	Working towards Y7 Expected standards	Y7 Expected Standards	Y8 Expected Standards + knowledge of Y7 standards	Y9 Expected Standards + knowledge of Y8 standards (Y9 GCSE SoW)	Working above Y9 Expected Standards (Y10 GCSE SoW)	Working well above Y9 Expected Standards (Y11 GCSE SoW)
Number	* Multiply and divide whole numbers by 10 and 100. *Round positive whole numbers to the nearest 10 and 100. * Understand negative numbers & order them. * Use standard column procedures to + & - whole numbers and decimals with up to 1 place. * Multiply and divide 2 and 3-digit by 1-digit whole numbers. * Recognise multiples or factors. *Know that squaring a number means multiply it by itself *Use fraction notation to describe parts of shapes. *Reduce a simple fractions to its simplest form. *Begin to add & subtract simple fractions, only those with common denominators or calculate simple fractions of quantities & measurements.	*Multiply and divide whole numbers by 10, 100, 1000 & explain the effect, compare and order decimals in different contexts & units. *Round positive whole numbers to the nearest 10, 100 or 1000 & decimals to the nearest whole number. *Understand negative numbers, order them and perform simple calculations involving negative numbers. *Use standard column procedures to add and subtract whole numbers and decimals with up to two places and interpret different contexts. *Multiply and divide three-digit by two-digit whole numbers. Multiply and divide decimals by single-digit whole numbers. *Recognise and use multiples and factors. *Know the square numbers up to 10 x 10. *Use fraction notation to describe parts of shapes and to express a smaller whole number as a fraction of a larger one. Use a diagram to compare two or more simple fractions. *Reduce a fraction to its simplest form by cancelling common factors. *Can add & subtract simple fractions, only those with common denominators. Calculate simple fractions of quantities and measurements. *Understand percentage as the 'number of parts per 100'.	*Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000 and explain the effect. *Use known facts, place value, knowledge of operations and brackets to calculate including using all four operations with decimals to two places. *Apply inverse operations and approximate to check answers to problems are of the correct magnitude. *Understand and use an appropriate non-calculator method for solving problems that involve multiplying and dividing any three digit number by any two-digit number. *Use squares, positive & negative square roots, cubes & cube roots, and index notation for small positive integer powers. Use index notation for integer powers and simple instances of the index laws. *Recognise and use number patterns and relationships eg. multiples, factors, primes. Including set theory, using Venn diagrams: appreciate the infinite nature of the sets of integers, real and rational numbers. *Reduce a fraction to its simplest form by cancelling common factors. * Add and subtract fractions that have a common denominator, including mixed numbers. *Use a calculator where appropriate to calculate fractions/percentages of quantities/measurements. *Round decimals to the nearest decimal place; order, subtract and add negative numbers in context. *Simple fraction decimal conversions.	*Rounding to decimal places & significant figures. *Order integers, decimals and fractions *Add, subtract, multiply and divide negative numbers. *Hierarchy of operations (BIDMAS). *Using functions, interpret the reverse process as the 'inverse function'. *Laws of indices. *Able to change ordinary numbers to standard form & vice versa. *Able to find Multiples, Factors & Primes. *Add/Subtract/Multiply/Divide fractions w/out a calculator. *Percentage increase & decrease *Compound Interest & depreciation *Calculate reverse percentages *Can calculate one quantity as a percentage of another. *Work interchangeably with terminating decimals and their corresponding fractions.	*Find limits of accuracy. *Solve problems involving limits of accuracy. *Perform standard form calculations with & without a calculator. *Rational numbers and reciprocals. *Able to manipulate surds. *Find the LCM and HCF using Prime Factors, including use of Venn diagrams. *Add/Subtract/Multiply/Divide fractions with a calculator. *Change recurring decimals into their corresponding fractions and vice versa. *Change freely between related standard units eg. time, length, area, volume/capacity, mass and compound units e.g. speed, rates of pay, prices, density, pressure in numerical and algebraic contexts.	*Find exact solutions involving fractions, surds and multiples of π; simplify surd expressions and rationalise.
Ratio & Proportion & Rates of Change	*Use ratio notation. * Recognise simple number patterns and relationships.	*Use ratio notation, reduce a ratio to its simplest form. *Recognise and use simple number patterns and relationships.	*Understand simple ratio, Consolidate understanding of the relationship between ratio and proportion. *Reduce a ratio to its simplest form, including a ratio expressed in different units, recognising links with fraction notation *Divide a quantity into two or more parts in a given ratio; use the unitary method to solve simple word problems involving ratio and direct proportion. *Solve simple problems involving ratio and direct proportion. *Use equivalence between fractions and order fractions and decimals.	*Solving problems involving Distance, Speed and Time. *Solving problems involving Direct Proportion & Best Buys.	*Plot and interpret graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance & speed. *Solving problems involving Density, Mass and Volume.	* Plot & interpret graphs and solve problems involving acceleration.

