Curriculum Map

Subject: Maths

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Buro	Bure	Duro	Buro	Bure	Buro
Content - WHAT will be learned? What	Algebraic Expressions	Graphs and Transformations	Differentiation	Algebraic Methods	Trigonometric Ratios	Vectors
previous learning can be linked? why this	Index Laws	• Cubic	Gradients of Curves	Algebraic Fractions	Sine and Cosine Rule	Vectors
order/sequence?	Brackets	Quartic	 Finding the 	Dividing	Area of a Triangle	Representing
	Factorising	Reciprocal	Derivative	Polynomials	Solving Triangle	Vectors
	Surds	Points of	Differentiating x ⁿ	The Factor Theorem	Problems	 Magnitude and
We sequence our curriculum in this	<u>Quadratics</u>	Intersection	Differentiating	Mathematical Proof	Trig Graphs	Direction
order to reduce cognitive load by	Solving	Transformations	Quadratics	Methods of Proof	Transforming Trig	Position Vectors
drawing on prior knowledge and	Complete the square	Straight Line Graphs	Differentiating	Binomial Expansion	Graphs	Solving Geometric
logically plan episodes of learning so	Functions	• Y=mx+c	Multiple Terms	Pascal's Triangle	Irigonometric identities and	Problems
that they accumulate in small stages	Graphs Discriminant	Equations of Straight Lines	Gradients, Tangents and Normals	Factorial Notation Synancian	Equations • Angles in all 4	• Modelling
securing understanding at one stage	Discriminant Modelling	Darallel and	 Increasing and 	Expansion Solving Pinomial		Exponentials and Logarithms
before moving on to the next	Initial Provide Internations and Inequalities	Perpendicular Lines	Decreasing	Solving Binomial Problems	Exact Trig Values	Exponential
before moving on to the next.	Simultaneous	Length and Area	Functions	Binomial Estimation	Trig Identities	Functions
	Equations – Linear	Modelling	Second Order		Trig Equations	• Y=e ^x
Skills are revisited as via interleaved	and Quadratic	Circles	Derivatives	Statistics	Equations and	Exponential
starters and retrieval practise	Simultaneous	Midpoints and	Stationary points	Probability	Identities	Modelling
throughout the year.	Equations on graphs	Perpendicular	Sketching Gradient	Calculating		 Logarithms
	Linear and Quadratic	Bisectors	Functions	Probabilities	Statistics	Laws of Logs
Knowledge of course content is covered	Inequalities	Equation of a Circle	Modelling	Venn Diagrams	Statistical Distributions	Solving Equations
during early stages of the curriculum and	Regions	Intersections of	Integration	Mutually Exclusive	Probability Distributions	Using Logs
then built upon at spaced intervals	Statistics	Circles and Straight	 Integrating Xⁿ Indefinite Integrals 	events	Distributions	Working with
allowing skills to be improved upon over	Data Collection	Lines	Indefinite integrals Einding Europhies	Independent Events Trop Diagrams	Distribution	Natural Logs
time	Populations and Samples	Chords	Printing Functions Definite Integrals	Iree Diagrams	Cumulative	Logs and Non-Linear Data
ume.	Samples	Circles and Triangles	Area Under a Curve	Forces and Motion	Probabilities	Statistics
	Types of data	Statistics	Area Under the x	Motion in 2	Mechanics	Hypothesis Testing
	The Large Data Set	Location and Spread	Axis	Dimensions	Variable Acceleration	Hypothesis Tests
	Mechanics	Central Tendency	Area Between a	Connected Particles	Functions of Time	Critical Values
	Modelling	Other measures	Curve and a Line	Pulleys	Using Differentiation	One and Two Tailed
	Constructing a	Spread			Maxima and Minima	Tests
	Model	Variance and	Statistics		Problems	Mechanics
	Modelling	Standard deviation	Representations of Data			Variable Acceleration
	assumptions	Coding	Outliers			Using Integration
	Quantities and Units	Constant Acceleration	BOX Plots Cumulative			Constant
	Working with	Displacement-Time	Frequency			Acceleration
	vectors	Graphs	Histograms			Torritide
		Velocity-Time	Comparing Data			
		Graphs	Correlation			
		Constant	Correlation			
		Acceleration	Regression			
		Formulae	<u>Mechanics</u>			
		Vertical Motion	Forces and Motion			
			Force Diagrams			
			Forces as Vectors			
			Forces and Acceleration			
Skills- What will be developed?	Learners develop their	Learners develop their	Learners develop their	Learners develop their	Learners develop their	Learners develop their
	mathematical fluency in a	mathematical fluency in a	mathematical fluency in a	mathematical fluency in a	mathematical fluency in a	mathematical fluency in a
	range of areas through a	range of areas through a	range of areas through a	range of areas through a	range of areas through a	range of areas through a
	concrete, pictorial and	concrete, pictorial and	concrete, pictorial and	concrete, pictorial and	concrete, pictorial and	concrete, pictorial and
	abstract (CPA) approach.	abstract (CPA) approach.	abstract (CPA) approach.	abstract (CPA) approach.	abstract (CPA) approach.	abstract (CPA) approach.

