriate mathematical vocabulary.
- I listen to others' explanations, try to make sense of them and compare and make simple evaluations.

Year 3 MATHEMATICS

Aspect	Autumn	Spring	Summer
Number and Place Value	• I count from 0 in multiples of 4, 8, 50 and 100. • I can find 10 or 100 more, or less, than a given number. • I read and write numbers to 1,000 in numerals and words	• I compare and order numbers up to 1000. • I recognise the place value of each digit in a 3-digit number.	
Addition and Subtraction	• I add and subtract numbers mentally, including: 3-digit number and ones; 3-digit numbers and tens; 3-digit numbers and hundreds.	• I add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction. • I solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.	• I estimate the answer to a calculation and use the inverse operations to check my answers. • I count up and down in tenths; recognise that tenths arise from dividing and object into ten equal parts and in dividing numbers or quantities by 10. • I add and subtract measures (length, weight and volume) with up to 3 digits, using formal written methods of columnar addition and subtraction.
Multiplication and Division	• I recall and use the multiplication and division facts for the 3, 4 and 8 tables. • I write and calculate mathematical statements for division using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	• I write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length. • I write and calculate mathematical statements for multiplication using known multiplication tables, including 2-digit x 1-digit, using mental and progressing to formal written methods.	• I practise formal methods of multiplication and division, including a high focus on reasoning
Fractions		• I recognise and show, using diagrams, equivalent fractions with small denominators. • I recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • I compare and order unit fractions, and fractions with the same denominators within 1 whole.	

Measures	Geometry	Statistics
• I measure the perimeter of simple 2D shapes. • I estimate and read time with increasing accuracy to the nearest minute; tell and write the time from an analogue clock, including using Roman numerals from I to XII. • I measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml). • I read 12-hour and 24-hour clocks. • I record and compare time in terms of seconds, minutes, hours. • I use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight. • I know the numbers of seconds in a minute and the number of days in each month, year and leap year. • I compare durations of events, for example to calculate time taken by particular events or tasks.	• I make 3D shapes using modelling materials; recognise 3D shapes in different orientations; and describe them. • I identify right angles, recognise that two right angles make a half-turn, three make three quarters and four a complete turn • I draw 2D shapes. • I recognise angles are a property of shape or a description of a turn. • I identify whether angles are greater than or less than a right angle. • I identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	• I interpret and present data using: bar charts; pictograms and tables. • I solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs.

Greater Depth					
YEAR 3 MATHEMATICS					
Number and Place Value	**4 Operations (+, -, x, ÷)**	**Fractions**	**Measures**	**Geometry**	**Statistics**
• I am very confident and consistent when dealing with all Year 3 number objectives. • I can explain to my peers how I have reached an answer and justify my reasoning.	• I return to a mathematical problem involving the four operations after a break and feel confident about coping with the problem. • I can find missing digits within mathematical problems involving the four operations.	• I am able to link fractional values to numbers, eg, ¾ of 120 animals were cows, how many animals were not cows?	• I confidently apply my knowledge of number to solve problem with money and measures. • I measure the perimeter of irregular shapes using the principles of measuring the perimeter of an oblong.	• I am able to apply my knowledge of parallel and perpendicular lines to solve mathematical problems.	• I know which mathematical operation may be required when setting out statistical evidence.

- I provide a convincing argument for the methods or solutions I use or arrive at.
- I am confident to respond to 'What if?' questions.
- I confidently discuss mathematical work and begin to explain my thinking.
- I spot patterns in results and use these patterns to find other possibilities.
- When I have solved a problem, I am able to pose a similar problem for a partner.
- With support, I understand a general statement by finding particular examples that match it.
- I willingly reflect on others' explanations, methods or strategies and use this to improve my own understanding.

Year 4 MATHEMATICS

Aspect	Autumn	Spring	Summer
Number and Place Value	• I count backwards through zero to include negative numbers • I count in multiples of 6, 7, 9, 25 and 1000. • Recognise the place value of any 4 digit number.	• I read Roman numerals to 100 and understand that over time, the numeral system changes to include the concept of zero and place value. • I find 1000 more or less than a given number. •	• I compare and order numbers beyond 1000. • I round any number to the nearest 10, 100 or 1000.
Addition and Subtraction	• I add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction, where appropriate. • I estimate and use inverse operations to check answers to a calculation.		• I solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
Multiplication and Division	• I recall multiplication and division facts for tables up to 12x12. • I recognise and use factor pairs and commutativity in mental calculations. • I multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout.	• I divide 2-digit and 3-digit numbers by a 1-digit number using formal written layout with no remainder. • I use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; multiplying three numbers together. • I find the effect of multiplying a number with up to 2 decimal places by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	
Fraction		• I recognise and show, using diagrams, families of common equivalent fractions. • I add and subtract fractions with the same denominator.	• I find the effect of dividing a 1-digit or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. • I count up and down in hundredths; recognise that hundredths arise from dividing an object into one 100 equal parts and in dividing numbers or quantities by 100. • I recognise and write decimals equivalents of any number of tenths or hundredths. • I recognise and write decimal equivalents to ¼, ½ and ¾. • I round decimals with one decimal place to the nearest whole number. • I compare numbers with the same number of decimal places up to two decimal places.