Algebra	*Describe simple integer sequences. *Know the meanings of *term, expression* or *equation*. *Begin to be able to simplify linear algebraic expressions by collecting positive like terms. *Express and solve simple functions in words.	*Describe simple integer sequences, generate terms of a simple sequence given a rule and practical contexts. *Know the meanings of *term, expression* and *equation*. *Simplify linear algebraic expressions by collecting positive like terms. *Express and solve simple functions in words, then using symbols; represent them in mappings. *Use and interpret conventions/ notation for 2-D coordinates in the first quadrant.	*Generate terms of a sequence using term-to-term and position-to-term definitions of the sequence. *Construct, express in symbolic form, and use simple formulae involving one or two operations. *Substitute integers into formulae. *Simplify and transform linear expressions by collecting like terms. *Multiply a single bracket. *Construct & solve simple linear equations with integer coefficients. *Begin to use graphs and set up equations to solve simple problems involving direct proportion. *Use and interpret Coordinates in all four quadrants.	*Substitute into formulae & expressions, incl. scientific formulae. *Change of subject for simple formulae. *Expand double brackets. *Factorise simple algebraic expressions. *Construct & solve linear equations. *Understand and use the concepts and vocabulary of identities & inequalities. *Able to draw Linear Graphs by plotting. *Know the difference between an equation and an identity.	*Using functions, interpret the succession of two functions as a 'composite function' (the use of formal function notation is expected). *Manipulate algebraic expressions. *Change of subject for harder formulae *Simplify algebraic fractions. *Simplifying expressions involving sums, products and powers, including the laws of indices. *Solve simultaneous equations. *Solving problems using simultaneous equations. *Solve Inequalities. *Able to use y=mx+c to draw a graph. *Factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares. *Use trial & improvement. *Argue mathematically to show algebraic expressions are equivalent. *Use algebra to support and construct simple arguments and proofs.	*Solve simultaneous equations – one linear and one non-linear – algebraically & with graphs. *Solving equations by the method of intersection. *Shade regions by graphing Inequalities. *Able to find the equation of graphs of related parallel and perpendicular lines. *Able to draw Quadratic Graphs. *Recognise significant Points on quadratic graphs *Recognise & sketch other graphs eg. Cubic & reciprocal. *Recognise & sketch the trig graphs. *Transformation of graphs y = f(x) *Factorising quadratic expressions of the form: $ax^2 + bx + c$ (a≠1). *Solving quadratic equations by factorisation. *Solving quadratic equations by the quadratic formula. *Solving quadratic equation by completing the square. *Solving problems involving quadratic equations. *Using trial & Improvement, using iteration. *Use algebra to support and construct harder arguments and proofs.
Geometry & Measures	*Identify a line of symmetry of a 2-D shape. *Is able to find the perimeter and area of a rectangle by counting. *Is able to identify coordinates in the first quadrant *Is beginning to be able to read simple scales. * Can recognise and know the names of triangles. *Identify parallel lines; know the sum of angles at a point or on a straight line or in a triangle. *Is beginning to be able to use a protractor.	*Identify all the symmetries of 2-D shapes. *Reflect simple shapes in a mirror line. *Know and use the formula for the perimeter and area of a rectangle. *Read and interpret simple scales on a range of measuring instruments. *Use vocabulary, notation & labelling conventions for lines, the sides & angles of triangles & other shapes. *Identify parallel lines; know the sum of angles at a point, on a straight line and in a triangle. *Use a protractor to measure acute angles.	*Use a wider range of properties of 2-D and 3-D shapes and identify all the symmetries of 2-D shapes. *Reason about position and movement and transform shapes. *Understand and use the formula for the area of a rectangle and distinguish area from perimeter. *Read and interpret scales on a range of measuring instruments, including protractor, explaining what each labelled division represents. *Solve problems involving the conversion of units and make sensible estimates of a range of measures in relation to everyday situations. *Use language associated with angle and know and use the angle sum of a triangle and that of angles at a point. Begin to recognise alternate and corresponding angles. *Measure and draw angles to the nearest degree, when constructing models and drawing or using shapes.	*Able to perform translations, reflections, rotations & simple enlargements. *Calculate area of Triangles and parallelograms. *Circumference and Area of a Circle. *Measure line segments and angles in geometric figures, including interpreting maps, scale drawings & use of bearings. *Calculate interior & exterior angles in polygons.	*Able to perform enlargements using a positive scale factor. *Able to perform combined transformations. *Length, area and volume of similar shapes. *Using properties of congruent triangles. *Calculate area of trapezia. *Calculate area of a sector. *Construction of triangles, bisectors & defining a locus. *Construct nets of 3D shapes *Use Pythagoras' theorem to calculate a missing side. *Use the Circle theorems, Cyclic quadrilaterals, tangents and chords.	*Able to perform enlargements using a negative scale factor. *Calculate area of a segment. *Calculate the volume & surface area of a prism. *Calculate the volume & surface area of a cylinder. *Solving problems involving loci. *Construct and interpret plans and elevations of 3D shapes. *Use Pythagoras' theorem in real life situations or In 3D *Use the Alternate segment theorem.
