



	Autumn 1	Autumn 2	Spring 1	Spring2	Summer 1	Summer 2
Year 7	Unit 1 – N1 – Calculation Methods & Number Properties Unit 2 – A1 – Algebraic Conventions Unit 3 – G1 – Properties Of 2D & 3D Shapes	Unit 4 – S1 – Collect & Process Data Unit 5 – N2 – Factors, Multiples & Indices Unit 6 – A2 – Equations, Inequalities & Formulae Unit 7 – G2 – Angles & Measures	Unit 8 – S2 – Probability Unit 9 – N3 – Fractions, Decimals & Percentages Unit 10 – A3 - Sequences	Unit 11 – G3 – Triangles & Constructions Unit 12 – S3 – Represent & Interpret Data Unit 13 – N4 – Approximation & Ratio	Unit 14 - G4 - Transformations  Unit 15 - A4 – Functions & Graphs	Functional Skills and Intervention
Example task(s)	Unit 1 - 1002 - 998 using a number line is more efficient than column method etc E.g. $3 < 8$ Use of column method with carrying and borrowing as necessary. Ensure pupils can carry out calculations such as $2.34 + 5.78 + 7.81$ and $6.2 - 3.81$ by written method Unit 2 - Rule is $x \times 2 + 1$ or $2n + 1$ or $y = 2x + 1$  $n + 5$ means a number plus 5  Unit 3 - Know some of the features of triangles and quadrilaterals	Unit 4 Sort simple data into categories Using numerical and non-numerical data find the mode from lists, bar charts, pie charts and tally charts. Be able to group data into equal class intervals and find the modal class interval. Unit 5 Ensure pupils can carry out calculations such as $2.34 + 5.78 + 7.81$ and $6.2 - 3.81$ by written method Unit 6 Add and subtract mentally and using a variety of pen and paper methods e.g column method and using a number line. Unit 7 Use a ruler correctly, knowing the start of the ruler is not where to start measuring from.	Unit 8 – S2 – Probability Pupils should be able to give the likelihood of it raining in Blackpool on a day in October/Sun rising tomorrow. Understand the meaning of certain, likely/unlikely, impossible and even chance. Understand that even chance does not simply mean it can happen or not (a common misconception). Unit 9 Shade a fraction given a shape that has been split into equal parts. Shade a percentage when cut into 100, 50 or 10 parts Unit 10 Identify odd and even numbers. Colour Pascal’s triangle.	Unit 11 Investigate which regular polygons will tessellate (regular tessellations).  Unit 12 Use numerical and non-numerical data to sort into Venn and Carroll diagrams  Unit 13 $34 \times 2 =$ ? $\times 2 = 638$ etc  $27$ is $30$ to the nearest $10$ , $345$ is $300$ to the nearest $100$ etc  depending on the context: • A display of ‘ $3.5$ ’ could mean $\pounds 3.50$ , Or $3$ kilograms and $500$ grams.	Unit 14 Reflect a shape by counting the number of squares between a point and the mirror line. Understand the object and image are the same distance from the mirror line.  Colour a square so that it is symmetrical  Unit 15 Plot and join points to make mathematical shapes in one quadrant.  Plot and join points to make mathematical shapes in all 4 quadrants.	Functional Skills – Maths for everyday life  Understanding debit, credit, interest, tax and VAT.

