Maths Key Stage 4 Outline

		Year 9	Year 10	Year 11
9	Enhancing			Generate new ideas and products or ways of viewing things
	Secure			
	Developing			
8	Enhancing			Generate new ideas and products or ways of viewing things
	Secure			
	Developing			
7	Enhancing			Remembering, understanding, applying, analysing and evaluating - justify decisions and defend which opinions are better

	Secure	• Manipulate fractional and negative indices • Solve problems involving direct and inverse proportion • Convert between recurring decimals and fractions • Solve equations using iterative methods • Manipulate algebraic expressions by factorising a quadratic expression of the form $ax^2 + bx + c$ • Solve quadratic equations by factorising • Link graphs of quadratic functions to related equations • Interpret a gradient as a rate of change • Recognise and use the equation of a circle with centre at the origin • Apply trigonometry in two dimensions • Calculate volumes of spheres, cones and pyramids • Understand and use vectors • Analyse data through measures of central tendency, including quartiles	• Manipulate fractional and negative indices • Solve problems involving direct and inverse proportion • Convert between recurring decimals and fractions • Solve equations using iterative methods • Manipulate algebraic expressions by factorising a quadratic expression of the form $ax^2 + bx + c$ • Solve quadratic equations by factorising • Link graphs of quadratic functions to related equations • Interpret a gradient as a rate of change • Recognise and use the equation of a circle with centre at the origin • Apply trigonometry in two dimensions • Calculate volumes of spheres, cones and pyramids • Understand and use vectors • Analyse data through measures of central tendency, including quartiles	• Manipulate fractional and negative indices • Solve problems involving direct and inverse proportion • Convert between recurring decimals and fractions • Solve equations using iterative methods • Manipulate algebraic expressions by factorising a quadratic expression of the form $ax^2 + bx + c$ • Solve quadratic equations by factorising • Link graphs of quadratic functions to related equations • Interpret a gradient as a rate of change • Recognise and use the equation of a circle with centre at the origin • Apply trigonometry in two dimensions • Calculate volumes of spheres, cones and pyramids • Understand and use vectors • Analyse data through measures of central tendency, including quartiles

	Developing	• Know the convention for labelling the sides in a right-angle triangle • Know the trigonometric ratios, sinθ = opposite/hypotenuse, cosθ = adjacent/hypotenuse, tanθ = opposite/adjacent • Know the exact values of sinθ and cosθ for θ = 0°, 30°, 45°, 60° and 90° • Know the exact value of tanθ for θ = 0°, 30°, 45° and 60° • Know that a^1/n = … • Know that a^-n = … • Know the information required to describe a transformation • Know the special case of the difference of two squares • Know how to set up an equation involving direct or inverse proportion • Know set notation • Know the conventions for representing inequalities graphically • Know the formulae for the volume of a sphere, a cone and a pyramid • Know the formulae for the surface area of a sphere, and the curved surface area of a cone • Know the circle theorems • Know the characteristic shape of the graph of an exponential function • Know the meaning of roots, intercepts and turning points • Know the definition of acceleration • Know the corresponding fraction for simple recurring decimals • Know how to construct a box plot • Know the conditions for perpendicular lines	• Know the convention for labelling the sides in a right-angle triangle • Know the trigonometric ratios, sinθ = opposite/hypotenuse, cosθ = adjacent/hypotenuse, tanθ = opposite/adjacent • Know the exact values of sinθ and cosθ for θ = 0°, 30°, 45°, 60° and 90° • Know the exact value of tanθ for θ = 0°, 30°, 45° and 60° • Know that a^1/n = … • Know that a^-n = … • Know the information required to describe a transformation • Know the special case of the difference of two squares • Know how to set up an equation involving direct or inverse proportion • Know set notation • Know the conventions for representing inequalities graphically • Know the formulae for the volume of a sphere, a cone and a pyramid • Know the formulae for the surface area of a sphere, and the curved surface area of a cone • Know the circle theorems • Know the characteristic shape of the graph of an exponential function • Know the meaning of roots, intercepts and turning points • Know the definition of acceleration • Know the corresponding fraction for simple recurring decimals • Know how to construct a box plot • Know the conditions for perpendicular lines	• Know the convention for labelling the sides in a right-angle triangle • Know the trigonometric ratios, sinθ = opposite/hypotenuse, cosθ = adjacent/hypotenuse, tanθ = opposite/adjacent • Know the exact values of sinθ and cosθ for θ = 0°, 30°, 45°, 60° and 90° • Know the exact value of tanθ for θ = 0°, 30°, 45° and 60° • Know that a^1/n = … • Know that a^-n = … • Know the information required to describe a transformation • Know the special case of the difference of two squares • Know how to set up an equation involving direct or inverse proportion • Know set notation • Know the conventions for representing inequalities graphically • Know the formulae for the volume of a sphere, a cone and a pyramid • Know the formulae for the surface area of a sphere, and the curved surface area of a cone • Know the circle theorems • Know the characteristic shape of the graph of an exponential function • Know the meaning of roots, intercepts and turning points • Know the definition of acceleration • Know the corresponding fraction for simple recurring decimals • Know how to construct a box plot • Know the conditions for perpendicular lines