Probability & Statistics	* Is able to construct tally charts for discrete data. * Find the mode, mean, median or range for discrete data.	*Ask questions, plan how to answer them and collect & organise the data required, using a simple data collection sheet. Construct tally charts for discrete data. *Find the mode, mean, median and range for discrete data and the modal class for grouped data.	*Ask questions, plan how to answer them and collect the data required. *Understand and use the mean of discrete data and compare two simple distributions, using the range and one of mode, median or mean.	*Interpret and construct vertical line charts for ungrouped discrete numerical data. *Use appropriate measures of central tendency & spread (range). *Interpret and construct line graphs for time series data and know their appropriate use. *Interpret, analyse and compare the distributions of data sets through appropriate graphical representation involving discrete,	*Interpret & construct Stem & Leaf Diagrams. *Interpret & construct scatter diagrams. *Use appropriate measures of central tendency & spread (including consideration of outliers, quartiles and inter-quartile range). *Construct suitable surveys & questionnaires.	*Interpret & construct histograms (including bars of unequal widths) *Interpret & construct cumulative distribution diagrams. *Interpret & construct box plots. *Able to use suitable sampling techniques.

*Is able to draw and interpret a bar or bar-line graph.	*Construct graphs and diagrams to represent data, including: bar-line graphs; for discrete data. Interpret graphs and diagrams, excluding pie charts.	*Interpret graphs and diagrams, including pie charts, and draw conclusions. *Create and interpret line graphs where the intermediate values have meaning.	continuous and grouped data, including box plots *Understand the meaning of mutually exclusive and exhaustive events. *Use two way tables.	*Use of Venn Diagrams to calculate probability *Able to use the addition rule for events. *Able to calculate probability of compound events.
*Is able to use some basic vocabulary to describe probability. *Is able to use the probability scale for 0, 0.5 and 1. * Record probability from a simple experiment and record in a frequency table.	*Use vocabulary and ideas of probability, drawing on experience. *Understand and use the probability scale from 0 to 1. *Collect, record and estimate probability from a simple experiment and record in a frequency table.	*In probability, select methods based on equally likely outcomes and experimental evidence, as appropriate and use Venn diagrams. *Understand and use the probability scale from 0 to 1. *Understand that different outcomes may result from repeating an experiment.		

	Working towards Y7 Expected standards	Y7 Expected Standards *MEETING*	Working above Y7 Expected Standards	Working well above Y7 Expected Standards
Number	* Multiply and divide whole numbers by 10 and 100. *Round positive whole numbers to the nearest 10 and 100. * Understand negative numbers & order them. * Use standard column procedures to + & - whole numbers and decimals with up to 1 place. * Multiply and divide 2 and 3-digit by 1-digit whole numbers. * Recognise multiples or factors. *Know that squaring a number means multiply it by itself *Use fraction notation to describe parts of shapes. *Reduce a simple fractions to its simplest form. *Begin to add & subtract simple fractions, only those with common denominators or calculate <u>simple</u> fractions of quantities & measurements.	*Multiply and divide whole numbers by 10, 100, 1000 & explain the effect, compare and order decimals in different contexts & units. *Round positive whole numbers to the nearest 10, 100 or 1000 & decimals to the nearest whole number. *Understand negative numbers, order them and perform simple calculations involving negative numbers. *Use standard column procedures to add and subtract whole numbers and decimals with up to two places and interpret different contexts. *Multiply and divide three-digit by two-digit whole numbers. Multiply and divide decimals by single-digit whole numbers. *Recognise and use multiples and factors. *Know the square numbers up to 10 x 10. *Use fraction notation to describe parts of shapes and to express a smaller whole number as a fraction of a larger one. Use a diagram to compare two or more simple fractions. *Reduce a fraction to its simplest form by cancelling common factors. *Can add & subtract simple fractions, only those with common denominators. Calculate <u>simple</u> fractions of quantities and measurements. *Understand percentage as the 'number of parts per 100'.	*Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000 and explain the effect. *Use known facts, place value, knowledge of operations and brackets to calculate including using all four operations with decimals to two places. *Apply inverse operations and approximate to check answers to problems are of the correct magnitude. *Understand and use an appropriate non-calculator method for solving problems that involve multiplying and dividing any three digit number by any two-digit number. *Use squares, positive & negative square roots, cubes & cube roots, and index notation for small positive integer powers. Use index notation for integer powers and simple instances of the index laws. *Recognise and use number patterns and relationships eg. multiples, factors, primes. Including set theory, using Venn diagrams: appreciate the infinite nature of the sets of integers, real and rational numbers. *Reduce a fraction to its simplest form by cancelling common factors. * Add and subtract fractions that have a common denominator, including mixed numbers. *Use a calculator where appropriate to calculate fractions/percentages of quantities/measurements. *Round decimals to the nearest decimal place; order, subtract and add negative numbers in context. *Simple fraction decimal conversions.	*Rounding to decimal places & significant figures. *Order integers, decimals and fractions *Add, subtract, multiply and divide negative numbers. *Hierarchy of operations (BIDMAS). *Using functions, interpret the reverse process as the 'inverse function'. *Laws of indices. *Able to change ordinary numbers to standard form & vice versa. *Able to find Multiples, Factors & Primes. *Add/Subtract/Multiply/Divide fractions w/out a calculator. *Percentage increase & decrease *Compound Interest & depreciation *Calculate reverse percentages *Can calculate one quantity as a percentage of another. *Work interchangeably with terminating decimals and their corresponding fractions.

