Maths Curriculum Map

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	Topic	**Indices:** Students develop their understanding of index notation, indices, prime factorisation and standard form. **Formula:** Students learn to form formulae, substitute, change the subject of formula, factorising and expanding, algebraic manipulation and algebraic fractions **Equations:** Students further develop their solving equation skills, more complex factorising and expanding and solving simultaneous equations. Exam question practice through the	**Angle Geometry:** Students to build on their understanding of basic angles on a straight line, around triangles, parallel lines, building up to angle in polygons and circle theorems. **Probability:** Students to understand simple probability, sample spaces, mutually exclusive events, relative frequency, create probability trees and using Venn diagrams. **Data Handling:** Students to revise the more basic data handling representation including pictograms, bar chart, line graphs,	**Trigonometry:** Student to cover Pythagoras Theorem, using trigonometry to find missing sides and angles in right angled triangles, exact trig values and extend into the sine and cosine rule. **Number Systems:** Students to revise decimal places, significant figures, estimation and extend knowledge into recurring decimals, error intervals and upper and lower bound calculations. Exam question practice through the **Very Important Questions** booklet.	**Mensuration:** Students to cover nets, area and compound area of simple shapes, area and circumference of circles, volume and surface area of prisms and cylinders, density and pressure calculations and area of sectors and segments. Exam question practice through the **Very Important Questions** booklet.	**Data Handling:** Students to cover the more advance data handling topics including sampling and histograms. **Data Analysis:** Students to study data analysis including mean from frequency tables, mean, mode and range of grouped data, cumulative frequency and box plots. **Further Equations:** Student to continue their study of algebra from term 1 and build on their knowledge of simultaneous equations, algebraic fractions, solving quadratics both by factorising and with	Fractions and Percentages: Students to recap their knowledge of fractions, decimals and percentages, fraction addition, subtraction, multiplication and division, also percentage increase/decrease, compound interest and reverse percentage problems. Exam question practice through the **Very Important Questions** booklet.

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		Very Important Questions booklet.	pie charts and frequency polygons. Exam question practice through the **Very Important Questions** booklet.			the quadratic formula. Exam question practice through the **Very Important Questions** booklet.	
	Assessment	**Half Term 1a Assessment**	**Half Term 1b Assessment**	**Half Term 2a Assessment**	**Half Term 2b Assessment**	**Half Term 3a Assessment**	**Year 10 Maths Pre Mock Examination**
	PREP	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP1 (Indices), CP2 (Formula) and CP3 (Equations) due every other week, supported by **Very Important Questions** studied in class.	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP4 (Half Term 1a revision), CP2 (Angle Geometry) and CP3 (Probability 1) due every other week, supported by **Very Important Questions** studied in class.	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP7 (Probability 2), CP8 (Trigonometry) and CP9 (Number Systems) due every other week, supported by **Very Important Questions** studied in class.	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP10 (Data Handling 1), CP11 (Mensuration 1) and CP12 (Mensuration 2) due every other week, supported by **Very Important Questions** studied in class.	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP13 (Data Handling 2), CP14 (Data Analysis) and CP15 (Further Equations) due every other week, supported by **Very Important Questions** studied in class.	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP16 (Fractions and Percentages), due every other week, supported by **Very Important Questions** studied in class.

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| Year 11 | Higher Topic | **Number Patterns:** Students to recognise number patterns, find the nth term of both linear and quadratic sequences and to solve problems involving iteration.

Graphs: Student to draw straight line graphs, find gradients, find the midpoint and equations between two coordinates, understand parallel and perpendicular lines and solve simultaneous equations using graphs.
Loci and Transformations: Students to construct triangles, angle bisector, perpendicular bisector and loci of points. | **Loci and Transformations:** Students to reflect, enlarge, rotate and translate objects around a coordinate grid to find the image or describe the transformation. Students to understand and use congruence and similarity in problems.

Variation: Student to understand direct and inverse proportion, form equations for both and represent graphically. | **Inequalities:** Students to show inequalities on a number line, solve inequality equations, quadratic inequalities, graph inequalities and shade inequality regions on graphs.

Using Graphs: Students to transform graphs of functions, find composite functions, find inverse functions, find the area under a graph and find the gradient of the tangent to a curve.

Revision of Trigonometry: Students to revise trigonometry and problems involving the sine and cosine rule. | **3D Geometry:** Students to solve Pythagoras and trigonometry in three dimensions.

Vectors: Student to understand column vectors, adding and subtraction of vectors and solve problems involving vector geometry.

Revision: Key topic revision and completion of past papers in class. | **Revision:** Key topic revision and completion of past papers in class. | |

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	Foundation Topic	Number Patterns: Students to recognise number patterns and find the nth term of a linear sequence. **Graphs:** Student to draw straight line graphs, find gradients, find the midpoint and equations between two coordinates. **Loci and Transformations:** Students to construct triangles, angle bisector, perpendicular bisectors.	**Loci and Transformations:** Students to reflect, enlarge, rotate and translate objects around a coordinate grid to find the image or describe the transformation. Students to understand and use congruence and basic similarity in problems. **Variation:** Student to understand direct and inverse proportion problems.	**Inequalities:** Students to show inequalities on a number line and solve inequality equations. **Revision:** Key topic revision and completion of past papers in class.	**Revision:** Key topic revision and completion of past papers in class.	**Revision:** Key topic revision and completion of past papers in class.
	Assessment	**Half Term 1a Assessment (H or F)**	**Year 11 Nov/Dec Mock Exam**	**Half Term 2a Assessment (H or F)**	**Year 11 March Mock Exam**	**Summer GCSE Exams Begin**
	PREP	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP17 H/F (Number Patterns), CP18 H/F (Graphs) and CP19	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP20 H/F (Construction and Loci) and CP21 H/F	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP22 H/F (Variation/Proportion), CP23 H/F (Inequalities) and CP24H (Using Graphs) or CP24F	**Sparx Maths** set every week to support classroom learning. **Checkpoints** CP25H (3D Pythagoras and Trig) or CP25F (Mixed Revision 2)	**Set Past Papers**

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	H/F (Further Graphs) due every other week, supported by **Very Important Questions** studied in class.	(Transformations) due every other week, supported by **Very Important Questions** studied in class.	(Mixed Revision 1) due every other week, supported by **Very Important Questions** studied in class.	due every other week, supported by **Very Important Questions** studied in class. **Set Past Papers**	