This term in Mathematics we will be learning about:

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
K N O W L E D G E	I know basic index laws. I know when to use each of the different averages. I know the difference between theoretical and experimental probability. I know how to convert between improper fractions and mixed numbers.	I know the formula for volume of a cuboid and triangular prism. I know the nets of standard 3D shapes. I know what is meant by mutually exclusive. I know how to substitute values into expressions.	I know the difference between volume and surface area. I know the order of operations (BIDMAS). I know the formulae for areas of basic shapes.	I know that counting squares inside a shape finds the area. I know that letters can be used to represent different values. I know a written method for multiplying and dividing. I know the language associated with probability.
S K I L L S & A P P L I C A T I O N	I know how to estimate calculations and know when to use estimation to check my answer. I know how to convert between metric units for length, area & volume. I know when to use index laws to simplify expressions with multiplication & division. I know how to compare sets of data using averages, including the upper & lower quartiles. I can calculate relative frequencies and use to make estimates. I can perform all four operation with fractions, including mixed numbers. I recognise the different types of sequences (Fibonacci, geometric) and can continue them.	I can round to significant figures and can calculate with decimals. I can find the volume and surface area of cuboids & triangular prisms. I know how to form & solve equations, including with brackets. I can find the mean, modal class & range from grouped frequency tables. I can identify mutually exclusive events and find their probabilities. I know how to multiply and divide fractions. I can generate linear and quadratic sequences.	I can work with negative numbers and know the order of operations. I can find the area of compound shapes made from rectangles & triangles. I can simplify harder expressions. I can substitute positive & negative values into expressions and know how to solve one two equations. I can find the mean, mode & range from frequency tables. I know how to calculate probabilities of equally likely outcomes. I know how to add and subtract fractions. I can find the nth term of a linear sequence.	I know how to round to 10, 100 & 1000 and can order decimals. I know & can use the formula for area of a rectangle and area of a triangle. I can collect basic like terms. I can substitute positive values into expressions and know how to solve one step equations. I know how to find the mean, median, mode & range for a set of data. I know how to use the probability scale with words and numbers. I can find equivalent fractions. I can continue practical using a term-to-term rule and sequences in practical contexts.

AUTUMN TERM YEAR 7

This term in Mathematics we will be learning about:

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE	I know what is meant by standard form. I know that a positive number has two roots.	I know equivalences between fractions, decimals and percentages.	I know what is meant by HCF and LCM. I know what is meant by BIDMAS. I know polygons up to a decagon	I know the difference between factors and multiples. I know the different types of triangles and quadrilaterals.
SKILLS & APPLICATION	I know how to write numbers in standard form. I can add and subtract numbers in standard form. I know how to add and subtract simple algebraic fractions. I can solve problems with fractions greater than 1 and percentages greater than 100%. I can find roots of positive numbers. Explore higher powers and roots.	I know how to estimate the value of a calculation. I can use equivalence to add and subtract fractions and decimals. I know how to represent one and two step functions graphically. I can represent sequences in tabular and graphical forms. I can construct more complex polygons.	I know how to use lists to find the HCF and LCM of two numbers. I can round a number to one significant figure. I know how to use a given fraction to find the whole or other fractions. I can find percentages of amounts using mental and calculator methods. I can use all four operations with directed numbers, with & without a calculator, including with algebra. I know how to solve two step equations. I can use the order of operations with directed numbers. I can use two step function machines to find inputs and outputs, including with diagrams and letters. I can construct triangles using SSS, SAS and ASA. I can draw and interpret pie charts.	I can list factors and multiples of numbers. I can find a fraction of a given amount. I can order directed numbers. I can perform calculations that cross zero. I can use one step function machines to find inputs and outputs, including with diagrams and letters. I know how to measure and draw line segments and angles. I can interpret simple pie charts using proportion.
	Key Vocab: Product, negative, numerator, denominator		**Assessment:** w/c 14th February	

SPRING TERM YEAR 7

This term in Mathematics we will be learning about:

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE			I know what is meant by a factor. I know what is meant by a set.	I know the vocabulary for probability, such as certain and impossible. I know that the sum of probabilities of all outcomes is 1. I know what is meant by factor and multiple.
SKILLS & APPLICATION	I know how to find and use the angle sum of any polygon. I know how to find missing angles on parallel lines and can give reasons to support my answers. I understand and can use the complement of a set. I know how to use Venn diagrams to find the HCF and LCM.	I can solve complex angle problems. I can use known algebraic facts to derive other facts. I understand and know how to use the intersection and union of sets. I can make and test conjectures. I know how to use counterexamples to disprove a conjecture.	I can solve angle problems using properties of triangle and quadrilaterals. I can use number facts to derive other facts. I know how to use estimation as a method for checking mental calculations. I know and use mental strategies for working with decimals and fractions. I know how to use factors to simplify calculations. I can generate sample spaces for single events. I know how to interpret and create Venn diagrams. I can use lists to find the HCF and LCM of numbers. I know how to write a number as a product of prime factors.	I understand and can use the sum of angles around a point, on a straight line and the equality of vertically opposite angles. I know and use mental strategies for working with integers and all four operations. I can use the probability scale. I know how to calculate the probability of a single event. I can identify factors of numbers and expressions. I recognise prime, square and triangular numbers.
	Key Vocab: Parallel, estimate, element and prime.		**Assessment:** w/c 23rd May	

This term in Mathematics we will be learning about:			
	Mastery	**Working beyond National Standards**	**Working at national standards**	**Working below national standards**
KNOWLEDGE	I know what is meant by vertex and intercepts. I know the laws of indices.	I know the graphs of y=±x.	I recognise graphs parallel to the axes and know their equations. I know the vocabulary associated with angles in parallel lines.	I know how to add and subtract decimals. I know the sum of angles on a line and around a point.
SKILLS&APPLICATION	I can find the nth term of simple quadratic sequences. I know how to perform all four operations with numbers in standard form. I know when to use each different type of construction to solve loci problems. I know how to find the arc length and area of a sector. I can plot quadratic graphs and know the key features. I know how to draw and compare frequency polygons.	I can generate quadratic sequences. I can write and order numbers in standard form. I know how to carry out all the different constructions, including constructing triangles. I can calculate the volume and surface area of prisms, including cylinders. I can sketch graphs of linear functions given the equation. I know how to find the mean, median, mode & range from a frequency table, including grouped data.	I can recognise and extend quadratic and geometric sequences. I can multiply and divide decimals. I can solve problems on parallel lines and provide reasons. I can find the area and perimeter of compound shapes made from rectangles & triangles. I can identify the gradient and y-intercept from a straight line graph. I know how to find the mean, mode & range from a frequency table.	I can find the nth term of an arithmetic sequence. I know how to round to a number of decimal places and can order decimals. I can find missing angles on parallel lines. I can find the area of 2D shapes (excluding circles). I know how to use a table of values to plot a linear graph. I know how to find the mean, median, mode and range for a list of data.

AUTUMN TERM YEAR 8

This term in Mathematics we will be learning about:

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE	I know what the product rule is.	I know the difference between expressions, equations, formula and identities. I know the formula for percentage change.	I know what a multiplier is. I know the addition and subtraction laws for indices.	
SKILLS & APPLICATION	I know how to expand a pair of binomials. I can form and solve equations & inequalities with unknowns on both sides. I know how to use the product rule for finding the total number of possible outcomes. I know how to solve percentage problems to find the original amount. I can choose the appropriate methods to solve complex percentage problems. Explore powers of powers. I can use negative indices. I can use fractional indices.	I can form and solve inequalities. I can find probabilities from Venn diagrams. I know how to convert between decimals and percentages greater than 100%. I can work with percentage change. I can simplify algebraic expressions by multiplying or dividing indices. I know how to add and subtract numbers in standard form. I know how to multiply and divide numbers in standard form. I can use a calculator to work with numbers in standard form.	I know how to expand multiple brackets and simplify. I can form and solve equations with brackets. I can find probabilities from sample space diagrams and two way tables. I know how to calculate key fractions, decimals and percentages of an amount, with & without a calculator. I can calculate percentage increase and decrease with a multiplier. I know how to express one number as a fraction or percentage of another, with & without a calculator. I can simplify algebraic expressions with indices. I can use the addition and subtraction laws for indices. I can work with numbers in standard form. I know how to compare and order numbers in standard form.	I can form algebraic expressions. I can multiply out single brackets. I can factorise into a single bracket. I know how to construct sample spaces for one or more events. I know how to convert fluently between key fractions, decimals and percentages. Investigate positive and negative powers of 10.
	Key Vocab: factorise, frequency, multiplier, indices		**Assessment:** w/c 7th March	

SPRING TERM YEAR 8

This term in Mathematics we will be learning about:

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE			I know what a polygon is. I know the metric conversion for length, weight & capacity. I know the formula for area of a trapezium and area of a circle. I know what is meant by positive and negative correlation.	I know what BIDMAS stands for.
SKILLS & APPLICATION	I know how to prove simple geometric facts. I can construct perpendicular and angle bisectors. I know how to use error interval notation. I know how to covert metric units of area and volume.	I know how to find missing interior angles in regular polygons. I know how to calculate the area of a circle or parts of a circle without a calculator. I can calculate the perimeter and area of compound shapes. I can choose the most appropriate diagram for a given set of data. I know how to compare distributions using charts. I know how to draw a line of best fit on scatter graphs and can use it to make estimations.	I can solve complex problems with angles on parallel lines. I know how to work out and use the sum of interior and exterior angles of any polygons. I know how to round numbers to one significant figure. I can estimate the answer to a calculation. I can convert metric measures of length, weight & capacity. I know how to find the area of a trapezium. I know how to use a calculator to find the area of a circle or parts of a circle. I know how to reflect shapes in diagonal lines. I can design and criticise questionnaires. I know how to draw scatter graphs.	I can identify and calculate with allied, alternate and corresponding angles I know how to round numbers to powers of ten and a given number of decimal places.. I know how to use the order of operations to calculate. I can calculate with money. I can recognise line symmetry. I know how to reflect shapes in horizonal and vertical lines. I can draw and interpret bar charts and line graphs. I know how to find the range.
	Key Vocab: polygon, pi, symmetry, correlation		**Assessment:** w/c 16th May	

SUMMER TERM YEAR 8

This term in Mathematics we will be learning about:

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
K N O W L E D G E	I know all the circle theorems and the associated vocabulary.	I know the difference between an expression and an equation. I know the formula for arc length and sector area.	I know the different formulae for area of 2D shapes. I know the different parts of a circle. I know the names of the four types of transformations.	I know factors of numbers up to 100. I know what relative frequency is. I know what is meant by translate, rotate and reflect. I can identify congruent and similar shapes. I can substitute values into expressions. I know common angle facts.
S K I L L S & A P P L I C A T I O N	I can factorise quadratics where $a \neq 1$. I can find probabilities from tree diagrams, without replacement. I know when to use the arc length and area of a sector formulae to solve problems. I can make links between scale factors for lengths, areas and volumes. I recognise key features of common graph types. I know when to use the different circle theorems to solve complex problems and can justify the solution with reasons. I know how to work out whether a given term is in a quadratic sequence.	I can solve quadratics by factorising where a=1. I can find probabilities using tree diagrams. I can work out the length of arc and sector area. I know how to perform and describe the four transformations. I can find missing lengths in similar shapes. I can identify and plot cubic and reciprocal graphs. I know how to solve simple problems involving circle theorems and justify reasons. I know how to find the nth term of a quadratic sequence.	I can expand and factorise up to two brackets/quadratic expressions. I can find probabilities using sample space diagrams. I know how to find the area of compound shapes including parts of circles. I can enlarge using positive/negative/fractional scale factors from a point. I can identify and plot quadratic graphs. I know how to calculate interior and exterior angles in polygons. I know how to continue and generate quadratic sequences.	I can expand and factorise expressions with one bracket and solve linear equations. I can complete sample space diagrams and list outcomes of more than one event. I know how to find the area and circumference of a circle. (Sets 4-5, Spring term) I can multiply and divide decimals. I can enlarge a shape using positive scale factors. I can identify and plot linear graphs. I know how to calculate angles in parallel lines and to find bearings. I know how to generate and find the general rule for a linear sequence.

