St. Mary's Church of England Primary School, Fownhope

The Teaching of Mathematics

A rich education is more than simply learning reading, writing and maths. It is about helping a child grow into their full potential as inquisitive, well balanced and cheerful adults. As a Christian school we nurture children to display the 'fruit of the Spirit', which is "love, joy, peace, patience, kindness, goodness, faithfulness, gentleness and self-control" (Galatians 5:22-23). At St Mary's you will find children growing in mind, body and spirit as they form good relationships with each other, the staff and discover a faith which will sustain them in a rapidly changing world. As our motto has it: "what we nurture today flourishes tomorrow".

Our philosophy for teaching mathematics:

A high-quality mathematics education provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. (National Curriculum 2014)

At St. Mary's all our children are given the opportunity to develop their mathematical potential through a rich, engaging curriculum. We want our children to feel confident in using and applying mathematics in a wide range of situations, being able to reason and justify their decisions and results.

In mathematics, we aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will become an integral part of their future.

Year Group	Intent – what we want to achieve (National Curriculum objective)	Implementation - what it looks like in the classroom	Impact – how we measure success and what we will see
Early Years	**Mathematics** **Early Learning Goal 11– Number** Children in Reception will be learning to:- • count objects, actions and sounds • subitise • link the number symbol (numeral) with its cardinal number value • count beyond ten • compare numbers • understand the 'one more than/one less than' relationship between consecutive numbers • explore the composition of numbers to 10	• Small steps from White Rose maths scheme used to structure curriculum and delivered through a mixture of White Rose resources and practical activities throughout their play. • NCETM and Number Blocks used to support delivery objectives.	• Observations during play linked to Tapestry. • Teacher assessments used to inform progress against Early Learning Goals and data is collected 3 times per year. • Confident and enthusiastic learners who

	• automatically recall number bonds for numbers 0–10. **Early Learning Goal 12 – Shape, Space and Measure** • select, rotate and manipulate shapes in order to develop spatial reasoning skills • compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can • continue, copy and create repeating patterns • compare length, weight and capacity.		are able to access practical resources independently and apply skills throughout their learning. • Children achieving the Early Learning Goals is in line with national average.
Key Stage 1	**Year 1** **Number and place value** • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s • given a number, identify 1 more and 1 less • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • read and write numbers from 1 to 20 in numerals and words **Number - addition and subtraction** • read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including 0 • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9 **Number - multiplication and division** • solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher **Number – fractions** • recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity • recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity **Measurement**	• Daily maths lesson. • Small steps from White Rose maths scheme used to structure curriculum and delivered through a mixture of White Rose resources and supplemented with Twinkl, teacher-made resources and games • Times Tables Rock Stars, Hit The Button, Prodigy and other IT resources are used to support learning • Concrete resources are accessible and are used for practical activities • Number bond cards are sent home.	**This is what you will see:** • Children who are confident maths learners who are willing to make mistakes and persevere when things are challenging • Children who can apply their knowledge throughout the curriculum • Open-ended investigations • Different representations of mathematical concepts • Paired/ group work • A range of different activities including practical investigations • Use of technology • Self-motivated children • Resilient learners

	• compare, describe and solve practical problems for: • lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] • mass/weight [for example, heavy/light, heavier than, lighter than] • capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] • time [for example, quicker, slower, earlier, later] • measure and begin to record the following: • lengths and heights • mass/weight • capacity and volume • time (hours, minutes, seconds) • recognise and know the value of different denominations of coins and notes • sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] • recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times **Geometry - properties of shapes** • recognise and name common 2-D and 3-D shapes, including: • 2-D shapes [for example, rectangles (including squares), circles and triangles] • 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] **Geometry - position and direction** • describe position, direction and movement, including whole, half, quarter and three-quarter turns.		**This is how we know how well our pupils are doing:** • Teachers assess throughout the lesson and adapt tasks appropriately. • Teacher assessments using White Rose maths assessments and Rising Stars as well as verbal assessments to support judgements. Data collected 3 times per year • Pupil progress meetings • At the end of key stage 1 the expected level in maths is in line with national average.
	Year 2 **Number - number and place value** • count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward • recognise the place value of each digit in a two-digit number (10s, 1s) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use <, > and = signs • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems **Number - addition and subtraction**	• Daily maths lesson. • Small steps from White Rose maths scheme used to structure curriculum and delivered through a mixture of White Rose resources and supplemented with Twinkl, teacher-made resources and games	

