KEVICC Key Stage 3 Curriculum Subject: Mathematics			Key Vocabulary and notation.	
Autumn Half-Term 2 Representation				D.11
Term: Year 8 Autumn Term – Block Four	Topic: Working in the C	Cartesian Plane	Quadrani	Difference
What is the essential knowledge from this	unit? 2			Gradient
What do students need to remember and understand?			Horizontal	Vertical
Building on their knowledge of coordinates from key stage 2, students will look formally at algebraic			Vertical	Horizontal
rules for straight lines, starting with lines parallel to the axes and moving on to the general form. They			Axis	Input
can explore the notations of gradient and infercepts, but the focus at this stage is using the equations to produce lines rather than interpretation of m and c from a given equation; this will be covered in			Origin	Output
year 9. Use of technology to illustrate graphs should be embedded. Appreciating the similarities and			Parallel	Intercept
differences between sequences, list of coordinates and lines is another key point. Students following			Straight line	Negative
the higher strand may also explore non-linear graphs and mid-points of line segments.			Equation	Incline
National curriculum content covered:			Graph	Ratio
Move freely between different numerical, algebraic, graphical and diagrammatic			Diagonal	Difference
representations.			Scale	Sequence
Develop algebraic and graphical fluency, including understanding linear (and simple guadratic) functions			Graph	Descending
 Make connections between number relationships, and their glaebraic and graphical 			Multiple	Ascending
representations.			Steep	Integer
Substitute numerical values into formulae and expressions.			Linear	Substitution
Recognise, sketch and produce graphs of linear functions of one variable scaling, using actuations in x and x and the Cartesian plane			Substitute	Table of
			Table	Values
We know that breaking the curriculum down into small manageable steps should help students to understand concepts better. As a result, for each block of content in the scheme of learning we have provided the following 'small step' breakdown for this unit as follows:			Slope	Non-linear
			Scale	Curve
			Linear	Symmetrical
Lesson Two - Identify and draw lines that are parallel to the axes.			Proportion	Midpoint
Lesson Three - Recognise and use the line $y = x$.			Unitary	Equidistant
Lesson Four - Recognise and use lines of the form $y = k x$.			Multiplier	Segment
Lesson Five - Link $y = k x$ to direct proportion problems.			Direct	Mean
Lesson Six - Explore the gradient of the line $y - kx$ (h). Lesson Seven - Recognise and use lines of the form $y = x + a$.			Steepness	
Lesson Eight - Explore graphs with negative gradient ($y = -k x$, $y = a - x$, $x + y = a$).				
Lesson Nine – Link graphs to linear sequences.			Mathematical questioning should be designed to unpick the structure of the maths and deepen the student's understanding. When students talk about mathematical concepts, they should develop the vital mathematical language that helps them explain their ideas fully.	
Lesson Ten – Plot graphs of the form $y = mx + c$.				
Lesson Twelve – Find the midpoint of a line segment (H)				
Interleaving /Extension of previous work				
Revisit calculation with directed number.				
• Link to one-step and two-step linear equations.				
• Finding the mid-point of a line segment.			Students are expected and encouraged to use terminology during all discussions, verbal	
 Exploring the gradient of a line. Exploring non-linear graphs 				
		feedback and in	written content.	
What prior learning supports understandin	g of this content?	How does this content link to future	e learning?	
 Describe positions on the full co-ordinate grid (all four auadrants) Interpret straight line graphs. Find and use the equation of 			a straight line	
Use and interpret algebraic notation. Reduce equations to the form			y = m x + c.	
 Form and substitute into expressions. Form and solve one-step and two-step equations Earm 			s and defining the r	ule for the nth
 Use the order of operations. Draw and interpret scatter gravely and interpret			aphs.	
Collect like terms. Understand correlation. Evaluate an algebraic expression given a related fact				
 Evaluate an algebraic expression given a related ract. Draw and use lines of best m. Reading: Where in the unit are students supported to read Writing: Independent writing tasks 			and how they are s	structured
complex academic text? • Using the correct subject spec			cific terminology for numbers and rs, class books. ask for an explanation or a reason – boks. flecting and analysis of own work –, rning checklists and analysis. Ised later for revision purposes - class	
 Reaaing and understanding mathematical questions and problems' – teacher input. Symbols – examination paper Responding to questions that 				
Decoding complex examination questions - explain what examination papers, class bo				
 they are asking the student to do' – teacher input. Following instructions to solve problems - break down the class books, personalised lear 				
tasks – teacher input.				
 Recognising terminology, numbers, and symbols. Becognising patterns and relationships in mathematics 			aps etc.	

Key assessments:

How will students review the information learned?

End of block assessments.

End of block assessments provide a quick progress check at the end of each block of learning to make sure students have understood the content covered.

A Core paper – it is envisaged that all students will take this paper, to provide a direct comparison with the performance of the rest of the cohort. All topics from each term will be covered, and the use of a calculator is expected.

End of term assessments.

material with more straightforward questions. Non calculator paper.

A Higher paper – students who are working at or above national expectations will have the opportunity to tackle more challenging questions on the same material, plus the extra objectives indicated as "Higher" in our scheme of learning. Non calculator paper. How will feedback be seen?

Personalised learning checklists for end of term assessments identifying strengths and areas of development.

Written teacher feedback and marking in compliance with faculty and College Marking Policies. Student responses to marking.

Students self-mark using purple pen. Verbal feedback given every lesson from teacher and peers as appropriate. Teacher and student self-assessment of presentation of class books will be completed to ensure written work is of high standard and students are achieving their potential.