

KEVICC Key Stage 3 Curriculum Subject: Mathematics		Key Vocabulary and notation.	
Summer 2 Half-Term Reasoning with Data		Hypothesis Investigation Enquiry Primary/secondary data Sample Questionnaire Questions Design Multiple choice Response box Biased Pictogram Bar chart Line graph Tally Frequency Multiple bar chart Scale Axes Comparison Key Pie Chart Fraction Full turn Proportion Line graph Scale Change Read off/read from Proportion Comparison Scatter graph Bivariate Grouped data Frequency diagram Discrete Continuous Intervals Range Spread Consistent Average Compare Distribution Broken axis Mislead Difference 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. Students are expected and encouraged to use terminology during all discussions, verbal feedback and in written content.	
Term: Year 8 Summer Term – Block Four	Topic: The Data Handling Cycle		
What is the essential knowledge from this unit? What do students need to remember and understand? Much of the statistics content in key stage 3 is a continuation of that studied at primary school, and many of the charts and graphs in this block have been used in year 7 and earlier in year 8. A focus is using charts to compare different distributions. We also explore when graphs maybe misleading, an important real-life consideration. Collection of data is also covered, including designing and criticising questionnaires. As we are covering the elements of the data cycle, it may be worth delivering these steps (and some of those in the next block) through an extended project so students become aware of the pitfalls and difficulties of data collection and interpretation as well as the procedural production of graphs and charts. National curriculum content covered: - Describe, interpret and compare observed distributions of a single variable through appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consolidation of outliers) - 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 numerical data. 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: Lesson One - Set up a statistical enquiry Lesson Two - Design and criticise questionnaires Lesson Three - Draw and interpret pictograms, bar charts and vertical line charts Lesson Four - Draw and interpret multiple bar charts Lesson Five - Draw and interpret pie charts Lesson Six - Draw and interpret line graphs Lesson Seven - Choose the most appropriate diagram for given set of data Lesson Eight - Represent and interpret grouped quantitative data Lesson Nine - Find and interpret the range Lesson Ten - Compare distributions using charts Lesson Eleven - Identify misleading graphs Interleaving/Extension of previous work - Revisit finding the range. - Links to data collection and representation in other areas of the curriculum			
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? - Revisit the median and mean, including finding the total given the mean. - Find the mean of grouped data. - Work out the mode and modal class. - Choose the appropriate average. - Comparing distributions using measures.	
Reading: <i>Where in the unit are students supported to read complex academic text?</i> - 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.		Writing: <i>Independent writing tasks and how they are structured</i> - 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.