	Enhancing			Remembering, understanding, applying and analysing - examine and compare more complexed systems and justify how they are connected
6	Secure	• Calculate with roots and integer indices • Manipulate algebraic expressions by expanding the product of two binomials • Manipulate algebraic expressions by factorising a quadratic expression of the form $x^2 + bx + c$ • Understand and use the gradient of a straight line to solve problems • Solve two linear simultaneous equations algebraically and graphically • Plot and interpret graphs of quadratic functions • Change freely between compound units • Use ruler and compass methods to construct the perpendicular bisector of a line segment and to bisect an angle • Solve problems involving similar shapes • Calculate exactly with multiples of π • Apply Pythagoras' theorem in two dimensions • Use geometrical reasoning to construct simple proofs • Use tree diagrams to list outcomes	• Calculate with roots and integer indices • Manipulate algebraic expressions by expanding the product of two binomials • Manipulate algebraic expressions by factorising a quadratic expression of the form $x^2 + bx + c$ • Understand and use the gradient of a straight line to solve problems • Solve two linear simultaneous equations algebraically and graphically • Plot and interpret graphs of quadratic functions • Change freely between compound units • Use ruler and compass methods to construct the perpendicular bisector of a line segment and to bisect an angle • Solve problems involving similar shapes • Calculate exactly with multiples of π • Apply Pythagoras' theorem in two dimensions • Use geometrical reasoning to construct simple proofs • Use tree diagrams to list outcomes	• Calculate with roots and integer indices • Manipulate algebraic expressions by expanding the product of two binomials • Manipulate algebraic expressions by factorising a quadratic expression of the form $x^2 + bx + c$ • Understand and use the gradient of a straight line to solve problems • Solve two linear simultaneous equations algebraically and graphically • Plot and interpret graphs of quadratic functions • Change freely between compound units • Use ruler and compass methods to construct the perpendicular bisector of a line segment and to bisect an angle • Solve problems involving similar shapes • Calculate exactly with multiples of π • Apply Pythagoras' theorem in two dimensions • Use geometrical reasoning to construct simple proofs • Use tree diagrams to list outcomes

	Developing	• Know how to interpret the display on a scientific calculator when working with standard form • Know the difference between direct and inverse proportion • Know how to represent an inequality on a number line • Know that the point of intersection of two lines represents the solution to the corresponding simultaneous equations • Know the meaning of a quadratic sequence • Know the characteristic shape of the graph of a cubic function • Know the characteristic shape of the graph of a reciprocal function • Know the definition of speed • Know the definition of density • Know the definition of pressure • Know Pythagoras' theorem • Know the definitions of arc, sector, tangent and segment • Know the conditions for congruent triangles	• Know how to interpret the display on a scientific calculator when working with standard form • Know the difference between direct and inverse proportion • Know how to represent an inequality on a number line • Know that the point of intersection of two lines represents the solution to the corresponding simultaneous equations • Know the meaning of a quadratic sequence • Know the characteristic shape of the graph of a cubic function • Know the characteristic shape of the graph of a reciprocal function • Know the definition of speed • Know the definition of density • Know the definition of pressure • Know Pythagoras' theorem • Know the definitions of arc, sector, tangent and segment • Know the conditions for congruent triangles	• Know how to interpret the display on a scientific calculator when working with standard form • Know the difference between direct and inverse proportion • Know how to represent an inequality on a number line • Know that the point of intersection of two lines represents the solution to the corresponding simultaneous equations • Know the meaning of a quadratic sequence • Know the characteristic shape of the graph of a cubic function • Know the characteristic shape of the graph of a reciprocal function • Know the definition of speed • Know the definition of density • Know the definition of pressure • Know Pythagoras' theorem • Know the definitions of arc, sector, tangent and segment • Know the conditions for congruent triangles
5	Enhancing			Remembering, understanding, applying and analysing - examine and compare and undersatnd how they are connected

