Curriculum Overview for Year 7 in Mathematics

Year 7 Assessments: Assessments in year 7 take place after each unit (10 in total). Assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, but could also include the curriculum covered in previous year/s (KS2). This then allows for a rolling achievement of progress throughout the academic year.
Year 7 also complete a baseline assessment during half term 1 to illustrate prior knowledge from key stage 2.

The table below details the skills and knowledge students will be covering each half term in this subject area.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Knowledge and skills which will be covered this year	**Data** HPA Averages from list of numbers, find mode and range from frequency table, draw pictograms, bar charts. MPA Averages from list of numbers, find mode and range from frequency table, draw pictograms, bar	**Algebra** HPA Find outputs and describe function machines, collecting like terms and use letters to represent unknowns, substitution with negative numbers and non-whole numbers, multiplying and dividing algebraic	**Fractions and percentages** HPA Compare and order simple fractions, conversion of fractions, equivalent and simplifying fractions, add and subtract fractions, fraction of an amount, conversion between	**Ratio and proportion** HPA Direct proportion, unitary method, simplify and equivalent ratios, divide a ratio into any number of parts, describe proportions using fractions and percentages, make comparisons. MPA	**Lines and Angles continued from half term 4.** **Sequences and Graphs** HPA Linear number sequences, generate terms of a sequence, nth term, find missing terms, describing patterns, real-life sequences, term-	**Transformations** HPA Congruent shapes, enlarge shapes by a given scale factor, line and rotational symmetry, planes of symmetry, reflections in a mirror line, identify a mirror line, draw and describe rotations,

	and line charts. LPA Averages from list of numbers, find mode and range from frequency table, draw pictograms, bar charts. **Number** HPA Mental maths, BIDMAS, four operations with whole numbers, Money and time, negative number calculations, factors, multiples and primes. MPA Mental maths, BIDMAS, four operations with whole numbers, Money and time, negative number calculations, factors, multiples and primes. LPA Mental maths, BIDMAS, four	terms, writing formulae using letter symbols. MPA Find outputs and describe simple function machines, collecting like terms and use letters to represent unknowns, substitution, multiplying and dividing algebraic terms, writing simple formulae using letter symbols. LPA Find outputs of function machines, collecting like terms, multiplying and dividing algebraic terms, substitution, writing simple formulae using letter symbols. **Number and**	percentages, fractions and decimals and their equivalences, fractions and percentages greater than 1 and express one quantity as a percentage of another. MPA Compare and order simple fractions, conversion of fractions, equivalent and simplifying fractions, add and subtract fractions, fraction of an amount, conversion between percentages, fractions and decimals and their equivalences, calculate percentages and express one quantity as a percentage of	Direct proportion, unitary method, simplify and equivalent ratios, divide a ratio into three parts, describe proportions using fractions and percentages. LPA Direct proportion, simplify and equivalent ratios, divide a ratio into two parts, describe proportions using fractions and percentages. **Lines and Angles** HPA Measure and draw angles, name angles and triangles, estimate angle sizes, construct triangles, find missing angles in a triangle, straight line and	to-term, position-to-term rule, arithmetic and geometric sequences, read and plot coordinates, midpoint of a line, plot graphs from a table of values. MPA Number sequences, generate terms of a sequence, find missing terms, describing patterns, real-life sequences, term-to-term, position-to-term rule, arithmetic and geometric sequences, read and plot coordinates, midpoint of a line, plot graphs from a table of values. LPA Number sequences, generate terms of a sequence, find	translate shapes, patterns and rules when transformations occur, combinations of 2D shapes. MPA Congruent shapes, enlarge shapes by a given scale factor, line and rotational symmetry, reflections in a mirror line, identify a mirror line, draw and describe rotations, translate shapes, combinations of 2D shapes. LPA Congruent shapes, enlarge shapes by a given scale factor, line and rotational symmetry shapes, reflections in a mirror line, draw rotations, translate shapes,