Year Group: 12

	Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements.	Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements.	Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements.	Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements.	Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements.	Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements.
Key 'How'/'Why' Questions- What powerful knowledge will be gained? What areas/themes/concepts will be explored?	How to apply the content listed above in the real-world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. All skills listed above are used later in the course, so it is essential to build solid foundations before moving on.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. All skills listed above are used later in the course, so it is essential to build solid foundations before moving on.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. All skills listed above are used later in the course, so it is essential to build solid foundations before moving on.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. All skills listed above are used later in the course, so it is essential to build solid foundations before moving on.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. All skills listed above are used later in the course, so it is essential to build solid foundations before moving on.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. All skills listed above are used later in the course, so it is essential to build solid foundations before moving on.
SEND- how will support be seen? Seating plans? Simplified questions?	 SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning environment (only relevant information given) 	 SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning environment (only relevant information given) 	 SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning environment (only relevant information given) 	 SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning environment (only 	 SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning environment (only relevant information given) 	 SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning environment (only relevant information given)

				relevant information		
				given)		
Assessment- What? Why?	Gap task Pure	Mechanics and Stats	Mock exam – Pure	Stats assessment	Mechanics assessment	Mock exams – Pure and
	Mini guizzos in losson	assessments	Mini quizzes in lesson	Mini quizzes in lesson	Wini quizzes in lesson	Applied
	WITH QUIZZES IT IESSON					with quizzes in lesson
What memory for learning skills will be	Interleaved starters and					
required- modelling? Concrete answers?	retrieval practise, regular					
Retrieval?	skills checks and mini					
	assessments and model					
	answers.	answers.	answers.	answers.	answers.	answers.
	check understanding					
Literacy- reading extended accurate	Key words/terms					
writing and oracy opportunities	emphasised and highlighted					
	in lessons.					
	Reading and breaking down					
	questions to allow all					
	learners to access the skills					
	needed.	needed.	needed.	needed.	needed.	needed.
Numeracy/computing skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills
Character development	Cold calling ensures that all					
	pupils are required to answer	pupils are required to				
	questions as there is a no opt	answer questions as there is				
	out culture. Pupils with	a no opt out culture. Pupils				
	Anxiety around this are	with Anxiety around this are	with Anxiety around this are	with Anxiety around this are	with Anxiety around this are	with Anxiety around this are
	managed well and the					
	teachers ensure that they					
	are included but feel					
	and experiences are called	examples and experiences				
	upon regularly	are called upon regularly	are called upon regularly	are called upon regularly	are called upon regularly	are called upon regularly
	apon regulary.					
Equality/Diversity opportunities	Real world e.g's used					
	Super curriculum available					
	for all learners.					
	itself a range of diverse					
	careers are incorporated into	careers are incorporated				
	the real-life applications of	into the real-life applications				
	the mathematics.	of the mathematics.	of the mathematics.	of the mathematics.	of the mathematics.	of the mathematics.
Homework/Independent learning	Use of exam questions and					
	Uplearn to embed the skills					
	required	required	required	required	required	required
CIAG coverage/links	Super curriculum activities in	Super curriculum activities in	Super curriculum activities in	Super curriculum activities	Super curriculum activities in	Super curriculum activities in
	maths.	maths.	maths.	in maths.	maths.	maths.

Real life exam	ples and uses Real life examples and use	Real life examples and uses Real life	Real life examples and uses			
for the topics	where for the topics where	for the topics where for the t	for the topics where			
appropriate.	appropriate.	appropriate. appropr	appropriate.	appropriate.	appropriate.	appropriate.