

KEVICC Key Stage 4 Curriculum Subject: Mathematics		Key Vocabulary and notation.																																																										
Autumn Half-Term																																																												
Term: Year 9 Autumn Term – Block Two		Topic: Factors and Multiples																																																										
<p>What is the essential knowledge from this unit? What do students need to remember and understand?</p> <table border="1"> <thead> <tr> <th></th> <th>Specification content</th> <th>Specification notes</th> </tr> </thead> <tbody> <tr> <td>N4</td> <td>Use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation, and the unique factorisation theorem</td> <td>prime factor decomposition including product of prime factors written in index form</td> </tr> <tr> <td>N5</td> <td>Apply systematic listing strategies</td> <td>including using lists, tables, and diagrams</td> </tr> </tbody> </table> <p>Students should be able to:</p> <ul style="list-style-type: none"> Identify multiples, factors, and prime numbers from lists of numbers. Write out lists of multiples and factors to identify common multiples or common factors of two or more integers. Write a number as the product of its prime factors and use formal (e.g. using Venn diagrams) and informal methods (e.g. trial and error) for identifying highest common factors (HCF) and lowest common multiples (LCM). Work out a root of a number from a product of prime factors. Identify all permutations and combinations and represent them in a variety of formats. 			Specification content	Specification notes	N4	Use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation, and the unique factorisation theorem	prime factor decomposition including product of prime factors written in index form	N5	Apply systematic listing strategies	including using lists, tables, and diagrams	<table border="0"> <tr><td>Multiples</td><td>Highest</td></tr> <tr><td>Integer</td><td>Common</td></tr> <tr><td>Factor</td><td>Factor</td></tr> <tr><td>Divisible</td><td>Common</td></tr> <tr><td>Remainder</td><td>Multiple</td></tr> <tr><td>Term</td><td>Product</td></tr> <tr><td>Factorise</td><td>Lowest</td></tr> <tr><td>Divisor</td><td>Common</td></tr> <tr><td>Multiple</td><td>Multiple</td></tr> <tr><td>Prime</td><td>Prime Factor</td></tr> <tr><td>number</td><td>Union</td></tr> <tr><td>Odd</td><td>Intersection</td></tr> <tr><td>Even</td><td>Conjecture</td></tr> <tr><td>Digit</td><td>Explain</td></tr> <tr><td>Number</td><td>Relationship</td></tr> <tr><td>Relationship</td><td>True</td></tr> <tr><td>Investigate</td><td>False</td></tr> <tr><td>Square</td><td>Proof</td></tr> <tr><td>Number</td><td>Demonstration</td></tr> <tr><td>Expression</td><td>Always</td></tr> <tr><td>Common</td><td>Systematic</td></tr> <tr><td>Factor</td><td>Never</td></tr> <tr><td>Factorising</td><td>Sometimes</td></tr> <tr><td>Factorise</td><td>Assumption</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>		Multiples	Highest	Integer	Common	Factor	Factor	Divisible	Common	Remainder	Multiple	Term	Product	Factorise	Lowest	Divisor	Common	Multiple	Multiple	Prime	Prime Factor	number	Union	Odd	Intersection	Even	Conjecture	Digit	Explain	Number	Relationship	Relationship	True	Investigate	False	Square	Proof	Number	Demonstration	Expression	Always	Common	Systematic	Factor	Never	Factorising	Sometimes	Factorise	Assumption
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<p>What prior learning supports understanding of this content?</p> <ul style="list-style-type: none"> Recall all multiplication facts to 12×12 and use them to derive the corresponding division facts Work with square numbers. Recognise prime numbers. Factorise whole numbers. Understand and use set notation. Draw and interpret Venn diagrams. Use basic rules of indices. Understand index form and calculate with index numbers. 		<p>How does this content link to future learning?</p> <ul style="list-style-type: none"> Order positive and/or negative numbers given as integers, decimals, and fractions, including improper fractions. Apply the four operations, including formal written methods, to simple fractions (proper and improper) and mixed numbers - both positive and negative. Write a fraction in its simplest form. Calculate exactly with fractions. 																																																										
<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. 		<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. 																																																										
<p>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.</p>																																																												

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.