Ratio & Proportion & Rates of Change	*Use ratio notation. * Recognise simple number patterns and relationships.	*Use ratio notation, reduce a ratio to its simplest form. *Recognise and use simple number patterns and relationships.	*Understand simple ratio, Consolidate understanding of the relationship between ratio and proportion. *Reduce a ratio to its simplest form, including a ratio expressed in different units, recognising links with fraction notation *Divide a quantity into two or more parts in a given ratio; use the unitary method to solve simple word problems involving ratio and direct proportion. *Solve simple problems involving ratio and direct proportion. *Use equivalence between fractions and order fractions and decimals.	*Solving problems involving Distance, Speed and Time. *Solving problems involving Direct Proportion & Best Buys.
Algebra	*Describe simple integer sequences. *Know the meanings of *term, expression* or *equation*. *Begin to be able to simplify linear algebraic expressions by collecting positive like terms. *Express and solve simple functions in words.	*Describe simple integer sequences, generate terms of a simple sequence given a rule and practical contexts. *Know the meanings of *term, expression* and *equation*. *Simplify linear algebraic expressions by collecting positive like terms. *Express and solve simple functions in words, then using symbols; represent them in mappings. *Use and interpret conventions/ notation for 2-D coordinates in the first quadrant.	*Generate terms of a sequence using term-to-term and position-to-term definitions of the sequence. *Construct, express in symbolic form, and use simple formulae involving one or two operations. *Substitute integers into formulae. *Simplify and transform linear expressions by collecting like terms. *Multiply a single bracket. *Construct & solve simple linear equations with integer coefficients. *Begin to use graphs and set up equations to solve simple problems involving direct proportion. *Use and interpret Coordinates in all four quadrants.	*Substitute into formulae & expressions, incl. scientific formulae. *Change of subject for simple formulae. *Expand double brackets. *Factorise simple algebraic expressions. *Construct & solve linear equations. *Understand and use the concepts and vocabulary of identities & inequalities. *Able to draw Linear Graphs by plotting. *Know the difference between an equation and an identity.
Geometry & Measures	*Identify a line of symmetry of a 2-D shape. *Is able to find the perimeter and area of a rectangle by counting. *Is able to identify coordinates in the first quadrant *Is beginning to be able to read simple scales. * Can recognise and know the names of triangles. *Identify parallel lines; know the sum of angles at a point or on a straight line or in a triangle. *Is beginning to be able to use a protractor.	*Identify all the symmetries of 2-D shapes. *Reflect simple shapes in a mirror line. *Know and use the formula for the perimeter and area of a rectangle. *Read and interpret simple scales on a range of measuring instruments. *Use vocabulary, notation & labelling conventions for lines, the sides & angles of triangles & other shapes. *Identify parallel lines; know the sum of angles at a point, on a straight line and in a triangle. *Use a protractor to measure acute angles.	*Use a wider range of properties of 2-D and 3-D shapes and identify all the symmetries of 2-D shapes. *Reason about position and movement and transform shapes. *Understand and use the formula for the area of a rectangle and distinguish area from perimeter. *Read and interpret scales on a range of measuring instruments, including protractor, explaining what each labelled division represents. *Solve problems involving the conversion of units and make sensible estimates of a range of measures in relation to everyday situations. *Use language associated with angle and know and use the angle sum of a triangle and that of angles at a point. Begin to recognise alternate and corresponding angles. *Measure and draw angles to the nearest degree, when constructing models and drawing or using shapes.	*Able to perform translations, reflections, rotations & simple enlargements. *Calculate area of Triangles and parallelograms. *Circumference and Area of a Circle. *Measure line segments and angles in geometric figures, including interpreting maps, scale drawings & use of bearings. *Calculate interior & exterior angles in polygons.
