LONG TERM OVERVIEW – MATHEMATICS

THRESHOLD CONCEPTS

Know and use numbers	Add and subtract	Multiply and divide	Use fractions	Understand the properties of shapes
This concept involves understanding the number system and how they are used in a wide variety of mathematical ways.	This concept involves understanding both the concepts and processes of addition and subtraction.	This concept involves understanding both the concepts and processes of multiplication and division.	This concept involves understanding the concept of part whole and ways of calculating using it.	This concept involves recognising the names and properties of geometric shapes and angles.
Describe position, direction and movement	**Use measures**	**Use statistics**	**Use algebra**	
This concept involves recognising various types of mathematical movements.	This concept involves becoming familiar with a range of measures, devices used for measuring and calculations.	This concept involves interpreting, manipulating and presenting data in various ways.	This concept involves recognising mathematical properties and relationships using symbolic representations.	

LONG TERM OVERVIEW – MATHEMATICS

EYFS LONG TERM OVERVIEW

Links to KS1 curriculum	Minimum expectations for Preschool	Minimum Expectations for Reception	Links to KS1 curriculum	Minimum expectations for Preschool	Minimum Expectations for Reception
NUMBER-COUNTING Count to and across 100, forwards and backwards, beginning with 0 or 1 or from any given number Begin to recognise place value in numbers beyond 20 **NUMBER SENSE** Identify and represent numbers using objects and pictorial representations including the number line Represent and use number bonds	Rote counting beyond 5 Count backwards from 5 Recite 3 number songs Use number in every day contexts Cardinality to 5 Count fingers/actions/sounds to 5 Subitise to 5 Link numerals and objects to 5 Order numbers to 5 To understand up to the 'threeness of three' Knows that when a five frame is full there are 5 objects and when empty there are 0 Can experiment with their own marks and symbols as well as numerals	Rote counting beyond 20 Count backwards from 20 Recite 5 number songs Use number in every day contexts Cardinality to 20 Count actions/sounds to 20 Subitise to 5+/sensible guess of quantities within 10 Link numerals and objects to 10+ Orders numbers to 20 Partition of sets - exploring the composition of up to 10 eg part/whole Understand that teen numbers are 10+ Can recall some number bonds to 10 Can write numbers to 10	**CALCULATING** Use the language of: equal to, more than, less than (fewer), most, least Given a number, identify one more or one less Read, write and interpret mathematical symbols Add and subtract one-digit and two-digit numbers to 20, including zero Solve one-step problems that involve addition and subtraction	Compares quantities using more than, the same as and fewer than Combines two amounts and know they have more Takes some away and knows that they have 'less' Solves real problems with numbers to three	Children understand the difference between quantity and size Children can find the difference between quantity and size Children can find one more and one less Recognise symbols for addition and subtraction Add 2 single digits to 10 Subtracts a single digit from a number greater than 10 Solves real world problems with numbers to 10+

LONG TERM OVERVIEW – MATHEMATICS

Links to KS1 curriculum	Minimum expectations for Preschool	Minimum Expectations for Reception	Links to KS1 curriculum	Minimum expectations for Preschool	Minimum Expectations for Reception
FRACTIONS Recognise, find and name a half as one of two equal parts of an object, shape or quantity Compare, describe and solve practical problems for double/half	Children share objects between themselves	Understands that sharing is splitting an amount into equal parts Understands that halving is sharing into two equal parts Understands that doubling is adding the same number to itself	**SHAPES** Pupils should be taught to recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles Pupils should be taught to recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres	Talks about and explores 2D shapes using informal and mathematical language – corners, sides Making pictures with shapes	Compose and decompose 2D shapes so that children recognise a shape can have other shapes within it, just as numbers can Explores how many corners and sides other 2D shapes have.
Links to KS1 curriculum	Minimum expectations for Preschool	Minimum Expectations for Reception	Links to KS1 curriculum	Minimum expectations for Preschool	Minimum Expectations for Reception
SPACE Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Pattern making and sorting Can follow instructions of simple positional language Describes a route using simple positional language	Complex repeating patterns Using more complex positional language Uses ordinal language Describes a familiar route using positional language Designs a route	**MEASURES** Compare, describe and solve practical problems for lengths and heights Compare, describe and solve practical problems for mass/weight Compare, describe and solve practical problems for capacity and volume Sequence events in chronological order using language [for example,	Make simple comparisons using 'bigger' and 'smaller', 'shorter' and 'taller' Uses 'big' and 'small', 'short' and 'tall to compare size Make simple comparisons using 'heavier' and 'lighter' Uses 'heavy' and 'light' Make simple comparisons using 'more' and 'less' Uses 'full' and 'empty' to compare capacity	Can order three items by length/height using non-standard measures Uses 'biggest', 'smallest', 'shortest' and 'tallest' Can order three items by weight using non-standard measures Uses 'heaviest', 'lightest' Can order three items by capacity using non-standard measures

LONG TERM OVERVIEW – MATHEMATICS

			before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] Knows some of the days of the week		Uses 'full', 'empty', 'half empty' Children can identify if it takes a shorter or longer time to do something Children can talk about significant times of the day, home time, lunch time etc… and then sequence them Can tell you which day comes before/after a given day

LONG TERM OVERVIEW – MATHEMATICS

YEAR 1

Know and use numbers • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • Given a number, identify one more and one 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	**To add and subtract** • 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 zero • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? – 9.	**To multiply and divide** • 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	**To use fractions** • Recognise, find and name a half as one of two equal parts of an object, shape or quantity • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
To use measures • Compare, describe and solve practical problems for: • lengths and heights [eg, long/short, longer/shorter, tall/short, double/half] • mass/weight [eg, heavy/light, heavier than, lighter than] • capacity and volume [eg, full/empty, more than, less than, half, half full, quarter] • time [eg, quicker, slower, earlier, later] • Measure and begin to record: • 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 • 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	**Understand the properties of shape** • 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]	**Describe position, direction and movement** • Describe position, direction and movement, including whole, half, quarter and three-quarter turns	