Measures	Geometry	Statistics
• I read, write and convert time between analogue and digital 12- and 24-hour clocks. • I measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m. • I find the area of rectilinear shapes by counting squares. • I convert between different units of measure (e.g. km to m; hr to min).	• I compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • I describe positions on a 2D grid as coordinates in the first quadrant. • I identify lines of symmetry in 2D shapes presented in different orientations. • I complete a simple symmetric figure with respect to a specific line of symmetry. • I describe movements between positions as translations of a given unit to the left/right and up/down. • I plot specified points and draw sides to complete given polygon. • I identify acute and obtuse angles and compare and order angles up to two right angles by size.	• I interpret and present discrete and continuous data using appropriate graphical methods, including: bar charts; time graphs • I solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs..

Greater Depth					
YEAR 4 MATHEMATICS					
Number and Place Value	**4 Operations (+, -, x, ÷)**	**Fractions**	**Measures**	**Geometry**	**Statistics**
• Given a sequence involving positive and negative numbers I can work out the nth number in the sequence.	• I deal very confidently and rapidly with addition and subtraction operations involving up to four digits. • I solve multi-step problems related to on-going learning in science, geography and history.	• I know which fractional value is an odd one out in a given set. • I apply my knowledge of fractions to solve problems involving money, time, weight and length.	• I cope with problems involving time even when working backwards from a given time.	• Given an area, I can draw at least two different rectangles with the given area.	• I collect my own data on a given topic and present information in graphical formats of my choosing.

- I make suggestions about ways to tackle a range of problems making connections to previous work.
- I have developed and applied a systematic approach to my learning, predicting possibilities from results already obtained.
- I show good levels of resilience when encountering a new challenge.
- I present information and results in a clear and organised way (abstract).
- I check answers and ensure solutions make sense in the context of the problem.
- I willingly search for a solution by trying out own ideas and proving justification.
- I spot patterns and form generalisations or rules in words independently.
- I make conjectures that make sense and can explain my reasoning.

Year 5 MATHEMATICS

Aspect	Autumn	Spring	Summer
Number and Place Value	• I count forward or backwards in steps of powers of 10 for any given number up to 1,000,000. • I count up and down in thousandths; recognise that thousandths arise from dividing an object into 1000 equal parts and in dividing numbers or quantities by 1000.	• I interpret negative numbers in context, count forward and backwards with positive and negative numbers including through zero. • I read Roman numerals to 1000 and recognise years written in Roman numerals.	• I read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. • I round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 or 100000.
Addition and Subtraction	• I add and subtract numbers mentally with increasingly large numbers. • I add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	• I use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	• I solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
Multiplication and Division	• I identify multiples and factors including finding all factor pairs of a number and common factors of two numbers. • I multiply and divide numbers mentally drawing upon known facts. • I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers and establish whether a number up to 100 is prime and recall prime numbers up to 19.	• I divide numbers up to 4-digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context. • I multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • I multiply numbers up to 4-digits by a 1-digit or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.	• I recognise and use square numbers and cube numbers, and the notation for square^2 and cubed^3.
Fraction	• I identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • I read and write decimal numbers as fractions, e.g. 0.71 = 71/100.	• I recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements. • I multiply proper fractions and mixed numbers by whole numbers.	• I compare and order fractions whose denominators are all multiples of the same number. • I round decimals with two decimal places to the nearest whole number and to one decimal place. • I read, write, order and compare numbers with up to three decimal places. • I recognise the percent symbol (%) and understand that per cent relates to 'number of parts per hundred, and write percentages as a fraction with denominator 100, and as a decimal.

Measures	Geometry	Statistics
• I measure and calculate the perimeter of composite rectilinear shapes in cm and m. • I calculate and compare the area of rectangles (including squares, and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. • I calculate and compare the area of rectangles (including squares) including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. • I estimate volume (e.g. using 1 cm^3 blocks to build cubes, including cuboids) and capacity (e.g. using water). I convert between different units of metric measure (e.g. km/m; cm/m; cm/mm; g/kg; l/ml).	• I know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles. • I identify angles at a point on a straight line and ½ a turn (total 180·); and identify angles at a point and one whole turn (total 360·); I identify other multiples of 90·; • I draw given angles, and measure them in degrees. • I identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language and know that the shape has not changed. • I distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • I identify 3D shapes, including cubes and other cuboids, from 2D • I solve problems using timetables and converting between units of time. • I understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. representations. • I use the properties of rectangles to deduce related facts and find missing lengths and angles.	I complete, read and interpret information in: tables, including timetables I solve comparison, addition and difference problems using information presented in a line graph.