Probability & Statistics	* Is able to construct tally charts for discrete data. * Find the mode, mean, median or range for discrete data.	*Ask questions, plan how to answer them and collect & organise the data required, using a simple data collection sheet. Construct tally charts for discrete data. *Find the mode, mean, median and range for discrete data and the modal class for grouped data.	*Ask questions, plan how to answer them and collect the data required. *Understand and use the mean of discrete data and compare two simple distributions, using the range and one of mode, median or mean.	*Interpret and construct vertical line charts for ungrouped discrete numerical data. *Use appropriate measures of central tendency & spread (range). *Interpret and construct line graphs for time series data and know their appropriate use. *Interpret, analyse and compare the distributions of data sets through appropriate graphical representation involving discrete, continuous and grouped data, including box plots

*Is able to draw and interpret a bar or bar-line graph.	*Construct graphs and diagrams to represent data, including: bar-line graphs; for discrete data. Interpret graphs and diagrams, excluding pie charts.	*Interpret graphs and diagrams, including pie charts, and draw conclusions. *Create and interpret line graphs where the intermediate values have meaning.	*Understand the meaning of mutually exclusive and exhaustive events. *Use two way tables.
*Is able to use some basic vocabulary to describe probability. *Is able to use the probability scale for 0, 0.5 and 1. * Record probability from a simple experiment and record in a frequency table.	*Use vocabulary and ideas of probability, drawing on experience. *Understand and use the probability scale from 0 to 1. *Collect, record and estimate probability from a simple experiment and record in a frequency table.	*In probability, select methods based on equally likely outcomes and experimental evidence, as appropriate and use Venn diagrams. *Understand and use the probability scale from 0 to 1. *Understand that different outcomes may result from repeating an experiment.	

	Working towards Y8 Expected standards	Y8 Expected Standards *MEETING*	Working above Y8 Expected Standards	Working well above Y8 Expected Standards
Number	*Multiply and divide whole numbers by 10, 100, 1000 & explain the effect, compare and order decimals in different contexts & units. *Round positive whole numbers to the nearest 10, 100 or 1000 & decimals to the nearest whole number. *Understand negative numbers, order them and perform simple calculations involving negative numbers. *Use standard column procedures to add and subtract whole numbers and decimals with up to two places and interpret different contexts. *Multiply and divide three-digit by two-digit whole numbers. Multiply and divide decimals by single-digit whole numbers. *Recognise and use multiples and factors. *Know the square numbers up to 10 x 10. *Use fraction notation to describe parts of shapes and to express a smaller whole number as a fraction of a larger one. Use a diagram to compare two or more simple fractions. *Reduce a fraction to its simplest form by cancelling common factors. *Can add & subtract simple fractions, only those with common denominators. Calculate <u>simple</u> fractions of quantities and measurements. *Understand percentage as the 'number of parts per 100'.	*Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000 and explain the effect. *Use known facts, place value, knowledge of operations and brackets to calculate including using all four operations with decimals to two places. *Apply inverse operations and approximate to check answers to problems are of the correct magnitude. *Understand and use an appropriate non-calculator method for solving problems that involve multiplying and dividing any three digit number by any two-digit number. *Use squares, positive & negative square roots, cubes & cube roots, and index notation for small positive integer powers. Use index notation for integer powers and simple instances of the index laws. *Recognise and use number patterns and relationships eg. multiples, factors, primes. Including set theory, using Venn diagrams: appreciate the infinite nature of the sets of integers, real and rational numbers. *Reduce a fraction to its simplest form by cancelling common factors. * Add and subtract fractions that have a common denominator, including mixed numbers. *Use a calculator where appropriate to calculate fractions/percentages of quantities/measurements. *Round decimals to the nearest decimal place; order, subtract and add negative numbers in context. *Simple fraction decimal conversions.	*Rounding to decimal places & significant figures. *Order integers, decimals and fractions *Add, subtract, multiply and divide negative numbers. *Hierarchy of operations (BIDMAS). *Using functions, interpret the reverse process as the 'inverse function'. *Laws of indices. *Able to change ordinary numbers to standard form & vice versa. *Able to find Multiples, Factors & Primes. *Add/Subtract/Multiply/Divide fractions w/out a calculator. *Percentage increase & decrease *Compound Interest & depreciation *Calculate reverse percentages *Can calculate one quantity as a percentage of another. *Work interchangeably with terminating decimals and their corresponding fractions.	*Find limits of accuracy. *Solve problems involving limits of accuracy. *Perform standard form calculations with & without a calculator. *Rational numbers and reciprocals. *Able to manipulate surds. *Find the LCM and HCF using Prime Factors, including use of Venn diagrams. *Add/Subtract/Multiply/Divide fractions with a calculator. *Change recurring decimals into their corresponding fractions and vice versa. *Change freely between related standard units eg. time, length, area, volume/capacity, mass and compound units e.g. speed, rates of pay, prices, density, pressure in numerical and algebraic contexts.