	operations with whole numbers, Money and time, negative number calculations, factors, multiples and primes.	**shape** HPA Measure and draw lines, order decimals, rounding to decimal places and estimations, multiply and divide whole number and decimals by 10,100, 1000. Convert between different metric units, read scales, four operations with decimals, deduction of area and perimeter formulae, imperial units. MPA Measure and draw lines, order decimals, rounding to decimal places and estimations, multiply and divide whole number and decimals by	another. LPA Compare simple fractions, conversion of fractions, equivalent and simplifying fractions, add and subtract fractions, fraction of an amount, conversion between percentages, fractions and decimals, calculate percentages. **Probability** HPA Language of probability, probability scale using fractions, decimal or percentage, identify outcomes, calculate probabilities and make conclusions based on expected or	understand the relationships, around a point and use vertically opposite angles, calculate interior and exterior angles using formulae, quadrilaterals, find missing angles in quadrilaterals. MPA Measure and draw angles, name angles and triangles, estimate angle sizes, construct triangles, find missing angles in a triangle, straight line, around a point and use vertically opposite angles, calculate interior and exterior angles, quadrilaterals, find missing angles in quadrilaterals. LPA	missing terms, describing patterns, arithmetic and geometric sequences, read and plot coordinates, midpoint of a line, plot simple graphs.	combinations of 2D shapes. **Revision and recall**

		10,100, 1000. Convert between different metric units, read scales, four operations with decimals, area and perimeter, imperial units. LPA Measure and draw lines, order decimals, basic rounding, multiply and divide whole number and decimals by 10,100, 1000. Convert between different metric units, read scales, four operations with decimals, area and perimeter, imperial units.	theoretical probabilities. MPA Language of probability, probability scale 0-1, identify outcomes, calculate probabilities and make conclusions. LPA Language of probability, probability scale, identify outcomes, calculate probabilities.	Measure and draw angles, name angles and triangles, estimate angle sizes, construct triangles, find missing angles find missing angles in a triangle, straight line, around a point and use vertically opposite angles, quadrilaterals, find missing angles in quadrilaterals.		

Curriculum Overview for Year 8 in Mathematics

Year 8 Assessments: Assessments in year 8 take place after each unit (10 in total). Assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, but could also include the curriculum covered in previous year/s (KS2/3). This then allows for a rolling achievement of progress throughout the academic year.

The table below details the skills and knowledge students will be covering each half term in this subject area.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Knowledge and skills which will be covered this year	**Number** HPA Four operations with whole numbers and decimals, negative number calculations, squares, powers and roots (negative answers), index laws, prime factors and HCF and LCM, use of calculator to check answers.	**Data, graphs and charts** HPA Pie charts and proportion, analysing frequency tables and grouped data, two-way tables, draw and interpret stem and leaf, comparing data, plotting and interpreting scatter graphs, correlation, interpretation and	**Real-life graphs** HPA Use and interpret conversion graphs, plot and interpret distance-time graphs. Plot and interpret line graphs from tables of data, plot and interpret linear and non-linear graphs, understand relationships between variables.	**Lines and angles** HPA Geometric properties, angles in parallel lines, interior and exterior angles, apply angle rules to solve multi-stage problems. MPA Geometric properties, angles in parallel lines, interior and exterior angles. LPA	**Graphs** HPA Direct proportion, plot more than one graph on a set of axes and read graphs of linear functions, write equations of straight line graphs, gradient of a straight line graph. MPA Plot and read graphs of linear functions, write	**Start of the curriculum for year 9 (KS3):** **Indices and standard form** HPA Laws of indices, negative and fractional indices, estimation, conversion of numbers to and from standard form, standard form calculations. MPA

