

KEVICC Key Stage 4 Curriculum Subject: Mathematics		Key Vocabulary and notation.																																																													
Spring Half-Term																																																															
Term: Year 9 Spring Term – Block One		Topic: Collecting and Representing Data																																																													
<p><b>What is the essential knowledge from this unit?</b>  <b>What do students need to remember and understand?</b></p>		<table border="0"> <tr><td>Hypothesis</td><td>Comparison</td></tr> <tr><td>Investigation</td><td>Bivariate</td></tr> <tr><td>Enquiry</td><td>Grouped data</td></tr> <tr><td>Primary/secondary data</td><td>Frequency diagram</td></tr> <tr><td>Sample</td><td>Discrete</td></tr> <tr><td>Questionnaire</td><td>Continuous</td></tr> <tr><td>Questions</td><td>Intervals</td></tr> <tr><td>Design</td><td>Range</td></tr> <tr><td>Multiple choice</td><td>Spread</td></tr> <tr><td>Response box</td><td>Consistent</td></tr> <tr><td>Biased</td><td>Average</td></tr> <tr><td>Pictogram</td><td>Compare</td></tr> <tr><td>Bar chart</td><td>Distribution</td></tr> <tr><td>Line graph</td><td>Broken axis</td></tr> <tr><td>Tally</td><td>Mislead</td></tr> <tr><td>Frequency</td><td>Difference</td></tr> <tr><td>Multiple bar chart</td><td>Total</td></tr> <tr><td>Scale</td><td>Subtotal</td></tr> <tr><td>Axes</td><td>Grouped</td></tr> <tr><td>Comparison</td><td>Tally</td></tr> <tr><td>Key</td><td>Range</td></tr> <tr><td>Pie Chart</td><td>Group</td></tr> <tr><td>Fraction</td><td>Equal</td></tr> <tr><td>Full turn</td><td>Class</td></tr> <tr><td>Proportion</td><td>Class</td></tr> <tr><td>Line graph</td><td>boundary</td></tr> <tr><td>Scale</td><td>Estimate</td></tr> <tr><td>Change</td><td>Less</td></tr> <tr><td>Read off/read from</td><td>than/Equal to</td></tr> <tr><td>Proportion</td><td>Greater than</td></tr> </table> <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>		Hypothesis	Comparison	Investigation	Bivariate	Enquiry	Grouped data	Primary/secondary data	Frequency diagram	Sample	Discrete	Questionnaire	Continuous	Questions	Intervals	Design	Range	Multiple choice	Spread	Response box	Consistent	Biased	Average	Pictogram	Compare	Bar chart	Distribution	Line graph	Broken axis	Tally	Mislead	Frequency	Difference	Multiple bar chart	Total	Scale	Subtotal	Axes	Grouped	Comparison	Tally	Key	Range	Pie Chart	Group	Fraction	Equal	Full turn	Class	Proportion	Class	Line graph	boundary	Scale	Estimate	Change	Less	Read off/read from	than/Equal to	Proportion	Greater than
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S4	Interpret, analyse and compare distributions of data sets from univariate empirical distributions through appropriate graphical representation involving discrete, continuous and grouped data	know and understand the terms primary data, secondary data, discrete data and continuous data																																																													

| Students should be able to:   - decide whether data is qualitative, discrete or continuous and use this decision to make sound judgements in choosing suitable diagrams for the data - understand the difference between grouped and ungrouped data - understand the advantages and disadvantages of grouping data - distinguish between primary and secondary data - use lists, tables or diagrams to find values for the above measures - find the mean for a discrete frequency distribution - find the median for a discrete frequency distribution - find the mode or modal class for frequency distributions - calculate an estimate of the mean for a grouped frequency distribution, knowing why it is an estimate - find the interval containing the median for a grouped frequency distribution - choose an appropriate measure to be the 'average', according to the nature of the data - identify outliers - find patterns in data that may lead to a conclusion being drawn - look for unusual data values such as a value that does not fit an otherwise good correlation. | |  | |
| **What prior learning supports understanding of this content?**   - Interpret and present discrete and continuous data using appropriate graphical methods including bar charts, pictograms, and time graphs. - Complete, read and interpret information in tables, including timetables. - Interpret and construct pie charts and line graphs and use these to solve problems. | | **How does this content link to future learning?**   - Recognise and name positive, negative or no correlation as types of correlation. - Recognise and name strong, moderate, or weak correlation as strengths of correlation. - Understand that just because a correlation exists, it does not necessarily mean that causality is present. - Draw a line of best fit by eye for data with strong enough correlation, or know that a line of best fit is not justified due to the lack of correlation. - Understand outliers and make decisions whether or not to include them when drawing a line of best fit. - Use a line of best fit to estimate unknown values when appropriate. | |

**Reading:** Where in the unit are students supported to read complex academic text?

- 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.

**Writing:** Independent writing tasks and how they are structured

- 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 do students review the information learned?

End of block assessments.

AQA 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 being covered. These are available for both foundation and higher tiers.

End of term/year assessments and mock examinations.

End of term assessments assessing the students' progress towards targets and provide diagnostic information to modify future teaching.

End of year 9 and 10 examinations assessing the students' progress towards targets and provide diagnostic information to modify future teaching.

Two mock examinations seasons take place during year 11 using previous years AQA 8300 examination papers. Students to experience the full suite of papers at both Foundation and higher tiers using Non-calculator and Calculator requirements.

All examinations will explore the three examination papers at both foundation and higher tiers using non-calculator and calculator requirements.

How will feedback be seen?

Marked end of block, term assessments and mock examinations.

Personalised learning checklists for all 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.