

KEVICC Key Stage 3 Curriculum Subject: Mathematics		Key Vocabulary and notation.	
Autumn Half-Term 2 Representation		Variable	Counted
Term: Year 8 Autumn Term – Block Five	Topic: Representing Data	Relationship	Qualitative
<p>What is the essential knowledge from this unit? 2 What do students need to remember and understand?</p> <p>Students are introduced formally to bivariate data and the idea of linear correlation. They extend their knowledge of graphs and charts from key stage 2 to deal with both discrete and continuous data.</p> <p>National curriculum content covered:</p> <ul style="list-style-type: none"> Describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data. Construct and interpret appropriate tables, charts and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data and vertical line (or bar) charts for ungrouped and grouped numerical data. Describe simple mathematical relationships between two variables (bivariate data) in observational and experimental contexts and illustrate using scatter graphs. Use language and properties precisely to analyse probability and statistics. <p>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:</p> <p>Lesson One - Draw and interpret scatter graphs. Lesson Two - Understand and describe linear correlation. Lesson Three - Draw and use line of best fit. Lesson Four - Identify non-linear relationships. Lesson Five - Identify different types of data. Lesson Six - Read and interpret ungrouped frequency tables. Lesson Seven - Read and interpret grouped frequency tables. Lesson Eight - Represent grouped discrete data. Lesson Nine - Represent continuous data grouped into equal classes. Lesson Ten - Construct and interpret two-way tables.</p> <p>Interleaving/Extension of previous work</p> <ul style="list-style-type: none"> Links to representing data and using graphs in other areas of the curriculum. 		Origin	Quantitative
		Scale	Frequency
		Coordinate	Ungrouped
		Axis	Total
		Increase	Subtotal
		Decrease	Grouped
		Relationship	Tally
		Correlation	Range
		Positive	Group
		Negative	Equal
		Strong	Class
		Weak	Class
		Line of best fit	boundary
		Estimate	Estimate
		Straight	Less
		Extrapolate	than/Equal to
		Outlier	Greater than
		Variable	Continuous
		Discrete	Ratio
		Continuous	Fraction
		Measured	Percentage
		<p>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.</p> <p>Students are expected and encouraged to use terminology during all discussions, verbal feedback and in written content.</p>	
<p>What prior learning supports understanding of this content?</p> <ul style="list-style-type: none"> Interpret and construct pie charts and line graphs and use them to solve problems. Calculate and interpret the mean as an average. 		<p>How does this content link to future learning?</p> <ul style="list-style-type: none"> Understand and use primary and secondary data sources. Collect data, including questionnaires. Interpret and construct statistical diagrams, including multiple bar charts. Construct and interpret pie charts. Compare distributions using charts. Identify misleading graphs. 	
<p>Reading: <i>Where in the unit are students supported to read complex academic text?</i></p> <ul style="list-style-type: none"> Reading and understanding mathematical questions and problems' – teacher input. Decoding complex examination questions - explain what they are asking the student to do' – teacher input. Following instructions to solve problems - break down the tasks – teacher input. Recognising terminology, numbers, and symbols. Recognising patterns and relationships in mathematics. 		<p>Writing: <i>Independent writing tasks and how they are structured</i></p> <ul style="list-style-type: none"> Using the correct subject specific terminology for numbers and symbols – examination papers, class books. Responding to questions that ask for an explanation or a reason – examination papers, class books. Self-evaluation, reviewing, reflecting and analysis of own work –, class books, personalised learning checklists and analysis. Creating notes that can be used later for revision purposes - class books, revision cards, mind maps 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.

A Foundation paper – students who are working below national expectations will have the opportunity to show their understanding of the 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?

Marked end of block and term assessments.

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.