AUTUMN TERM YEAR 9

This term in Mathematics we will be learning about:				
	Mastery	**Working beyond National Standards**	**Working at national standards**	**Working below national standards**
K N O W L E D G E	I know the exact values of sin, cos and tan 0, 30, 45, 60, 90. I know the formulae for arcs and sectors. I know what each of the circle theorems are. I know what a fractional index means. I know how to tell from an equation that lines are perpendicular.	I know the notation for algebraic proportion. I know the formula for surface area of a cylinder. I know set notation. I know what a negative index means. I know how you can tell from the equation that two lines are parallel.	I know the formula for volume of a prism. I know how to bisect lines and angles, and construct perpendiculars. I know how to draw the locus of a point, two points, a line and two lines.	I know Pythagoras' Theorem. I know trigonometric ratios. I know formulae for the area of 2D shapes. I know the index laws.
S K I L L S & A P P L I C A T I O N	I can solve proportion problems algebraically. I can work out whether a term is in a quadratic sequence. (Sets 1,2&3 in Autumn). I know how to solve trigonometry problems in 3D. I can solve problems with arcs and sectors (Sets 1&2 in Autumn). I can solve problems with circle theorems (Sets 1,2&3 in Autumn). I can form & solve a pair of simultaneous equations. I can solve linear simultaneous equations graphically. I can use set notation to find probabilities in Venn diagrams. I can use indices with fractional powers. I know how to find the equation of perpendicular lines.	I can solve proportion problems from tables. I know how to find the nth term of a quadratic sequence. (Sets 1,2&3 in Autumn). I know when to use Pythagoras to solve 3D problems. I can find surface area of cylinders (Sets 1,2&3 in Autumn). I can write and solve equations with unknowns on both sides. I can draw diagrams involving bearings (Sets 1,2&3 in Autumn). I can solve linear inequalities and represent them on a number line. I know how to solve simultaneous equations. I can use basic set notation. I can use indices with negative powers. I can find the equation of two parallel lines.	I can solve ratio problems, including best buy problems. I know how to continue and generate quadratic sequences. (Sets 1,2&3 in Autumn). I know when to use Pythagoras' Theorem to solve problems. I can find the volume and surface area of prisms. (Sets 1,2&3 in Autumn). I know how to use the laws of indices for multiplication, division and brackets. I can bisect a line and draw loci. I can solve equations with unknowns on both sides (sets 4&5 in Autumn). I can find probabilities from sample spaces. I can find the equation of a straight line from a graph (sets 4&5 in Autumn).	I can write and simplify ratios. I can find the nth term of arithmetic sequences. I can use Pythagoras' Theorem to find missing lengths. I know how to calculate the area and circumference of circles. I can simplify expressions with multiplication, division, brackets, and indices. I can sketch nets of 3D shapes. I can solve 2 step equations (sets 4&5 in Autumn). I can use 2 way tables to calculate probability (sets 4&5 in Autumn). I know how to use the index laws for multiplication, division and brackets. I can plot linear graphs from a table of values (sets 4&5 in Autumn).

SPRING TERM YEAR 9

	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE	I know what IQR is. I know how to plot points on a cumulative frequency graph. I know what an upper and lower bound are. I know what the different sampling methods are, and how to use them.	I know the formula for percentage change. I know what the upper quartile and lower quartile are. I know the 5 different parts of a box plot, and can identify them from a list of numbers. I know what standard form is. I know if an estimate is an under or over-estimate.	I know what a multiplier is. I know what is meant by modal class. I know square and cube numbers, and how to calculate with powers and roots.	I know the structure of a stem and leaf diagram, and remember to include a key. I know the three averages. I know what BIDMAS stands for. I know calculator techniques.
SKILLS&APPLICATION	I can express a number as a percentage of another. I know how to convert recurring decimals into fractions. I can find IQR from a list. I know how to compare data sets using cumulative frequency and box plots. I can find upper and lower bounds. I know when to use upper and lower bounds to solve problems.	I can calculate percentage change. I know how to draw, interpret and compare frequency polygons. I can plot time series graphs. I can find quartiles from a list. I can construct and interpret box plots. I can write numbers in and out of standard form. I know how to add, subtract, multiply and divide numbers in standard form. I can round to significant figures. I know when to estimate answers to complex calculations.	I can calculate percentage increase and decrease. I can solve reverse percentage problems. I can calculate the effect of repeated percentage changes. I know how to add, subtract, multiply and divide fractions, including mixed numbers. I can estimate the mean and range, and find the modal class, of grouped frequency tables. I can order and calculate with negative numbers. I can multiply and divide decimals.	I can calculate percentages of amounts with and without a calculator. I can convert between fractions, decimals and percentages. I know how to calculate averages from frequency tables. I can construct stem and leaf diagrams and find averages. I know when to use the different averages to compare two sets of data. I can draw and interpret pie charts. I can multiply and divide negative numbers. I can use the rules of BIDMAS. I can round to a given number of decimal places. I can add and subtract decimals.