	MPA Four operations with whole numbers and decimals, negative number calculations, squares, powers and roots, index laws, prime factors and HCF and LCM, use of calculator to check answers. LPA Four operations with whole numbers and decimals, negative number calculations, squares, powers and roots, index laws, prime factors and HCF and LCM. **Area and Volume** HPA Increased complexity of area of a 2D shapes	comparisons of graphs and charts. MPA Pie charts, frequency tables and grouped data, two-way tables, draw and interpret stem and leaf, comparing data, plotting and interpreting scatter graphs, correlation, interpretation of graphs and charts. LPA Pie charts, frequency tables, two-way tables, stem and leaf, comparing data, plotting scatter graphs, correlation, interpretation of graphs and charts. **Algebra** HPA	MPA Use and interpret conversion graphs, plot and interpret distance-time graphs. Plot and interpret line graphs from tables of data, plot and interpret linear and non-linear graphs. LPA Use conversion graphs, plot simple distance-time graphs. Plot line graphs from tables of data, plot and interpret linear and non-linear graphs. **Decimals and ratio** HPA Rounding to decimal places, any significant figures, order decimals, multiplying and dividing decimals, divide a ratio into	Geometric properties, angles in parallel lines, interior and exterior angles. **Fractions** HPA Ordering fractions, four operations with fractions, four operations with mixed number fractions, calculations involving inverse operations and application of BIDMAS. MPA Ordering fractions, four operations with fractions, four operations with mixed number fractions. LPA Ordering fractions, four operations with fractions, four operations with	equations of straight line graphs, gradient of a straight line graph. LPA Plot and read graphs, write equations of straight line graphs, gradient of a straight line graph. **Percentages, decimals and fractions** HPA Equivalent fractions and decimals, recurring and terminating decimals, order fractions, convert between fractions, decimals and percentages, equivalence, one number as a percentage of another, percentage increase and	Laws of indices, negative and fractional indices, estimation, conversion of numbers to and from standard form. LPA Laws of indices, estimation, conversion of numbers to and from standard form. **Algebra** HPA Solve equations including unknowns on both sides, substitution, formulae (with relation to real life graphs), change the subject, factorising, expanding double/triple brackets. MPA Solve equations including unknowns on both

	and compound shapes, volume of cubes and cuboids, nets, plans and elevations, surface area, metric to imperial measures. MPA Area of a 2D shapes and compound shapes, volume of cubes and cuboids, nets, plans and elevations, surface area, metric to imperial measures. LPA Area of a 2D shapes and compound shapes, volume of cubes and cuboids, nets, plans and elevations, surface area, metric to imperial measures.	Algebraic powers, expand brackets, factorise expressions, solve one and two-step equations and equations with unknowns on both sides. MPA Algebraic powers, expand brackets, factorise expressions, solve one and two-step equations. LPA Algebraic powers, expand brackets, factorise expressions, solve one and two-step equations.	three or more parts, apply invers operations. MPA Rounding to decimal places, any significant figures, order decimals, multiplying and dividing decimals, divide a ratio into three or more parts. LPA Rounding to decimal places, significant figures, order decimals, multiplying and dividing decimals, divide a ratio into three parts.	mixed number fractions.	decrease, percentage change, repeated multipliers. MPA Equivalent fractions and decimals, recurring and terminating decimals, order fractions, convert between fractions, decimals and percentages, equivalence, one number as a percentage of another, percentage increase and decrease, multipliers. LPA Equivalent fractions and decimals, recurring decimals, order fractions, convert between fractions, decimals and percentages, equivalence, one	sides, substitution, formulae, change the subject, factorising, expanding double brackets. LPA Solve equations, substitution, formulae, change the subject, factorising, expanding double brackets.

					number as a percentage of another, simple percentage increase and decrease.	

Curriculum Overview for Year 9 in Mathematics

Year 9 Assessments: Assessments in year 9 take place after each unit (10 in total). Assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, but could also include the curriculum covered in previous year/s (KS3/2). This then allows for a rolling achievement of progress throughout the academic year.

The table below details the skills and knowledge students will be covering each half term in this subject area.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Knowledge and skills which will be covered this year	**Data** HPA Surveys, questionnaires, displaying and analysing data, averages from a grouped frequency table, stem and leaf. MPA Surveys, questionnaires, displaying and analysing data, averages from a grouped frequency table,	**Constructions** HPA Scale drawings, constructions, bisections, loci, nets. MPA Scale drawings, constructions, bisections, nets. LPA Scale drawings, constructions, bisections, nets. **Algebra** HPA Nth term,	**Geometry** HPA Circumference and area of a circle, perimeter and area of sectors, Pythagoras' theorem, volume and surface area, conversion of units, errors and bounds. MPA Circumference and area of a circle, Pythagoras'	**Probability** HPA Probability notation, mutually exclusive events, experimental and theoretical probability, sample space diagrams, two-way tables, draw and find probabilities from Venn diagrams. MPA Mutually exclusive events,	**Start of the GCSE curriculum** Higher **Number** Number problems and reasoning, place value and estimating, HCF and LCM, calculating with powers, zero, negative and fractional indices, standard form, surds. Foundation	Higher **Algebra** Algebraic indices, expanding and factorising, solving equations, formulae, linear sequences, non-linear sequences. Foundation **Algebra** Algebraic expressions, simplifying expressions, substitution, formulae, expanding