LONG TERM OVERVIEW – MATHEMATICS

YEAR 2

Know and use numbers	Add and subtract	Multiply and divide	Use fractions
• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • Recognise the place value of each digit in a two-digit number (tens, ones) • 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	• 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 ones/ -a two-digit number and tens/ -two two-digit numbers /-adding three one-digit numbers • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Recognise and use the inverse relationship between addition and subtraction to check calculations and solve missing number problems	• 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 two numbers can be done in any order (commutative) and division of one 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	• Recognise, find, name and write 1/3, 1/4 , 2/4, 3/4 of a length, shape, set of objects or quantity • Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2
Use measure	**Understand the properties of shape**	**Describe position, direction and movement**	**Use statistics**
• Choose and use appropriate standard units to estimate and measure length/height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using measures • Compare and order lengths, mass, volume/capacity and using >, < and = • Recognise and use symbols for pounds (£) and pence (p); combine amounts • Find different combinations of coins • Solve simple problems in a practical context involving addition and subtraction • 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	• 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	• 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)	• Interpret and construct simple pictograms, tally charts, block diagrams and simple 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

LONG TERM OVERVIEW – MATHEMATICS

YEAR 3

Know and use numbers	Add and subtract	Multiply and divide	Use Fractions
• 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 three-digit number (hundreds, tens, ones) • Compare and order numbers up to 1000 • Identify, represent and estimate numbers using different representations • Read and write numbers up to 1000 in numerals and in words • Solve number problems and practical problems involving these ideas	• Add and subtract numbers mentally, including: • a three-digit number and ones/ a three-digit number and tens/ a three-digit number and hundreds • Add and subtract numbers with up to three 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	• 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	• 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, 5/7+1/7=6/7 • Compare and order unit fractions, and fractions with the same denominators • Solve problems that involve all of the above
Use measures	**Understand the properties of shape**	**Describe position, direction and movement**	**Use statistics**
• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • Measure the perimeter of 2-D shapes • Add and subtract amounts of money to give change, using both £ and p practically • 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 to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., 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]	• 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 two right angles make a half-turn, three make three quarters of a turn and four 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	• No specific new content for Year 3	• 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

LONG TERM OVERVIEW – MATHEMATICS

YEAR 4

Know and use numbers	Add and subtract	Multiply and divide	Use fractions
• Count in multiples of 6, 7, 9, 25 and 1000 • Find 1000 more or less than a given number • Count backwards through zero to include negative numbers • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Order and compare numbers beyond 1000 • Identify, represent and estimate numbers using different representations • Round any number to the nearest 10, 100 or 1000 • 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 zero and place value	• 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	• 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 three 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 one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• 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 one hundred and dividing tenths by ten. • 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 hundredths • Recognise and write decimal equivalents to ¼, ½, ¾ • Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits as ones, tenths and hundredths • Round decimals with one decimal place to the nearest whole number • Compare numbers with the same number of decimal places up to two decimal places • Solve simple measure and money problems involving fractions and decimals to two decimal places
Use measures	**Understand the properties of shape**	**Describe position, direction and movement**	**Use statistics**
• Convert between different units of measure [eg, 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 £ and p • 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 day	• 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 two right angles by size	• 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	• 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

LONG TERM OVERVIEW – MATHEMATICS

	• 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		

LONG TERM OVERVIEW – MATHEMATICS

YEAR 5

Know and use numbers	Add and subtract	Multiply and divide	Use fractions
• 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 zero • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • Solve number problems and practical problems that involve all of the above • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	• 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	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two 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 1000 • 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	• 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, 2/5 + 4/5 = 6/5 = 1 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 = 71/100 • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents/Round decimals with two decimal places to the nearest whole and to one decimal place • Read, write, order and compare numbers with up to three decimal places/Solve problems involving number up to three decimal places • Recognise the per cent 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 • Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25

LONG TERM OVERVIEW – MATHEMATICS

Use measures	Understand the properties of shape	Describe position, direction and movement	Use statistics
• 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 (cm2) and square metres (m2) and estimate the area of irregular shapes • Estimate volume [for example, using 1 cm3 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	• 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 one whole turn/ (total 360°) angles at a point on a straight line and 2 1 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	• 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	• Solve comparison, sum and difference problems using information presented in a line graph • Complete, read and interpret information in tables, including timetables

LONG TERM OVERVIEW – MATHEMATICS

YEAR 6	Know and use numbers	Add and subtract	Multiply and divide	Use fractions	Use measures
	• 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 zero • Solve number and practical problems that involve all of the above	• 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 four operations • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	• 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 four 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	• 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, ¼ x ½ = 1/8 • Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6 • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] • Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • Multiply one-digit numbers with up to two decimal places by whole numbers • Use written division methods in cases where the answer has up to two 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	• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three 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 three 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 (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]

LONG TERM OVERVIEW – MATHEMATICS

Understand the properties of shape	Describe position, direction and movement	Statistics	Ratio and proportion	Algebra
• 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	• Describe positions on the full coordinate grid (all four quadrants) • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	• Interpret and construct pie charts and line graphs and use these to solve problems • Calculate and interpret the mean as an average	• Solve problems involving the relative sizes of two 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	• Use simple formulae • Generate and describe linear number sequences • Express missing number problems algebraically • Find pairs of numbers that satisfy an equation with two unknowns • Enumerate possibilities of combinations of two variables