	Secure	• Apply the four operations with negative numbers • Convert numbers into standard form and vice versa • Apply the multiplication, division and power laws of indices • Convert between terminating decimals and fractions • Find a relevant multiplier when solving problems involving proportion • Solve problems involving percentage change, including original value problems • Factorise an expression by taking out common factors • Change the subject of a formula when two steps are required • Find and use the nth term for a linear sequence • Solve linear equations with unknowns on both sides • Plot and interpret graphs of linear functions • Apply the formulae for circumference and area of a circle • Calculate theoretical probabilities for single events	• Apply the four operations with negative numbers • Convert numbers into standard form and vice versa • Apply the multiplication, division and power laws of indices • Convert between terminating decimals and fractions • Find a relevant multiplier when solving problems involving proportion • Solve problems involving percentage change, including original value problems • Factorise an expression by taking out common factors • Change the subject of a formula when two steps are required • Find and use the nth term for a linear sequence • Solve linear equations with unknowns on both sides • Plot and interpret graphs of linear functions • Apply the formulae for circumference and area of a circle • Calculate theoretical probabilities for single events	• Apply the four operations with negative numbers • Convert numbers into standard form and vice versa • Apply the multiplication, division and power laws of indices • Convert between terminating decimals and fractions • Find a relevant multiplier when solving problems involving proportion • Solve problems involving percentage change, including original value problems • Factorise an expression by taking out common factors • Change the subject of a formula when two steps are required • Find and use the nth term for a linear sequence • Solve linear equations with unknowns on both sides • Plot and interpret graphs of linear functions • Apply the formulae for circumference and area of a circle • Calculate theoretical probabilities for single events

	Developing	• Know how to write a number as a product of its prime factors • Know how to round to significant figures • Know the order of operations including powers • Know how to enter negative numbers into a calculator • Know that a0 = 1 • Know percentage and decimal equivalents for fractions with a denominator of 3, 5, 8 and 10 • Know the characteristic shape of a graph of a quadratic function • Know how to measure and write bearings • Know how to identify alternate angles • Know how to identify corresponding angles • Know how to find the angle sum of any polygon • Know that circumference = $2\pi r = \pi d$ • Know that area of a circle = πr^2 • Know that volume of prism = area of cross-section × length • Know to use the midpoints of groups to estimate the mean of a set of grouped data • Know that probability is measured on a 0-1 scale • Know that the sum of all probabilities for a single event is 1	• Know how to write a number as a product of its prime factors • Know how to round to significant figures • Know the order of operations including powers • Know how to enter negative numbers into a calculator • Know that a0 = 1 • Know percentage and decimal equivalents for fractions with a denominator of 3, 5, 8 and 10 • Know the characteristic shape of a graph of a quadratic function • Know how to measure and write bearings • Know how to identify alternate angles • Know how to identify corresponding angles • Know how to find the angle sum of any polygon • Know that circumference = $2\pi r = \pi d$ • Know that area of a circle = πr^2 • Know that volume of prism = area of cross-section × length • Know to use the midpoints of groups to estimate the mean of a set of grouped data • Know that probability is measured on a 0-1 scale • Know that the sum of all probabilities for a single event is 1	• Know how to write a number as a product of its prime factors • Know how to round to significant figures • Know the order of operations including powers • Know how to enter negative numbers into a calculator • Know that a0 = 1 • Know percentage and decimal equivalents for fractions with a denominator of 3, 5, 8 and 10 • Know the characteristic shape of a graph of a quadratic function • Know how to measure and write bearings • Know how to identify alternate angles • Know how to identify corresponding angles • Know how to find the angle sum of any polygon • Know that circumference = $2\pi r = \pi d$ • Know that area of a circle = πr^2 • Know that volume of prism = area of cross-section × length • Know to use the midpoints of groups to estimate the mean of a set of grouped data • Know that probability is measured on a 0-1 scale • Know that the sum of all probabilities for a single event is 1
4	Enhancing			Remembering, understaning and applying - Use and interprete information in a new way