Maths Curriculum Plan

Key Stage 3

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 8	Unit 1 – N1 – Calculation Methods & Number Properties Unit 2 – A1 – Algebraic Conventions Unit 3 – G1 – Properties Of 2D & 3D Shapes Unit 4 – N2 – Factors, Multiples & Indices	Unit 5 – S1 – Collect & Process Data Unit 6 – A2 – Equations, Inequalities & Formulae Unit 7 – G2 – Angles & Measures Unit 8 – N3 – Fractions, Decimals & Percentages	Unit 9 – S2 – Probability Unit 10 – A3 – Sequences Unit 11 – G3 – Triangles & Constructions	Unit 11 – G3 – Triangles & Constructions Unit 12 – S3 – Represent & Interpret Data Unit 13 – N4 – Approximation & Ratio Unit 14 - G4 - Transformations	Unit 14 - G4 - Transformations  Unit 15 - A4 – Functions & Graphs	Functional Skills and Intervention
Example task(s)	Unit 1 Know that 0.12 is smaller than 0.3 $-3 + 5 = 2$ , $4 - 7 = -3$ progress to $-2 + 2 = -4$ etc Unit 2 $n + 5$ means a number plus 5 $3a$ means '3 lots of a' or '3 times a' Unit 3 Know the names of polygons from triangle to decagon. Know the common quadrilaterals Unit 4 Understand terms factor, multiple and prime	Unit 5 Determine the sample size and type, e.g. who to ask, how many to ask, where and when the sample should be taken. Unit 6 Add and subtract mentally and using a variety of pen and paper methods e.g column method and using a number line. Unit 7 Know Kg, g for mass, Km, m, cm, mm for length and L and ml for capacity Unit 8 State what fraction is shaded when the denominator is equal to the number of parts extending to fractions that can be simplified.	Unit 9 From a coloured spinner write the probability of each sector as a fraction. $P(\text{red on a spinner}) = 2/7$ . Be able to list all the outcomes. Unit 10 From a given sequence of numbers work out a rule using one of the 4 operations. Find the first 10 triangle and square numbers and describe how the sequence is generated. How do you go about finding missing numbers in a sequence? Unit 11 Construct a rhombus given the sides and angles.	Unit 11 - Construct a triangle with a base of 7cm and 2 angles of $50^\circ$ and $65^\circ$ at either end. Unit 12 Use a pie chart cut into $1/2$ , $1/4$ , $1/8$ and $1/3$ . Know the angles that correspond to these fractions. Unit 13 $2.57 = 2.6$ to 1 dp, $3.8176 = 3.82$ to 2 dp Unit 14 Enlarge a shape by doubling or trebling the sides, NO centre of enlargement. Give the scale factor of an enlargement. EXT to fractional scale factors and using a centre of enlargement	Unit 14 Translate an object given instructions in words (eg 5 left and 2 down), including negatives. EXT to using vectors  Unit 15 Produce a graph which can be used to convert between currencies or kg to lb etc.	Functional Skills – Maths for everyday life  Understanding debit, credit, interest, tax and VAT.

Maths Curriculum Plan

Key Stage 4



	Autumn 1	Autumn 2	Spring 1	Spring2	Summer 1	Summer 2
Year 9	Unit 1 – N1 – Calculation Methods & Number Properties Unit 2 – A1 – Algebraic Conventions Unit 3 – G1 – Properties Of 2D & 3D Shapes Unit 4 – N2 – Factors, Multiples & Indices	Angles Basic Fractions Scale Diagrams and Bearings Sequences Co-ordinates and Linear Graphs	Basic Decimals Rounding Collecting and Presenting Data Indices	Indices Perimeter and Area Basic Percentages Equations	Circumference and Area Statistical measures Ratio and Proportion Scatter Graphs	Basic Probability Calculating with percentages Functional Skills
Example task(s)	Unit 1 Know and use the word integer and the equality and inequality symbols • order positive and/or negative numbers given as integers. Work out a root of a number from a product of prime factors Unit 2 understand phrases such as ‘form an equation’, ‘use a formula’, ‘write down a term’, ‘write an expression’ and ‘prove an identity’ when answering a question • recognise that, for example, $5x + 1 = 16$ is an equation • recognise that, for example, $V = IR$ is a formula	Distinguish between acute, obtuse, reflex and right angles • name angles • use one lower-case letter or three upper- case letters to represent an angle, for example x or ABC Apply the four rules to fractions with and without a calculator • multiply and divide a fraction by an integer, by a unit fraction and by a general fraction Use and interpret maps and scale drawings • use a scale on a map to work out an actual length	Add, subtract, 2 multiply and divide decimals using both mental and written methods  Perform money calculations, writing answers using the correct notation • round numbers to the nearest whole number, 10, 100 or 1000 (2)  Draw bar charts including composite bar charts and dual bar charts • understand which of the diagrams are appropriate for different types of data  Calculate and recognise powers of 2, 3, 4, 5 • calculate and recognise powers of 10	Estimate the value of a power of a given positive number • estimate the value of the root of any given positive number Identify and name common solids, for example cube, cuboid, prism, cylinder, pyramid, cone and sphere  Use percentages in real- life situations 3 • calculate a percentage increase or decrease  use formulae from mathematics and other subjects expressed initially in words and then using letters and symbols	Recall the definition of a circle • identify and name the parts of a circle • draw the parts of a circle • understand related terms of a circle • draw a circle given the radius or diameter.  Find the mean for a discrete frequency distribution • find the median for a discrete frequency distribution • find the mode or modal class for frequency distributions  Understand the meaning of ratio notation • interpret a ratio as a fraction	Design and use two-way tables  • complete a two-way table from given information  • complete a frequency table for the outcomes of an experiment  Use percentages, decimals or fractions to calculate proportions 3  • calculate reverse percentages