SUMMER TERM YEAR 9

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This term in Mathematics we will be learning about			
	Grade 7-9	**Grade 6**	**Grade 4-5**
KNOWLEDGE		I know the different circle theorems. I know the commutative property of multiplication. I know when a fraction is equivalent to a recurring or terminating decimal.	I know what is meant by HCF and LCM. I know the vocabulary for angles in parallel lines. I know the rules for divisibility. I know the vocabulary associated with circles. I know the nets of standard 3D shapes. I know common conversions for fractions, decimals and percentages.
SKILLS & APPLICATION	I can write expressions in completed square form. I know how to factorise harder quadratics where a ≠ 1. I can solve complex circle theorem problems and provide reasons to support my answer. I can simplify algebraic fractions and solve equations involving algebraic equations.	I know how to expand triple brackets. I can write recurring decimals as fractions. I can recognise when to use the different circle theorems.	I know how to use index laws for multiplication & division. I can write numbers and perform all four operations with numbers in standard form. I know how to find the HCF and LCM of two numbers using prime factors. I know when to use HCF or LCM to solve worded problems. I know how to find the area and perimeter of 2D shapes, including arcs and sectors. I can find the volume and surface area of prisms. I know how to calculate averages from frequency tables. I can expand and factorise quadratics where a =1. I know how to perform all four operations with fractions, including mixed numbers. I know how to solve angle problems involving parallel lines. I can find interior & exterior angles of polygons. I can solve linear equations, including unknowns on both sides.

AUTUMN TERM YEAR 10H

This term in Mathematics we will be learning about			
	Grade 7-9	**Grade 6**	**Grade 4-5**
KNOWLEDGE	I know how to factorise & solve quadratic equations.	I understand the terms deposit, instalments, interest, depreciation, debit and credit.	I know the metric conversions. I understand the relationship between ratio and fractions. I know set notation.
SKILLS & APPLICATION	I can simplify algebraic fractions and solve equations involving algebraic equations. I know when to use upper and lower bounds to solve problems. I can solve direct and inverse proportion problems with a constant k. I know how to solve conditional probability questions.	I can use the product rule for counting. I know how to solve repeated percentage change problems.	I can solve linear equations, including unknowns on both sides. I can identify upper and lower bounds and write error intervals. I know how to work out best buy problems and can solve ratio questions. I can use two way tables, sample spaces, Venn diagrams, frequency trees and tree diagrams to work out probability questions. I can use multipliers to increase and decrease by a given percentage. I know how to solve reverse percentage questions.

SPRING TERM YEAR 10H

This term in Mathematics we will be learning about

	Grade 7-9	Grade 6	Grade 4-5
KNOWLEDGE	I know Pythagoras' Theorem. I know the three standard trigonometric ratios.	I understand how to calculate the interquartile range (IQR). I understand inequality signs.	I know what is meant by an expression, equation, formula and identity. I recognise positive and negative gradients. I know angle properties on parallel lines. I know the terms arc, bisect, equidistant and perpendicular.
SKILLS & APPLICATION	I know how to change the subject of a formula where the subject appears more than once. I can approximate solutions to an equation using iteration. I know how to construct algebraic proofs. I know how to apply Pythagoras' Theorem and trigonometry to solve problems in 3D shapes.	I can draw and interpret cumulative frequency graphs. I can draw and interpret box plots. I know how to compare cumulative frequency diagrams and box plots. I can recognise and form equations of parallel and perpendicular lines. I know how to represent inequalities graphically and can describe regions using inequalities.	I know how to change the subject of a formula, including powers and roots. I can plot scatter graphs and use a line of best fit to estimate data. I know how to plot linear graphs. I can find the equation of a line from a graph or when given two points. I know how to measure, draw and solve bearings problems. I can construct triangles, angle bisectors and perpendicular bisectors. I know when to use the different constructions to solve loci problems, I know when to use Pythagoras' Theorem and trigonometry to solve 2D problems.