	Secure	• Use positive integer powers and associated real roots • Apply the four operations with decimal numbers • Write a quantity as a fraction or percentage of another • Use multiplicative reasoning to interpret percentage change • Add, subtract, multiply and divide with fractions and mixed numbers • Check calculations using approximation, estimation or inverse operations • Simplify and manipulate expressions by collecting like terms • Simplify and manipulate expressions by multiplying a single term over a bracket • Substitute numbers into formulae • Solve linear equations in one unknown • Understand and use lines parallel to the axes, y = x and y = -x • Calculate surface area of cubes and cuboids • Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines	• Use positive integer powers and associated real roots • Apply the four operations with decimal numbers • Write a quantity as a fraction or percentage of another • Use multiplicative reasoning to interpret percentage change • Add, subtract, multiply and divide with fractions and mixed numbers • Check calculations using approximation, estimation or inverse operations • Simplify and manipulate expressions by collecting like terms • Simplify and manipulate expressions by multiplying a single term over a bracket • Substitute numbers into formulae • Solve linear equations in one unknown • Understand and use lines parallel to the axes, y = x and y = -x • Calculate surface area of cubes and cuboids • Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines	• Use positive integer powers and associated real roots • Apply the four operations with decimal numbers • Write a quantity as a fraction or percentage of another • Use multiplicative reasoning to interpret percentage change • Add, subtract, multiply and divide with fractions and mixed numbers • Check calculations using approximation, estimation or inverse operations • Simplify and manipulate expressions by collecting like terms • Simplify and manipulate expressions by multiplying a single term over a bracket • Substitute numbers into formulae • Solve linear equations in one unknown • Understand and use lines parallel to the axes, y = x and y = -x • Calculate surface area of cubes and cuboids • Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines

	Developing		• Know the first 6 cube numbers • Know the first 12 triangular numbers • Know the symbols =, ≠, <, >, ≤, ≥ • Know the order of operations including brackets • Know basic algebraic notation • Know that area of a rectangle = l × w • Know that area of a triangle = b × h ÷ 2 • Know that area of a parallelogram = b × h • Know that area of a trapezium = ((a + b) ÷ 2) × h • Know that volume of a cuboid = l × w × h • Know the meaning of faces, edges and vertices • Know the names of special triangles and quadrilaterals • Know how to work out measures of central tendency • Know how to calculate the range	• Know the first 6 cube numbers • Know the first 12 triangular numbers • Know the symbols =, ≠, <, >, ≤, ≥ • Know the order of operations including brackets • Know basic algebraic notation • Know that area of a rectangle = l × w • Know that area of a triangle = b × h ÷ 2 • Know that area of a parallelogram = b × h • Know that area of a trapezium = ((a + b) ÷ 2) × h • Know that volume of a cuboid = l × w × h • Know the meaning of faces, edges and vertices • Know the names of special triangles and quadrilaterals • Know how to work out measures of central tendency • Know how to calculate the range	• Know the first 6 cube numbers • Know the first 12 triangular numbers • Know the symbols =, ≠, <, >, ≤, ≥ • Know the order of operations including brackets • Know basic algebraic notation • Know that area of a rectangle = l × w • Know that area of a triangle = b × h ÷ 2 • Know that area of a parallelogram = b × h • Know that area of a trapezium = ((a + b) ÷ 2) × h • Know that volume of a cuboid = l × w × h • Know the meaning of faces, edges and vertices • Know the names of special triangles and quadrilaterals • Know how to work out measures of central tendency • Know how to calculate the range
3	Enhancing				Remembering and understanding - explain the ideas and concepts they have remembered