	Autumn 1	Autumn 2	Spring 1	Spring2	Summer 1	Summer 2
Year 10	Transformation Number Measures Functional Skills Revision	Expressions recap and extension Construction and Loci Real Life Graphs Prop of Polygons 2D rep. of 3D Graphs Equations recap and Extension	Functional Skills Revision Congruence and Similarity Review of Basic Probability	GCSE Mock Revision Further Perimeter and Area Graphical representation Further Circumference and Area	Pythagorus's Theorum Intro to Trigonometry Simultaneous Equations Functional Skills Revision	Standard Form Inequalities Representing Data
Example task(s)	Describe and transform 2D shapes using single rotations <ul style="list-style-type: none"> <li>understand that rotations are specified by a centre and an angle                             <ul style="list-style-type: none"> <li>write a number as the product of its prime factors and use formal</li> </ul> </li> <li>work out a root of a number from a product of prime factors</li> <li>understand and use compound measures and compound units including area, volume, speed, rates of pay, density and pressure 4</li> <li>understand speed and know the relationship between speed, distance and time</li> </ul>	understand that algebra can be used to generalise the laws of arithmetic 2 <ul style="list-style-type: none"> <li>manipulate an expression by collecting like terms</li> <li>write expressions to solve problems</li> <li>write expressions using squares and cubes</li> <li>factorise algebraic expressions by taking out common factors</li> <li>multiply a single term over a bracket, for example, <math>a(b + c) = ab + ac</math></li> <li>know the meaning of and be able to simplify, for example <math>3x - 2 + 4(x + 5)</math></li> </ul>	understand congruence <ul style="list-style-type: none"> <li>identify shapes that are congruent</li> <li>understand and use conditions for congruent triangles: SSS, SAS, ASA and RHS</li> <li>recognise congruent shapes when rotated, reflected or in different orientations</li> <li>understand and use SSS, SAS, ASA and RHS conditions to prove the congruence of triangles using formal arguments, and to verify standard ruler and compass constructions.</li> <li>design and use two-way tables 2</li> <li>complete a two-way table from given information 2</li> <li>complete a frequency table</li> </ul>	calculate the area of shapes made from triangles and rectangles <ul style="list-style-type: none"> <li>calculate the area of compound shapes made from two or more rectangles, for example an L shape or T shape</li> <li>calculate the area of shapes drawn on a grid</li> <li>calculate the area of simple shapes</li> </ul> solve simple linear equations by using inverse operations or by transforming both sides in the same way 3 <ul style="list-style-type: none"> <li>solve simple linear equations with integer coefficients where the unknown appears on one or both sides of the equation or where the equation involves brackets</li> </ul>	understand, recall and use Pythagoras' theorem in 2D problems <ul style="list-style-type: none"> <li>understand similarity</li> <li>understand similarity of triangles and use this to make geometric inferences</li> <li>understand, recall and use trigonometric relationships in right-angled triangles</li> <li>use the trigonometric relationships in right-angled triangles to solve problems, including those involving bearings.</li> <li>solve simultaneous linear equations by elimination or substitution or any other valid method</li> <li>find approximate solutions using the point of intersection of two straight lines.</li> </ul>	know, use and understand the term standard form <ul style="list-style-type: none"> <li>write an ordinary number in standard form</li> <li>write a number written in standard form as an ordinary number</li> </ul> know the difference between $<$ , $\leq$ , $\geq$ , $>$ and <ul style="list-style-type: none"> <li>solve simple linear inequalities in one variable</li> <li>represent the solution set of an inequality on a number line, knowing the correct conventions of an open circle for a strict inequality and a closed circle for an included boundary</li> </ul>