SUMMER TERM YEAR 10H

This term in Mathematics we will be learning about

	Grade 4-5	Grade 3	Grade 1-2
KNOWLEDGE	I know what is meant by HCF and LCM. I know the vocabulary for angles in parallel lines. I know the diagrammatic notation for parallel sides, equal lengths and labelling of sides/vertices.	I know the different formulae for area of 2D shapes (excluding a circle). I know what is meant by perpendicular.	I know what is meant by factors, multiples, prime numbers, square numbers and cube numbers. I know the properties of different triangles & quadrilaterals.
SKILLS & APPLICATION	I know how to find the HCF and LCM of two numbers using prime factors. I know when to use HCF or LCM to solve worded problems. I can find the volume & surface area of triangular prisms. I know how to convert between area measures. I know how to find different averages from frequency tables, including grouped data. I know how to expand and factorise quadratics. I can solve quadratic equations by factorising. I can solve equations and inequalities, including with unknowns on both sides. I know how to solve angle problems involving parallel lines. I can find interior & exterior angles of polygons. I know when to use a line of best fit to estimate data. I know when to use different constructions to solve loci problems. I know how to measure & solve bearing problems.	I can find the prime factor decomposition of a numbers. I can find the area of compound shapes. I can find the volume and surface area of cubes & cuboids. I know how to convert between different metric units. I can expand & factorise single brackets. I know how to carry out all four operations with fractions, including with mixed numbers. I can solve equations including with brackets. I can plot scatter graphs. I know how to draw and interpret scale drawings. I can carry out different constructions with a compass.	I can find factors & multiples of a number. I know how to find the area of triangles and different quadrilaterals. I know how to find the mean, median, mode & range for a list of data. I can draw & interpret frequency polygons. I know how to write & simplify expressions. I can convert between fractions, decimals and percentages. I can solve one step equations. I know the properties of angles on a straight line, around a point, in triangles & quadrilaterals. I can draw and interpret bar charts, pie charts and stem & leaf diagrams. I can measure and draw angles.

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CRUCIAL KNOWLEDGE

This term in Mathematics we will be learning about

	Grade 4-5	Grade 3	Grade 1-2
K N O W L E D G E	I know Pythagoras' Theorem. I know the three standard trigonometric ratios. I know common exact trigonometric values.	I know metric unit conversions. I understand the terms deposit, instalments, interest, depreciation, debit and credit. I know the formula for area & circumference of a circle.	I know equivalent fractions, decimals and percentages. I know the language associated with probability.
S K I L L S & A P P L I C A T I O N	I know to find the nth term of a sequence and know how to work out if a term is in a sequence. I can use Pythagoras' Theorem to find lengths of missing sides in right angled triangles. I can use trigonometry to find missing sides or angles in right angled triangles. I know how to work out compound interest or depreciation. I can solve reverse percentage problems. I can work out relative frequency and use it to make estimations. I can draw and interpret plans & elevations. I know how to calculate the volume and surface area of a cylinder. I can calculate the volume and surface area of cones and spheres.	I can write and simplify ratios. I know how to share into a ratio, including difference between parts. I can solve best buy problems. I know how to work out exchange rate/conversion problems. I can continue sequences where the differences are not always the same. I know how to work out percentage increase and decrease using multipliers. I can solve percentage change problems. I know how to complete frequency trees and two way tables, and can use them to calculate probabilities. I can use the formula to work out the area and circumference of a circle.	I can use function machines to work out outputs or inputs. I know how to continue linear sequences using a term-to-term rule. I can find a percentage of an amount. I can use the probability scale and calculate probabilities of equally likely events.

SPRING TERM YEAR 10F

CRUCIAL KNOWLEDGE

This term in Mathematics we will be learning about

	Grade 4-5	Grade 3	Grade 1-2
K N O W L E D G E	I know inverse operations. I can recognise positive and negative gradients.	I know the four types of transformations (reflection, rotation, translation and enlargement). I know the graphs of y=a, x=a and y=±x.	
S K I L L S & A P P L I C A T I O N	I know how to rearrange to change the subject of a formula, including powers and roots. I can recognise direct and inverse proportion problems and solve them. I know how to identify the gradient and y-intercept from a graph and can write the equation of a line. I can plot quadratic, cubic and reciprocal graphs. I can use tree diagrams, both with and without replacement, to calculate probabilities. I know how to use set notation to calculate probabilities from Venn diagrams.	I can substitute positive and negative values into expressions and formula. I can solve proportion problems involving recipes. I know how to use a table of values to plot a linear graph. I know how to perform and describe all four transformations.	I know how to read and plot coordinates.