	Secure	• Multiply and divide numbers with up to three decimal places by 10, 100, and 1000 • Use long division to divide numbers up to four digits by a two-digit number • Use simple formulae expressed in words • Generate and describe linear number sequences • Use simple ratio to compare quantities • Write a fraction in its lowest terms by cancelling common factors • Add and subtract fractions and mixed numbers with different denominators • Multiply pairs of fractions in simple cases • Find percentages of quantities • Solve missing angle problems involving triangles, quadrilaterals, angles at a point and angles on a straight line • Calculate the volume of cubes and cuboids • Use coordinates in all four quadrants • Calculate and interpret the mean as an average of a set of discrete data	• Multiply and divide numbers with up to three decimal places by 10, 100, and 1000 • Use long division to divide numbers up to four digits by a two-digit number • Use simple formulae expressed in words • Generate and describe linear number sequences • Use simple ratio to compare quantities • Write a fraction in its lowest terms by cancelling common factors • Add and subtract fractions and mixed numbers with different denominators • Multiply pairs of fractions in simple cases • Find percentages of quantities • Solve missing angle problems involving triangles, quadrilaterals, angles at a point and angles on a straight line • Calculate the volume of cubes and cuboids • Use coordinates in all four quadrants • Calculate and interpret the mean as an average of a set of discrete data	• Multiply and divide numbers with up to three decimal places by 10, 100, and 1000 • Use long division to divide numbers up to four digits by a two-digit number • Use simple formulae expressed in words • Generate and describe linear number sequences • Use simple ratio to compare quantities • Write a fraction in its lowest terms by cancelling common factors • Add and subtract fractions and mixed numbers with different denominators • Multiply pairs of fractions in simple cases • Find percentages of quantities • Solve missing angle problems involving triangles, quadrilaterals, angles at a point and angles on a straight line • Calculate the volume of cubes and cuboids • Use coordinates in all four quadrants • Calculate and interpret the mean as an average of a set of discrete data
	Developing	• Know percentage and decimal equivalents for fractions with a denominator of 2, 3, 4, 5, 8 and 10 • Know the rough equivalence between miles and kilometres • Know that vertically opposite angles are equal • Know that the area of a triangle = base × height ÷ 2 • Know that the area of a parallelogram = base × height • Know that volume is measured in cubes • Know the names of parts of a circle • Know that the diameter of a circle is twice the radius	• Know percentage and decimal equivalents for fractions with a denominator of 2, 3, 4, 5, 8 and 10 • Know the rough equivalence between miles and kilometres • Know that vertically opposite angles are equal • Know that the area of a triangle = base × height ÷ 2 • Know that the area of a parallelogram = base × height • Know that volume is measured in cubes • Know the names of parts of a circle • Know that the diameter of a circle is twice the radius	• Know percentage and decimal equivalents for fractions with a denominator of 2, 3, 4, 5, 8 and 10 • Know the rough equivalence between miles and kilometres • Know that vertically opposite angles are equal • Know that the area of a triangle = base × height ÷ 2 • Know that the area of a parallelogram = base × height • Know that volume is measured in cubes • Know the names of parts of a circle • Know that the diameter of a circle is twice the radius

		• Know the conventions for a 2D coordinate grid • Know that mean = sum of data ÷ number of pieces of data	• Know the conventions for a 2D coordinate grid • Know that mean = sum of data ÷ number of pieces of data	• Know the conventions for a 2D coordinate grid • Know that mean = sum of data ÷ number of pieces of data
2	Enhancing			Remembering - recall concepts

	Secure	• Identify multiples and factors of a number • Count forwards and backwards through zero • Round to one decimal place • Use columnar addition and subtraction with numbers of any size • Multiply a three- or four-digit number by a two-digit number using long multiplication • Divide numbers up to four-digits by a single-digit number using short division and interpret the remainder • Add and subtract fractions with denominators that are multiples of the same number • Write decimals as fractions • Understand that per cent relates to number of parts per hundred • Convert between adjacent metric units of measure for length, capacity and mass • Measure and draw angles • Calculate the area of rectangles • Distinguish between regular and irregular polygons	• Identify multiples and factors of a number • Count forwards and backwards through zero • Round to one decimal place • Use columnar addition and subtraction with numbers of any size • Multiply a three- or four-digit number by a two-digit number using long multiplication • Divide numbers up to four-digits by a single-digit number using short division and interpret the remainder • Add and subtract fractions with denominators that are multiples of the same number • Write decimals as fractions • Understand that per cent relates to number of parts per hundred • Convert between adjacent metric units of measure for length, capacity and mass • Measure and draw angles • Calculate the area of rectangles • Distinguish between regular and irregular polygons	• Identify multiples and factors of a number • Count forwards and backwards through zero • Round to one decimal place • Use columnar addition and subtraction with numbers of any size • Multiply a three- or four-digit number by a two-digit number using long multiplication • Divide numbers up to four-digits by a single-digit number using short division and interpret the remainder • Add and subtract fractions with denominators that are multiples of the same number • Write decimals as fractions • Understand that per cent relates to number of parts per hundred • Convert between adjacent metric units of measure for length, capacity and mass • Measure and draw angles • Calculate the area of rectangles • Distinguish between regular and irregular polygons