Ratio & Proportion & Rates of Change	*Use ratio notation, reduce a ratio to its simplest form. *Recognise and use simple number patterns and relationships.	*Understand simple ratio, Consolidate understanding of the relationship between ratio and proportion. *Reduce a ratio to its simplest form, including a ratio expressed in different units, recognising links with fraction notation *Divide a quantity into two or more parts in a given ratio; use the unitary method to solve simple word problems involving ratio and direct proportion. *Solve simple problems involving ratio and direct proportion. *Use equivalence between fractions and order fractions and decimals.	*Solving problems involving Distance, Speed and Time. *Solving problems involving Direct Proportion & Best Buys.	*Plot and interpret graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance & speed. *Solving problems involving Density, Mass and Volume.
Algebra	*Describe simple integer sequences, generate terms of a simple sequence given a rule and practical contexts. *Know the meanings of *term, expression* and *equation*. *Simplify linear algebraic expressions by collecting positive like terms. *Express and solve simple functions in words, then using symbols; represent them in mappings. *Use and interpret conventions/ notation for 2-D coordinates in the first quadrant.	*Generate terms of a sequence using term-to-term and position-to-term definitions of the sequence. *Construct, express in symbolic form, and use simple formulae involving one or two operations. *Substitute integers into formulae. *Simplify and transform linear expressions by collecting like terms. *Multiply a single bracket. *Construct & solve simple linear equations with integer coefficients. *Begin to use graphs and set up equations to solve simple problems involving direct proportion. *Use and interpret Coordinates in all four quadrants.	*Substitute into formulae & expressions, incl. scientific formulae. *Change of subject for simple formulae. *Expand double brackets. *Factorise simple algebraic expressions. *Construct & solve linear equations. *Understand and use the concepts and vocabulary of identities & inequalities. *Able to draw Linear Graphs by plotting. *Know the difference between an equation and an identity.	*Using functions, interpret the succession of two functions as a 'composite function' (the use of formal function notation is expected). *Manipulate algebraic expressions. *Change of subject for harder formulae *Simplify algebraic fractions. *Simplifying expressions involving sums, products and powers, including the laws of indices. *Solve simultaneous equations. *Solving problems using simultaneous equations. *Solve Inequalities. *Able to use $y=mx+c$ to draw a graph. *Factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares. *Use trial & improvement. *Argue mathematically to show algebraic expressions are equivalent. *Use algebra to support and construct simple arguments and proofs.
Geometry & Measures	*Identify all the symmetries of 2-D shapes. *Reflect simple shapes in a mirror line. *Know and use the formula for the perimeter and area of a rectangle. *Read and interpret simple scales on a range of measuring instruments.	*Use a wider range of properties of 2-D and 3-D shapes and identify all the symmetries of 2-D shapes. *Reason about position and movement and transform shapes. *Understand and use the formula for the area of a rectangle and distinguish area from perimeter. *Read and interpret scales on a range of measuring instruments, including protractor, explaining what each labelled division represents.	*Able to perform translations, reflections, rotations & simple enlargements. *Calculate area of Triangles and parallelograms. *Circumference and Area of a Circle. *Measure line segments and angles in geometric figures, including interpreting maps, scale drawings & use of bearings.	*Able to perform enlargements using a positive scale factor. *Able to perform combined transformations. *Length, area and volume of similar shapes. *Using properties of congruent triangles. *Calculate area of trapezia. *Calculate area of a sector. *Construction of triangles, bisectors & defining a locus.

	*Use vocabulary, notation & labelling conventions for lines, the sides & angles of triangles & other shapes. *Identify parallel lines; know the sum of angles at a point, on a straight line and in a triangle. *Use a protractor to measure acute angles.	*Solve problems involving the conversion of units and make sensible estimates of a range of measures in relation to everyday situations. *Use language associated with angle and know and use the angle sum of a triangle and that of angles at a point. Begin to recognise alternate and corresponding angles. *Measure and draw angles to the nearest degree, when constructing models and drawing or using shapes.	*Calculate interior & exterior angles in polygons.	*Construct nets of 3D shapes *Use Pythagoras' theorem to calculate a missing side. *Use the Circle theorems, Cyclic quadrilaterals, tangents and chords.