SUMMER TERM YEAR 10F

This term in Mathematics we will be learning about

	Grade 7-9	Grade 6	Grade 4-5
KNOWLEDGE	I know the quadratic formula. I know the formula for frequency density. I know the sine and cosine rules. I know what is meant by rationalise.	I know what a reciprocal is. I know unit conversions for length, area and volume.	I know Pythagoras' Theorem. I know what is meant by SOH CAH TOA. I know exact trigonometric values. I know what is meant by rotate, reflect, translate and enlarge. I know square and cube numbers (up to 10^) I know the graphs of y=a, x=a and y=±x.
SKILLS & APPLICATION	I know how to simplify surds. I know how to rationalise denominators involving surds. I can solve 3D problems using Pythagoras' theorem and trigonometry. I can use the Sine and Cosine rules to solve problems in non right angled triangles. I know how to find the nth term of a quadratic sequence. I can factorise and solve harder quadratic equations where a ≠ 1. I know when to use the quadratic formula to solve equations. I can solve equations involving algebraic fractions. I know how to draw and interpret histograms. I know how to use similar shapes to help work out the volume of frustums.	I can simplify fractional and negative indices. I can enlarge a shape by a negative scale factor. I know how to use the link between scale factors to solve area & volume problems in similar shapes.	I know how to use index laws for multiplication & division and a power to a power. I know when to use trigonometry and Pythagoras to solve problems in right angled triangles. I can find the nth term of linear sequences. I can perform and describe all four transformations. I can work with similar shapes and similar triangles to find missing lengths. I can factorise & solve quadratic equations where a = 1. I know how to work out the volume and surface area of prisms, spheres and cones.

AUTUMN TERM YEAR 11H

CRUCIAL KNOWLEDGE

This term in Mathematics we will be learning about

	Grade 7-9	Grade 6	Grade 4-5
KNOWLEDGE	I understand function notation. I know the sine, cosine and tangent graphs. I know the quadratic formula.	I know what the inequality signs represent and can list integers.	I know the relationship between speed, distance and time. I know the relationship between density, mass and volume.
SKILLS & APPLICATION	I know how to solve quadratic simultaneous equations algebraically and graphically. I can draw and recognise the equation of a circle and can find where a line and circle intersect. I know how to construct proofs using vectors, including collinear points. I can find inverse and composite functions. I know the rules for transforming graphs of functions. I can transform the trigonometric graphs and can use them to solve equations. I can find the area under a curve and find the gradient of a tangent to a non linear graph. I can solve quadratic equations by factorising and using the quadratic formula. I know how to solve quadratic inequalities.	I can solve vector geometric problems including ratios of lengths. I can represent inequalities on graphs.	I know how to solve two linear simultaneous equations algebraically and graphically. I can draw and recognise graphs of quadratic, cubic, reciprocal and exponential functions. I know how to solve simple geometric problems using vectors. I know how to solve problems involving speed or density. I can draw and interpret distance time graphs.

SPRING TERM YEAR 11H

CRUCIAL KNOWLEDGE

What I will know and understand this term

This term in Mathematics we will be learning about

	Grade 4-5	Grade 3	Grade 1-2
KNOWLEDGE			
SKILLS & APPLICATION			

Full specification covered.

Begin revision of all units along with exam preparation, including past papers and applying knowledge to solve problems in unfamiliar contexts.

SUMMER TERM YEAR 11H

This term in Mathematics we will be learning about

	Grade 4-5	Grade 3	Grade 1-2
KNOWLEDGE	I know what is meant by similar shapes. I know the relationship between speed, distance and time. I know the relationship between density, mass and volume.	I know what significant figures are.	I know what is meant by congruency. I know angle facts for triangles and quadrilaterals.
SKILLS & APPLICATION	I know how to use index laws for multiplication & division and negative indices. I can write numbers in standard form and perform all four operations with numbers in standard form. I can solve fractional equations and equations with unknowns on both sides. I know how to form & solve linear simultaneous equations. I can work with similar shapes and similar triangles to find missing lengths. I know how to solve problems involving speed or density. I can draw and interpret distance time graphs. I can solve simple geometric problems using vectors.	I know when to use rounding to estimate the value of calculations. I can identify upper and lower bounds and write error intervals. I can solve equations, including with brackets.	I can solve one step equations. I know how to identify congruent shapes. I can solve problems involving time and timetables.

AUTUMN TERM YEAR 11F

EGGLESCLIFFE SCHOOL AND SIXTH FORM COLLEGE

This term in Mathematics we will be learning about			
	Grade 4-5	**Grade 3**	**Grade 1-2**
KNOWLEDGE			
SKILLS & APPLICATION			

Full specification covered.

Begin revision of all units along with exam preparation, including past papers and applying knowledge to solve problems in unfamiliar contexts.

SPRING & SUMMER TERMS YEAR 11F