	Developing	• Know the place value headings up to millions • Recall primes to 19 • Know the first 12 square numbers • Know the Roman numerals I, V, X, L, C, D, M • Know the % symbol • Know percentage and decimal equivalents for 1/2, 1/4, 1/5, 2/5, 4/5 • Know rough conversions between metric and Imperial units • Know that angles are measured in degrees • Know angles in one whole turn total 360° • Know angles in half a turn total 180° • Know that area of a rectangle = length × width	• Know the place value headings up to millions • Recall primes to 19 • Know the first 12 square numbers • Know the Roman numerals I, V, X, L, C, D, M • Know the % symbol • Know percentage and decimal equivalents for 1/2, 1/4, 1/5, 2/5, 4/5 • Know rough conversions between metric and Imperial units • Know that angles are measured in degrees • Know angles in one whole turn total 360° • Know angles in half a turn total 180° • Know that area of a rectangle = length × width	• Know the place value headings up to millions • Recall primes to 19 • Know the first 12 square numbers • Know the Roman numerals I, V, X, L, C, D, M • Know the % symbol • Know percentage and decimal equivalents for 1/2, 1/4, 1/5, 2/5, 4/5 • Know rough conversions between metric and Imperial units • Know that angles are measured in degrees • Know angles in one whole turn total 360° • Know angles in half a turn total 180° • Know that area of a rectangle = length × width
1	Enhancing			Remember - racall facts

	Secure	• Round any number to the nearest 10, 100, 1000 and round a number with one decimal place to the nearest whole number • Count backwards through zero • Use columnar addition and subtraction with numbers up to four digits • Multiply two- and three-digit numbers by a one-digit number • Use known and derived facts to multiply and divide mentally • Write any number of tenths or hundredths as a decimal • Find families of common equivalent fractions • Add and subtract fractions with the same denominator • Find areas of rectilinear shapes by counting squares • Use a line of symmetry to complete a symmetric shape or pattern • Identify lines of symmetry in 2D shapes • Use coordinates in the first quadrant • Interpret and construct bar charts and time graphs	• Round any number to the nearest 10, 100, 1000 and round a number with one decimal place to the nearest whole number • Count backwards through zero • Use columnar addition and subtraction with numbers up to four digits • Multiply two- and three-digit numbers by a one-digit number • Use known and derived facts to multiply and divide mentally • Write any number of tenths or hundredths as a decimal • Find families of common equivalent fractions • Add and subtract fractions with the same denominator • Find areas of rectilinear shapes by counting squares • Use a line of symmetry to complete a symmetric shape or pattern • Identify lines of symmetry in 2D shapes • Use coordinates in the first quadrant • Interpret and construct bar charts and time graphs	• Round any number to the nearest 10, 100, 1000 and round a number with one decimal place to the nearest whole number • Count backwards through zero • Use columnar addition and subtraction with numbers up to four digits • Multiply two- and three-digit numbers by a one-digit number • Use known and derived facts to multiply and divide mentally • Write any number of tenths or hundredths as a decimal • Find families of common equivalent fractions • Add and subtract fractions with the same denominator • Find areas of rectilinear shapes by counting squares • Use a line of symmetry to complete a symmetric shape or pattern • Identify lines of symmetry in 2D shapes • Use coordinates in the first quadrant • Interpret and construct bar charts and time graphs

	Developing	• Know the place value headings of ones, tens, hundreds and thousands • Know the Roman numerals I, V, X, L, C • Know multiplication facts up to 12 × 12 • Know division facts related to tables up to 12 × 12 • Know decimals equivalents of 1/2, 1/4, 3/4 • Know adjacent time facts involving years, months, weeks, days, hours, minutes and seconds • Know 12- and 24-hour clock conversions • Know the names and connected properties of triangles and quadrilaterals • Know the definitions of acute and obtuse angles • Know that area is measured in squares • Know that perimeter is a measure of length	• Know the place value headings of ones, tens, hundreds and thousands • Know the Roman numerals I, V, X, L, C • Know multiplication facts up to 12 × 12 • Know division facts related to tables up to 12 × 12 • Know decimals equivalents of 1/2, 1/4, 3/4 • Know adjacent time facts involving years, months, weeks, days, hours, minutes and seconds • Know 12- and 24-hour clock conversions • Know the names and connected properties of triangles and quadrilaterals • Know the definitions of acute and obtuse angles • Know that area is measured in squares • Know that perimeter is a measure of length	• Know the place value headings of ones, tens, hundreds and thousands • Know the Roman numerals I, V, X, L, C • Know multiplication facts up to 12 × 12 • Know division facts related to tables up to 12 × 12 • Know decimals equivalents of 1/2, 1/4, 3/4 • Know adjacent time facts involving years, months, weeks, days, hours, minutes and seconds • Know 12- and 24-hour clock conversions • Know the names and connected properties of triangles and quadrilaterals • Know the definitions of acute and obtuse angles • Know that area is measured in squares • Know that perimeter is a measure of length
Base	Enhancing			Remember - racall information