	stem and leaf. LPA Surveys, questionnaires, displaying and analysing data, averages from a frequency table, stem and leaf. **Multiplicative reasoning** HPA Enlargement including negative and fractional scale factors, percentage change (profit and loss), compound measures, best-buys, inverse proportion. MPA Enlargement including negative scale factors, percentage change, compound measures, best-buys, inverse proportion. LPA	geometric sequences, quadratic sequences, inequalities, trial and improvement, solving equations, formulae, proportion. MPA Nth term, geometric sequences, quadratic sequences, inequalities, solving equations, formulae, proportion. LPA Nth term, geometric sequences, inequalities, solving equations, formulae, proportion.	theorem, volume and surface area, conversion of units, errors and bounds. LPA Circumference and area of a circle, Pythagoras' theorem, volume and surface area, errors and bounds. **Graphs** HPA Plotting graphs from an equation of a straight line, parallel lines, perpendicular lines, rearranging equations of graphs, solving simultaneous equations, draw and interpret quadratic equations, draw and interpret cubic graphs. MPA	experimental and theoretical probability, sample space diagrams, two-way tables, draw and find probabilities from Venn diagrams. LPA Mutually exclusive events, experimental and theoretical probability, sample space diagrams, two-way tables, draw Venn diagrams. **Geometry** HPA Congruent and similar shapes, trigonometry (tangent, sine, cosine ratios), using trigonometry to find angles. MPA Congruent and similar shapes, trigonometry	**Number** Four operations, decimal numbers, place value, factors and multiples, squares, cubes and roots, index notation, prime factors.	brackets, factorising, using expressions and formulae.

	Enlargement, percentage change, compound measures, best-buys, inverse proportion.		Plotting graphs from an equation of a straight line, parallel lines, rearranging equations of graphs, solving simultaneous equations, draw and interpret quadratic equations, draw and interpret cubic graphs. LPA Plotting graphs from an equation of a straight line, parallel lines, rearranging equations of graphs, solving simultaneous equations, plot quadratic equations.	(tangent, sine, cosine ratios), using trigonometry to find angles, Pythagoras' theorem and trigonometry. LPA Congruent and similar shapes, trigonometry (tangent, sine, cosine ratios), using trigonometry to find angles.		

Curriculum Overview for Year 10 in Mathematics

Year 10 Assessments: Assessments at GCSE (Foundation and Higher) take place after each unit (20 Foundation units and 19 Higher units). Assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, but could also include the curriculum covered in previous year/s (KS3). This then allows for a rolling achievement of progress throughout the academic year.

GCSE Mock Assessments: Half Term

The table below details the skills and knowledge students will be covering each half term in this subject area.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Exam board & course code Knowledge and skills which will be covered this year	Higher **Interpreting and representing data** Stem and leaf diagrams, time series graphs, scatter graphs, line of best fit, averages and range, two-way tables, pie charts, bar (duel) charts. Foundation **Graphs, tables and charts**	Higher **Angles and Trigonometry** Angle properties of triangles and quadrilaterals, interior and exterior angles, Pythagoras' theorem, Trigonometry. Foundation **Equations, inequalities and sequences** Solving	Higher **Area and Volume** Perimeter and area, units and accuracy, prisms, circles, sectors, cylinders and spheres, pyramids and cones. Foundation **Averages and range** Mode, median, mean and range,	Higher **Equations and Inequalities** Solving linear inequalities, solving quadratic equations, completing the square, linear simultaneous equations, quadratic simultaneous equations. Foundation **Graphs**	Higher **Multiplicative reasoning** Growth and decay, percentage change, iteration, compound measures, ratio and proportion, direct and inverse proportion. Foundation **Ratio and Proportion** Writing and using	Higher **Trigonometry** Upper and lower bounds, graph of the sine function, graph of the cosine function, graph of the tangent function, sine rule, cosine rule, solving problems in 3D, transforming trigonometry graphs. Foundation