Probability & Statistics	*Ask questions, plan how to answer them and collect & organise the data required, using a simple data collection sheet. Construct tally charts for discrete data. *Find the mode, mean, median and range for discrete data and the modal class for grouped data. *Construct graphs and diagrams to represent data, including: bar-line graphs; for discrete data. Interpret graphs and diagrams, excluding pie charts. *Use vocabulary and ideas of probability, drawing on experience. *Understand and use the probability scale from 0 to 1. *Collect, record and estimate probability from a simple experiment and record in a frequency table.	*Ask questions, plan how to answer them and collect the data required. *Understand and use the mean of discrete data and compare two simple distributions, using the range and one of mode, median or mean. *Interpret graphs and diagrams, including pie charts, and draw conclusions. *Create and interpret line graphs where the intermediate values have meaning. *In probability, select methods based on equally likely outcomes and experimental evidence, as appropriate and use Venn diagrams. *Understand and use the probability scale from 0 to 1. *Understand that different outcomes may result from repeating an experiment.	*Interpret and construct vertical line charts for ungrouped discrete numerical data. *Use appropriate measures of central tendency & spread (range). *Interpret and construct line graphs for time series data and know their appropriate use. *Interpret, analyse and compare the distributions of data sets through appropriate graphical representation involving discrete, continuous and grouped data, including box plots *Understand the meaning of mutually exclusive and exhaustive events. *Use two way tables.	*Interpret & construct Stem & Leaf Diagrams. *Interpret & construct scatter diagrams. *Use appropriate measures of central tendency & spread (including consideration of outliers, quartiles and inter-quartile range). *Construct suitable surveys & questionnaires. *Use of Venn Diagrams to calculate probability *Able to use the addition rule for events. *Able to calculate probability of compound events.

	Working towards Y9 Expected standards	Y9 Expected Standards *MEETING*	Working above Y9 Expected Standards	Working well above Y9 Expected Standards
Number	*Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000 and explain the effect.	*Rounding to decimal places & significant figures.	*Find limits of accuracy.	
	*Use known facts, place value, knowledge of operations and brackets to calculate including using all four operations with decimals to two places.	*Order integers, decimals and fractions	*Solve problems involving limits of accuracy.	
	*Apply inverse operations and approximate to check answers to problems are of the correct magnitude.	*Add, subtract, multiply and divide negative numbers. *Hierarchy of operations (BIDMAS).		
	*Understand and use an appropriate non-calculator method for solving problems that involve multiplying and dividing any three digit number by any two-digit number.	*Using functions, interpret the reverse process as the 'inverse function'.		
	*Use squares, positive & negative square roots, cubes & cube roots, and index notation for small positive integer powers. Use index notation for integer powers and simple instances of the index laws.	*Laws of indices. *Able to change ordinary numbers to standard form & vice versa.	*Perform standard form calculations with & without a calculator.	
	*Recognise and use number patterns and relationships eg. multiples, factors, primes. Including set theory, using Venn diagrams: appreciate the infinite nature of the sets of integers, real and rational numbers.	*Able to find Multiples, Factors & Primes.	*Rational numbers and reciprocals. *Able to manipulate surds.	*Find exact solutions involving fractions, surds and multiples of π; simplify surd expressions and rationalise.
	*Reduce a fraction to its simplest form by cancelling common factors.		*Find the LCM and HCF using Prime Factors, including use of Venn diagrams.	
	* Add and subtract fractions that have a common denominator, including mixed numbers.	*Add/Subtract/Multiply/Divide fractions w/out a calculator.		
	*Use a calculator where appropriate to calculate fractions/percentages of quantities/measurements.	*Percentage increase & decrease *Compound Interest & depreciation *Calculate reverse percentages *Can calculate one quantity as a percentage of another.	*Add/Subtract/Multiply/Divide fractions with a calculator.	
	*Round decimals to the nearest decimal place; order, subtract and add negative numbers in context.	*Work interchangeably with terminating decimals and their corresponding fractions.		
	*Simple fraction decimal conversions.		*Change recurring decimals into their corresponding fractions and vice versa. *Change freely between related standard units eg. time, length, area, volume/capacity, mass and compound units e.g. speed, rates of pay, prices, density, pressure in numerical and algebraic contexts.	

Ratio & Proportion & Rates of Change	*Understand simple ratio, Consolidate understanding of the relationship between ratio and proportion. *Reduce a ratio to its simplest form, including a ratio expressed in different units, recognising links with fraction notation *Divide a quantity into two or more parts in a given ratio; use the unitary method to solve simple word problems involving ratio and direct proportion. *Solve simple problems involving ratio and direct proportion. *Use equivalence between fractions and order fractions and decimals.	*Solving problems involving Distance, Speed and Time. *Solving problems involving Direct Proportion & Best Buys.	*Plot and interpret graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance & speed. *Solving problems involving Density, Mass and Volume.	* Plot & interpret graphs and solve problems involving acceleration.