	Secure	• Read and write numbers up to 100 in numerals and in words • Compare and order whole numbers up to 100 • Count from zero in multiples of 2, 3 and 5• Read and write numbers up to 1000 in numerals and in words • Compare and order whole numbers up to 1000 • Count from zero in multiples of 4, 8, 50 and 100 • Add and subtract numbers mentally including a three-digit number and ones, tens and hundreds • Use columnar addition and subtraction with numbers up to three digits • Use known facts to multiply and divide mentally within the 2, 3, 4, 8 and 10 multiplication tables • Multiply a two-digit number by a one-digit number • Understand fractions as proportions • Understand fractions as numbers • Count forward and backwards in tenths • Tell the time using analogue and digital 12-hour clocks • Measure length (mm, cm, m), mass (g, kg) and capacity (ml, l) • Measure perimeters of shapes • Count in tens from any number, forwards and backwards • Add and subtract numbers including a two-digit number and ones, a two-digit number and tens, two two-digit numbers, and three one-digit numbers • Derive addition and subtraction facts to 100	• Read and write numbers up to 100 in numerals and in words • Compare and order whole numbers up to 100 • Count from zero in multiples of 2, 3 and 5• Read and write numbers up to 1000 in numerals and in words • Compare and order whole numbers up to 1000 • Count from zero in multiples of 4, 8, 50 and 100 • Add and subtract numbers mentally including a three-digit number and ones, tens and hundreds • Use columnar addition and subtraction with numbers up to three digits • Use known facts to multiply and divide mentally within the 2, 3, 4, 8 and 10 multiplication tables • Multiply a two-digit number by a one-digit number • Understand fractions as proportions • Understand fractions as numbers • Count forward and backwards in tenths • Tell the time using analogue and digital 12-hour clocks • Measure length (mm, cm, m), mass (g, kg) and capacity (ml, l) • Measure perimeters of shapes • Count in tens from any number, forwards and backwards • Add and subtract numbers including a two-digit number and ones, a two-digit number and tens, two two-digit numbers, and three one-digit numbers • Derive addition and subtraction facts to 100	• Read and write numbers up to 100 in numerals and in words • Compare and order whole numbers up to 100 • Count from zero in multiples of 2, 3 and 5• Read and write numbers up to 1000 in numerals and in words • Compare and order whole numbers up to 1000 • Count from zero in multiples of 4, 8, 50 and 100 • Add and subtract numbers mentally including a three-digit number and ones, tens and hundreds • Use columnar addition and subtraction with numbers up to three digits • Use known facts to multiply and divide mentally within the 2, 3, 4, 8 and 10 multiplication tables • Multiply a two-digit number by a one-digit number • Understand fractions as proportions • Understand fractions as numbers • Count forward and backwards in tenths • Tell the time using analogue and digital 12-hour clocks • Measure length (mm, cm, m), mass (g, kg) and capacity (ml, l) • Measure perimeters of shapes • Count in tens from any number, forwards and backwards • Add and subtract numbers including a two-digit number and ones, a two-digit number and tens, two two-digit numbers, and three one-digit numbers • Derive addition and subtraction facts to 100

		using known facts to 20 • Write multiplication and division statements using correct symbols • Understand that addition and multiplication of two numbers can be done in any order (commutative) and subtraction and division cannot • Recognise and name the fractions 1/3, 1/4, 2/4, 3/4 • Tell the time to the nearest five minutes using an analogue clock, including ‘quarter past’ and ‘quarter to’. • Use a ruler to measure lengths in millimetres and centimetres • Identify and describe 2D and 3D shapes • Use mathematical vocabulary to describe position, direction and movement	using known facts to 20 • Write multiplication and division statements using correct symbols • Understand that addition and multiplication of two numbers can be done in any order (commutative) and subtraction and division cannot • Recognise and name the fractions 1/3, 1/4, 2/4, 3/4 • Tell the time to the nearest five minutes using an analogue clock, including ‘quarter past’ and ‘quarter to’. • Use a ruler to measure lengths in millimetres and centimetres • Identify and describe 2D and 3D shapes • Use mathematical vocabulary to describe position, direction and movement	using known facts to 20 • Write multiplication and division statements using correct symbols • Understand that addition and multiplication of two numbers can be done in any order (commutative) and subtraction and division cannot • Recognise and name the fractions 1/3, 1/4, 2/4, 3/4 • Tell the time to the nearest five minutes using an analogue clock, including ‘quarter past’ and ‘quarter to’. • Use a ruler to measure lengths in millimetres and centimetres • Identify and describe 2D and 3D shapes • Use mathematical vocabulary to describe position, direction and movement