Greater Depth			
YEAR 5 MATHEMATICS			
Number and Place Value	**4 Operations (+, -, x, ÷)**	**Measures**	**Statistics**
• I deal confidently with all numbers up to 1,000,000 and apply this knowledge to scientific, historical and geographical learning. • I am confident when it comes to working across zero for positive and negative numbers to work out time, eg, BC and AD in history.	• I consistently use rounding as a strategy for assessing quickly what the approximate answer should be before calculating.	• I use my knowledge of measurement to create plans of areas around the school, such as classroom, field, outside play area etc. • I use a range of timetables to work out fictional journey times, such as, 'How long would it take me to reach the Amazon rainforest?'.	• I confidently collect my own data on a personal project and present information in formats of my choosing, e.g., charts, graphs or tables.

- I identify and obtain information to solve mathematical problems.
- I check my results, considering whether they are reasonable and make adaptations if need be.
- I solve problems and investigations from a range of contexts, including using logical thinking.
- I regularly make conjectures and provide examples and counter-examples.
- I show understanding of situations by representing them mathematically using diagrams (pictorial representation) and symbols and words (abstract representation).
- I draw simple conclusions and give justification and proof of reasoning.
- I spot more complex patterns and begin to express generalisations or proof using symbolic notation.

Year 6 MATHEMATICS

Aspect	Autumn	Spring	Summer
Number and Place Value	• I read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.	• I use negative numbers in context and calculate intervals across zero.	• I round any whole number to the required degree of accuracy.
Addition and Subtraction	• I perform mental calculations, including with mixed operations and large numbers. • I use knowledge of the order of operations to carry our calculations involving the four operations. • I use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	• I use knowledge of the order of operations to carry our calculations involving the four operations.	• I solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
Multiplication and Division	• I identify common factors, common multiples and prime numbers. • I perform mental calculations, including mixed numbers and large numbers.	• I multiply multi-digit numbers up to 4-digits by a 2-digit whole number using the formal written method of long multiplication. • I divide numbers up to 4-digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. • I divide numbers up to 4-digits by a 2-digit number using the formal written method of short division, where appropriate, interpreting remainders according to the context.	
Fractions	• I compare and order fractions, including fractions >1. • I use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • I recall and use equivalences between simple fractions, decimals and percentages, including different contexts.	• I add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	• I multiply simple pairs of proper fractions, writing the answer in the simplest form. • I divide proper fractions by whole numbers. • I associate a fraction with division to calculate decimal fraction equivalents, for simple fractions. • I calculate % of whole numbers.

Measures	Geometry	Statistics
• I calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3 and m^3, and extending to other units such as mm^3 and km^3. • I convert between miles and km. • I use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places. • I solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate. • I recognise when it is possible to use the formulae for area and volume of shapes. • I recognise that shapes with the same areas can have different perimeters and vice versa. • I calculate the area of parallelograms and triangles. • I recognise when it is possible to use formulae for area and volume of shapes.	• I compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. • I draw 2D shapes using given dimensions and angles. • I describe positions on the full coordinate grid, using all four quadrants. • I draw and translate simple shapes on the coordinate plane and reflect them in the axes. • I recognise, describe and build simple 3D shapes, including making nets. • I recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • I illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	• I interpret and construct: pie charts; line graphs and use these to solve problems • I calculate and interpret the mean as an average

Ratio and Proportion	Algebra	
• I solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • I solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison.	• I express missing number problems algebraically and use simple formulae. • I find pairs of numbers that satisfy number sentences with two unknowns.	•

Greater Depth			
YEAR 6 MATHEMATICS			
Number	**Measures**	**Geometry**	**Statistics**
• I compare, order and convert between fractions, decimals and percentages in context in relation to science, geography and history.	• I use appropriate formula for measuring area of shapes such as cuboids, triangles and irregular shapes	• I create scaled models of historical and geographical structures showing an acceptable degree of accuracy using known measures.	• I collect data for a personal project and present information in formats of my choosing, such as charts, graphs and tables and answer questions related to my research.

- I solve quite complex problems independently breaking them down into smaller, more manageable tasks.
- I use mathematical content from previous year groups and my own year group to solve problems and investigate.
- I interpret, discuss and synthesise information presented in a variety of mathematical forms, including logical thinking problems.
- I present a concise, reasoned proof using symbols, diagrams, graphs and related explanatory text.
- I can give mathematical justifications and proof when solving problems.
- I use a correct logical argument that has a complete chain of reasoning to it and use terms such as: 'because', 'therefore', 'and so', 'that leads to'.
- I ensure that my argument is watertight and mathematically sound.
- I show good resilience when dealing with a problem that I have to return to and may take a long time to solve.