	Frequency tables, two-way tables, representing data, time series, stem and leaf diagrams, pie charts, scatter graphs, line of best fit. Higher **Fractions, ratios and percentages** Four operations with fractions (including mixed number fractions), ratios, proportion, percentage increase and decrease (with multipliers), conversion between fractions, decimals and percentages. Foundation **Fractions and Percentages** Working with fractions, four operations with fractions, fractions and decimals,	equations, inequalities, using formulae, sequences, nth term. Higher **Graphs** Linear graphs, graphing rates of change, real-life graphs, line segments, quadratic graphs, cubic and reciprocal graphs. Foundation **Angles** Properties of shapes, angles in parallel lines, angles in triangles, exterior and interior angles, geometrical problems.	estimation, sampling. Higher **Transformations and constructions** 3D solids, reflection, rotation, enlargement, translations, combinations of different transformations, constructions and loci. Foundation **Perimeter, area and volume** Rectangles, parallelograms and triangles, trapezia, metric unit conversion, compound shapes, surface area, and volume.	Coordinates, linear graphs, gradient, y=mx+c, real-life graphs, distance-time graphs. Higher **Probability** Combined events, mutually exclusive events, experimental probability, independent events and tree diagrams, conditional probability. Foundation **Transformations** Translation, reflection, rotation, enlargement, describing transformations, combing transformations.	ratios, ratios and measures, compare ratios, unitary method, proportion, proportion and graphs. Higher **Similarity and Congruence** Congruence, geometric proof, similarity, scale factor (length, area, volume). Foundation **Right-angles triangles** Pythagoras' theorem, Trigonometry (Sine, Cosine and Tangent), finding lengths and angles using trigonometry.	**Probability** Calculating probability, sample space diagram, experimental probabilities, Venn diagrams, Tree diagrams, Higher **Statistics** Sampling, cumulative frequency, box plots, drawing and interpreting histograms, comparing and describing distributions. Foundation **Multiplicative reasoning** Percentage of an amount. Percentage change, percentage increase and decrease, growth and decay, compound

	fractions and percentages, calculating percentages.					measures, speed, distance and time, direct and inverse proportion.

Curriculum Overview for Year 11 in Mathematics

Year 10 Assessments: Assessments at GCSE (Foundation and Higher) take place after each unit (20 Foundation units and 19 Higher units). Assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, but could also include the curriculum covered in previous year/s (KS3). This then allows for a rolling achievement of progress throughout the academic year.

GCSE Mock Assessments: Half Term 2 and Half Term 4

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Exam board & course code Knowledge and skills which will be covered this year	Higher **Equations and graphs** Solving simultaneous equations graphically, representing inequalities graphically, sketching and using quadratic equations, sketching and using cubic	Higher **Algebra** Rearranging formulae, four operations with algebraic fractions, proof, surds, solving algebraic fractions, functions, composite and inverse functions. Foundation	Higher **Proportion and graphs** Direct and inverse proportion, exponential functions, non-linear graphs, translating graphs of functions, reflecting graphs of functions. Foundation **Congruence,**	**Revision and Preparation for GCSE Exams**	**Revision and Preparation for GCSE Exams**	**Revision and Preparation for GCSE Exams**

	equations, iteration. Foundation **Constructions, loci and bearings** 3D solids, plans and elevations, accurate drawings, scale drawings and maps, constructions, loci and regions, bearings. Higher **Circle Theorems** Radii and chords, tangents, angles in a circle, applying circle theorems. Foundation **Quadratic equations and graphs** Expanding double brackets, plotting quadratic graphs, using quadratic graphs,	**Perimeter, area and volume** Circumference of a circle, area of a circle, semicircles and sectors, composite 2D shapes and cylinders, pyramids and cones, spheres and composite solids. Higher **Vectors and geometric proof** Vectors and vector notation, vector arithmetic, parallel vectors and collinear points, solving geometric problems. Foundation **Fractions, indices and standard form** Multiplying and dividing fractions, laws of indices, standard form,	**similarity and vectors** Similarity and enlargement, congruence, column vectors. Foundation **Algebra** Graphs of cubic and reciprocal functions, non-linear graphs, solving simultaneous equations graphically, rearranging formulae, proof.			

	factorising quadratic expressions, solving quadratic equations algebraically.	and four operations with standard form.				