KEVICC Key Stage 4 Curriculum Subject: Mathematics

Spring Half-Term

Term: Year 11 Spring Term – Block Five | **Topic: Growth and Decay**

What is the essential knowledge from this unit?
What do students need to remember and understand?

	Specification content	Specification notes
R16	Set up, solve and interpret the answers in growth and decay problems, including compound interest	

Students should be able to:
- solve problems involving repeated proportional change
- use calculators to explore exponential growth and decay using a multiplier and the power
- solve compound interest problems.

Key Vocabulary and notation.

Growth and Decay	Growth
	Express
Fraction	Factor
Decimal	Multiple
Percentage	Round
Equivalent	Integer Profit
Denominator	Loss
Numerator	Interest
Fraction key	Change
Estimate	Original
Rounding	Invest
Conversion	Reverse
Hundredth	Compound
Tenth	interest
Reduce	Simple
Decrease	interest
Multiplier	Exponential
Increase	growth

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.

What prior learning supports understanding of this content?
- Solve problems involving direct and inverse proportion, including graphical and algebraic representations.
- Understand that x is inversely proportional to y is equivalent to x is proportional to $\frac{1}{y}$
- interpret equations that describe direct and inverse proportion
- Recognise and interpret graphs that illustrate direct and inverse proportion

How does this content link to future learning?
- Consolidate solving problems involving growth and decay from key stage 4.
- Consolidate solving problems involving direct and inverse proportion from key stage 4.
- Consolidate recognising and interpreting graphs that illustrate direct and inverse proportion from key stage 4.
- Revise and explore subject content through examination questions and in context.

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.