	Developing	• Know the place value headings of ones and tens • Know that zero is a placeholder • Know the symbols =, <, >, ×, ÷• Know the place value headings of tenths, ones, tens and hundreds • Know multiplication facts for the 3, 4 and 8 multiplication tables • Know division facts related to the 3, 4 and 8 multiplication tables • Know that a right angle is ¼ of a turn • Know the number of days in each month • Know the number days in a year and a leap year • Know that 60 seconds = 1 minute • Know the Roman numerals from I to XII • Know the vocabulary of time including o'clock, a.m., p.m., morning afternoon, noon and midnight • Know the meaning of 'perimeter' • Know the meaning of odd and even numbers • Know doubles and halves up to 20 • Know addition and subtraction facts to 20 • Know multiplication facts for the 2, 5 and 10 multiplication tables • Know division facts related to the 2, 5 and 10 multiplication tables • Know that 60 minutes = 1 hour • Know that 24 hours = 1 day • Know the symbols for pounds (£) and pence (p) • Know the standard units for length (m, cm), mass (kg, g), temperature (°C) and capacity (litres/ml) • Know the names and number of sides of 2D	• Know the place value headings of ones and tens • Know that zero is a placeholder • Know the symbols =, <, >, ×, ÷• Know the place value headings of tenths, ones, tens and hundreds • Know multiplication facts for the 3, 4 and 8 multiplication tables • Know division facts related to the 3, 4 and 8 multiplication tables • Know that a right angle is ¼ of a turn • Know the number of days in each month • Know the number days in a year and a leap year • Know that 60 seconds = 1 minute • Know the Roman numerals from I to XII • Know the vocabulary of time including o'clock, a.m., p.m., morning afternoon, noon and midnight • Know the meaning of 'perimeter' • Know the meaning of odd and even numbers • Know doubles and halves up to 20 • Know addition and subtraction facts to 20 • Know multiplication facts for the 2, 5 and 10 multiplication tables • Know division facts related to the 2, 5 and 10 multiplication tables • Know that 60 minutes = 1 hour • Know that 24 hours = 1 day • Know the symbols for pounds (£) and pence (p) • Know the standard units for length (m, cm), mass (kg, g), temperature (°C) and capacity (litres/ml) • Know the names and number of sides of 2D	• Know the place value headings of ones and tens • Know that zero is a placeholder • Know the symbols =, <, >, ×, ÷• Know the place value headings of tenths, ones, tens and hundreds • Know multiplication facts for the 3, 4 and 8 multiplication tables • Know division facts related to the 3, 4 and 8 multiplication tables • Know that a right angle is ¼ of a turn • Know the number of days in each month • Know the number days in a year and a leap year • Know that 60 seconds = 1 minute • Know the Roman numerals from I to XII • Know the vocabulary of time including o'clock, a.m., p.m., morning afternoon, noon and midnight • Know the meaning of 'perimeter' • Know the meaning of odd and even numbers • Know doubles and halves up to 20 • Know addition and subtraction facts to 20 • Know multiplication facts for the 2, 5 and 10 multiplication tables • Know division facts related to the 2, 5 and 10 multiplication tables • Know that 60 minutes = 1 hour • Know that 24 hours = 1 day • Know the symbols for pounds (£) and pence (p) • Know the standard units for length (m, cm), mass (kg, g), temperature (°C) and capacity (litres/ml) • Know the names and number of sides of 2D

		shapes • Known the meaning of ‘edges’, ‘faces’ and ‘vertices’ • Know the names and number of faces of 3D shapes	shapes • Known the meaning of ‘edges’, ‘faces’ and ‘vertices’ • Know the names and number of faces of 3D shapes	shapes • Known the meaning of ‘edges’, ‘faces’ and ‘vertices’ • Know the names and number of faces of 3D shapes