	• solve problems with addition and subtraction:
	  • using concrete objects and pictorial representations, including those involving numbers, quantities and measures
	  • applying their increasing knowledge of mental and written methods
	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
	• add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
	  • a two-digit number and 1s
	  • a two-digit number and 10s
	  • 2 two-digit numbers
	  • adding 3 one-digit numbers
	• show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot
	• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
	Number - multiplication and division
	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
	• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
	• show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot
	• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
	Number - fractions
	• recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
	• write simple fractions, for example $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
	Measurement
	• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
		• Times Tables Rock Stars, Hit The Button, Prodigy and other IT resources are used to support learning
		• Concrete resources are accessible and are used for practical activities
		• Number bond cards are sent home.	

	• compare and order lengths, mass, volume/capacity and record the results using >, < and = • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change • compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day • **Geometry - properties of shapes** • identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D and 3-D shapes and everyday objects • **Geometry - position and direction** • order and arrange combinations of mathematical objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) **Statistics** • interpret and construct simple pictograms, tally charts, block diagrams and tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data.		
Key Stage 2	**Year 3** **Number - number and place value** • count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) • compare and order numbers up to 1,000 • identify, represent and estimate numbers using different representations	• Small steps from White Rose maths scheme used to structure curriculum and delivered through a mixture	**This is what you will see:** • Children who are confident maths learners who are willing to make mistakes and persevere

	• read and write numbers up to 1,000 in numerals and in words
	• solve number problems and practical problems involving these ideas
	Number - addition and subtraction
	• add and subtract numbers mentally, including:
	  • a three-digit number and 1s
	  • a three-digit number and 10s
	  • a three-digit number and 100s
	• add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction
	• estimate the answer to a calculation and use inverse operations to check answers
	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction
	Number - multiplication and division
	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
	• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
	• solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects
	Number - fractions
	• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
	• recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
	• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
	• recognise and show, using diagrams, equivalent fractions with small denominators
	• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
	• compare and order unit fractions, and fractions with the same denominators
	• solve problems that involve all of the above
	Measurement
	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
	• measure the perimeter of simple 2-D shapes
		of White Rose resources and supplemented with Twinkl, Classroom Secrets, Target Maths, Hamilton Trust, Espresso, NCETM, My Mini Maths, Daily 10, teacher-made resources and games.
		• Times Tables Rock Stars, Hit The Button, Prodigy, Sumdog, Dyslexia Gold Times Tables Tutor and other IT resources are used to support learning.
		• Arithmetic skills and previous learning is revisited frequently using Flashback 4 and other starter activities.
		• BBC Supermovers is used to incorporate physical activity into maths learning.
		• Concrete resources are accessible and are used for practical activities.
		• Times Tables Rock Stars, Hit The Button, Prodigy, Sumdog, Dyslexia Gold Times Tables Tutor and other IT resources are used to support learning.
		• Arithmetic skills and previous learning is revisited frequently using Flashback 4 and other starter activities.
			when things are challenging. They apply their knowledge throughout the curriculum.
			• Children who can apply their knowledge throughout the curriculum
			• Open-ended investigations
			• Different representations of mathematical concepts
			• Paired/ group work
			• A range of different activities including practical investigations
			• Use of technology
			• Self-motivated children
			• Resilient learners
			• The ability to transfer mathematical skills across the curriculum and in real-life contexts
			• Children who are ready for the next step in their education.