Algebra	*Generate terms of a sequence using term-to-term and position-to-term definitions of the sequence. *Construct, express in symbolic form, and use simple formulae involving one or two operations. *Substitute integers into formulae. *Simplify and transform linear expressions by collecting like terms. *Multiply a single bracket. *Construct & solve simple linear equations with integer coefficients. *Begin to use graphs and set up equations to solve simple problems involving direct proportion. *Use and interpret Coordinates in all four quadrants.	*Substitute into formulae & expressions, incl. scientific formulae. *Change of subject for simple formulae. *Expand double brackets. *Factorise simple algebraic expressions. *Construct & solve linear equations. *Understand and use the concepts and vocabulary of identities & inequalities. *Able to draw Linear Graphs by plotting. *Know the difference between an equation and an identity. *Factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares. *Use trial & improvement. *Argue mathematically to show algebraic expressions are equivalent. *Use algebra to support and construct simple arguments and proofs.	*Using functions, interpret the succession of two functions as a 'composite function' (the use of formal function notation is expected). *Manipulate algebraic expressions. *Change of subject for harder formulae *Simplify algebraic fractions. *Simplifying expressions involving sums, products and powers, including the laws of indices. *Solve simultaneous equations. *Solving problems using simultaneous equations. *Solve Inequalities. *Able to use y=mx+c to draw a graph.	*Solve simultaneous equations – one linear and one non-linear – algebraically & with graphs. *Solving equations by the method of intersection. *Shade regions by graphing Inequalities. *Able to find the equation of graphs of related parallel and perpendicular lines. *Able to draw Quadratic Graphs. *Recognise significant Points on quadratic graphs *Recognise & sketch other graphs eg. Cubic & reciprocal. *Recognise & sketch the trig graphs. *Transformation of graphs y = f(x) *Factorising quadratic expressions of the form: $ax^2 + bx + c\ (a\neq1)$. *Solving quadratic equations by factorisation. *Solving quadratic equations by the quadratic formula. *Solving quadratic equation by completing the square. *Solving problems involving quadratic equations. *Using trial & Improvement, using iteration. *Use algebra to support and construct harder arguments and proofs.

Geometry & Measures			
*Use a wider range of properties of 2-D and 3-D shapes and identify all the symmetries of 2-D shapes. *Reason about position and movement and transform shapes. *Understand and use the formula for the area of a rectangle and distinguish area from perimeter. *Read and interpret scales on a range of measuring instruments, including protractor, explaining what each labelled division represents. *Solve problems involving the conversion of units and make sensible estimates of a range of measures in relation to everyday situations. *Use language associated with angle and know and use the angle sum of a triangle and that of angles at a point. Begin to recognise alternate and corresponding angles. *Measure and draw angles to the nearest degree, when constructing models and drawing or using shapes.	*Able to perform translations, reflections, rotations & simple enlargements. *Calculate area of Triangles and parallelograms. *Circumference and Area of a Circle. *Measure line segments and angles in geometric figures, including interpreting maps, scale drawings & use of bearings. *Calculate interior & exterior angles in polygons.	*Able to perform enlargements using a positive scale factor. *Able to perform combined transformations. *Length, area and volume of similar shapes. *Using properties of congruent triangles. *Calculate area of trapezia. *Calculate area of a sector. *Construction of triangles, bisectors & defining a locus. *Construct nets of 3D shapes *Use Pythagoras' theorem to calculate a missing side. *Use the Circle theorems, Cyclic quadrilaterals, tangents and chords.	*Able to perform enlargements using a negative scale factor. *Calculate area of a segment. *Calculate the volume & surface area of a prism. *Calculate the volume & surface area of a cylinder. *Solving problems involving loci. *Construct and interpret plans and elevations of 3D shapes. *Use Pythagoras' theorem in real life situations or In 3D *Use the Alternate segment theorem.
Probability & Statistics			
*Ask questions, plan how to answer them and collect the data required. *Understand and use the mean of discrete data and compare two simple distributions, using the range and one of mode, median or mean. *Interpret graphs and diagrams, including pie charts, and draw conclusions. *Create and interpret line graphs where the intermediate values have meaning. *In probability, select methods based on equally likely outcomes and experimental evidence, as appropriate and use Venn diagrams. *Understand and use the probability scale from 0 to 1. *Understand that different outcomes may result from repeating an experiment.	*Interpret and construct vertical line charts for ungrouped discrete numerical data. *Use appropriate measures of central tendency & spread (range). *Interpret and construct line graphs for time series data and know their appropriate use. *Interpret, analyse and compare the distributions of data sets through appropriate graphical representation involving discrete, continuous and grouped data, including box plots *Understand the meaning of mutually exclusive and exhaustive events. *Use two way tables.	*Interpret & construct Stem & Leaf Diagrams. *Interpret & construct scatter diagrams. *Use appropriate measures of central tendency & spread (including consideration of outliers, quartiles and inter-quartile range). *Construct suitable surveys & questionnaires. *Use of Venn Diagrams to calculate probability *Able to use the addition rule for events. *Able to calculate probability of compound events.	*Interpret & construct histograms (including bars of unequal widths) *Interpret & construct cumulative distribution diagrams. *Interpret & construct box plots. *Able to use suitable sampling techniques.