Key Stage 4

	Autumn 1	Autumn 2	Spring 1	Spring2	Summer 1	Summer 2
Year 11 Scheme of Work	Volume Probability Algebraic Quadratics Review and Revision	Trigonometry Algebraic Graphs Sketching Graphs	Mock Exam and revision Surface Area Direct and Inverse Proportion	Quadratic Graphs Solving Quadratic Equations Growth and Decay	Vectors Algebra Recap and Review Exams Revision	Exams
Example task(s)	<p>Calculate the volume of spheres, pyramids, cones and composite solids determine when it is appropriate to add probabilities</p> <ul style="list-style-type: none"> <li>determine when it is appropriate to multiply probabilities</li> <li>understand the meaning of independence for events</li> <li>calculate probabilities when events are dependent</li> <li>understand the implications of with or without replacement problems for the probabilities obtained</li> <li>complete a tree diagram to show outcomes and probabilities</li> <li>use a tree diagram as a method for calculating probabilities for independent or dependent events.</li> </ul>	<p>Understand, recall and use trigonometric relationships in right-angled triangles</p> <ul style="list-style-type: none"> <li>use the trigonometric relationships in right-angled triangles to solve problems, including those involving bearings.</li> </ul> <p>solve simple linear equations by using inverse operations or by transforming both sides in the same way</p> <ul style="list-style-type: none"> <li>solve simple linear equations with integer coefficients where the unknown appears on one or both sides of the equation or where the equation involves brackets</li> </ul>	<p>work out the surface area of spheres, pyramids and cones</p> <ul style="list-style-type: none"> <li>work out the surface area of compound solids constructed from cubes, cuboids, cones, pyramids, cylinders, spheres and hemispheres</li> <li>give answers in terms of <math>\pi</math> and use values given in terms of <math>\pi</math> in calculations.</li> </ul> <p>Use proportion to solve problems using informal strategies or the unitary method of solution 2</p> <ul style="list-style-type: none"> <li>use direct proportion to solve geometrical problems</li> <li>calculate an unknown quantity from quantities that vary in direct proportion or inverse proportion 3</li> </ul>	<p>draw, sketch, recognise and interpret linear functions</p> <ul style="list-style-type: none"> <li>calculate values for a quadratic and draw the graph</li> <li>draw, sketch, recognise and interpret quadratic graphs</li> </ul> <p>Solve quadratic equations by factorising</p> <ul style="list-style-type: none"> <li>read approximate solutions from a graph.</li> </ul> <p>Solve problems involving repeated proportional change</p> <ul style="list-style-type: none"> <li>use calculators to explore exponential growth and decay using a multiplier and the power</li> <li>solve compound interest problems.</li> </ul>	<p>Understand and use vector notation</p> <ul style="list-style-type: none"> <li>calculate and represent graphically the sum of two vectors, the difference of two vectors and a scalar multiple of a vector</li> <li>calculate the resultant of two vectors</li> <li>understand and use the commutative and associative properties of vector addition.</li> </ul> <p>Calculate the area under a graph consisting of straight lines 4</p>	