	• add and subtract amounts of money to give change, using both £ and p in practical contexts • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example, to calculate the time taken by particular events or tasks] **Geometry - properties of shapes** • draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • recognise angles as a property of shape or a description of a turn • identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines **Statistics** • interpret and present data using bar charts, pictograms and tables • solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	• BBC Supermovers is used to incorporate physical activity into maths learning. • Concrete resources are accessible and are used for practical activities. • Targeted use of support staff.	**This is how we know how well our pupils are doing:** • Teachers assess throughout the lesson and adapt tasks appropriately. • Teacher assessments using White Rose maths assessments, Rising Stars and past SATs papers as well as times tables tests. Data collected 3 times per year. • Pupil progress meetings • Regular making and feedback • Photographic evidence • At the end of key stage 2 the expected level in maths is in line with national average.
	Year 4 **Number - number and place value** • count in multiples of 6, 7, 9, 25 and 1,000 • find 1,000 more or less than a given number • count backwards through 0 to include negative numbers • recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s) • order and compare numbers beyond 1,000 • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1,000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value		

	Number - addition and subtraction • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **Number - multiplication and division** • recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects **Number - fractions (including decimals)** • recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number • add and subtract fractions with the same denominator • recognise and write decimal equivalents of any number of tenths or hundreds • recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with 1 decimal place to the nearest whole number • compare numbers with the same number of decimal places up to 2 decimal places • solve simple measure and money problems involving fractions and decimals to 2 decimal places **Measurement** • convert between different units of measure [for example, kilometre to metre; hour to minute] • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres		

	• find the area of rectilinear shapes by counting squares • estimate, compare and calculate different measures, including money in pounds and pence • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days **Geometry - properties of shape** • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to 2 right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry **Geometry - position and direction** • describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon **Statistics** • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.		
	Year 5 **Number - number and place value** • read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 • round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 • solve number problems and practical problems that involve all of the above • read Roman numerals to 1,000 (M) and recognise years written in Roman numerals **Number - addition and subtraction** • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)		

	• add and subtract numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **Number - multiplication and division** • identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • multiply and divide numbers mentally, drawing upon known facts • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) • solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Number - fractions (including decimals and percentages)** • compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] • add and subtract fractions with the same denominator, and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$]		

	• recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
	• round decimals with 2 decimal places to the nearest whole number and to 1 decimal place
	• read, write, order and compare numbers with up to 3 decimal places
	• solve problems involving number up to 3 decimal places
	• recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction
	• solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25
	Measurement
	• convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]
	• understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
	• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
	• 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
	• estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
	• solve problems involving converting between units of time
	• use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling
	Geometry - properties of shapes
	• identify 3-D shapes, including cubes and other cuboids, from 2-D representations
	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
	• draw given angles, and measure them in degrees (°)
	• identify:
	  • angles at a point and 1 whole turn (total 360°)
	  • angles at a point on a straight line and half a turn (total 180°)
	  • other multiples of 90°
	  • use the properties of rectangles to deduce related facts and find missing lengths and angles		

	• distinguish between regular and irregular polygons based on reasoning about equal sides and angles **Geometry - position and direction** • 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 **Statistics** • solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables.		
	Year 6 **Number - number and place value** • read, write, order and compare numbers up to 10,000,000 and determine the value of each digit • round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across 0 • solve number and practical problems that involve all of the above **Number - addition, subtraction, multiplication and division** • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-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 • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers • identify common factors, common multiples and prime numbers • use their knowledge of the order of operations to carry out calculations involving the 4 operations • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy **Number - Fractions (including decimals and percentages)** • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions >1		

	• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] • identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places • multiply one-digit numbers with up to 2 decimal places by whole numbers • use written division methods in cases where the answer has up to 2 decimal places • solve problems which require answers to be rounded to specified degrees of accuracy • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts **Ratio and proportion** • solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples **Algebra** • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with 2 unknowns • enumerate possibilities of combinations of 2 variables **Measurement** • solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate • 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 up to 3 decimal places		

	• convert between miles and kilometres • recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3] **Geometry - properties of shapes** • draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles **Geometry - position and direction** • describe positions on the full coordinate grid (all 4 quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes **Statistics** • interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average		