BRANNEL SCHOOL
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Curriculum Summary Document

Year 7 - Maths

Module/Unit of Learning	Taught During	What will students learn?	How does this help to build a broad and strong foundation?	Links to other Subjects
Averages	Autumn Term 1	Students will learn how to summarise data using the 3 different averages and the measure of spread called "The Range". Students will learn how to perform these calculations on data presented in a variety of ways, lists, frequency table and grouped data. Students will begin to work with displaying data using stem and leaf diagrams and frequency polygons. Students will learn how to draw conclusions on data using these statistical measures.	Students are building on a strand of maths that they have not been required to focus on hugely in Key Stage 2. They will continue with work with their core numerical knowledge but apply it in new ways and begin to demonstrate critical thinking skills to draw conclusions given data.	Geography: working with data Science: working with data
Directed Number	Autumn Term 1	In this module, students will learn the Commutative, Associative, and Distributive Laws, and apply them to carry out calculations accurately. They will master the correct order of operations, including powers, roots, and brackets, and use these skills to solve multi-step problems. The module ends with mixed practice to consolidate understanding and build confidence for future learning.	Mastering these laws and the correct order of operations gives students the essential tools to approach any calculation with accuracy and confidence. This strong numerical foundation supports future learning in algebra, problem-solving, and more advanced mathematical concepts, while also developing logical thinking and precision.	
Law and Order	Autumn Term 2	Students focus on the fundamentals to number theory with the Associative, Commutative and Distributive Laws of number. Students will build on these to demonstrate why multi-step calculations are performed in a specific order according to the operations they are required to use.	This unit is a pre-cursor to work with algebra manipulation. Students need to understand the Core Laws to ensure common misconceptions are rectified ahead of their mathematical journey.	
Expressions, Functions and Formulae 1	Autumn Term 2	Students will focus on how to apply their Law and Order unit in an algebraic setting. They will learn how we "group" like terms with a variety of operations and, how we can expand factorise with brackets.	A solid foundation in algebraic manipulation is key to building up to the highest level of mathematical knowledge. Students will begin that early in their secondary journey to ensure regular interleaved learning with algebra in many other aspects of their learning.	

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Decimals (Finances)	Autumn Term 2	In this module, students will develop confidence with decimals through all four operations, making links to fractions for deeper understanding. They will also work with directed numbers, learning to add, subtract, multiply, and divide negatives, using decimals for extension. This builds accuracy and adaptability for more complex maths.	A secure understanding of decimals and directed numbers enables students to approach calculations involving different number types with confidence. This foundation supports flexible thinking, helps them make meaningful connections between topics, and ensures they can apply their skills effectively in both mathematical and real-world situations.	
Area and Perimeter	Spring Term 1	Students will recap work on the core 3 and 4 sided shapes and finding their areas and perimeters. They will build on this with the introduction of the trapezium and finding the area. Students will then interleave their learning from the previous unit on algebra to form expressions given algebraic formed shapes.	This unit gives students the opportunity to begin apply knowledge in new contexts. Shape is recapped and then interleaved with algebra to show the links and enhance the students mathematical knowledge and confidence.	Design and Technology: applying measurement Science: representing quantities Art: working with shape and space
Linear Equations	Spring Term 1	Students will know return to algebra and learn how we can turn expressions into equations and use our key knowledge in Law and Order to solve for the given unknown. Students will learn that not all solutions need be integers and further interleave their knowledge from area and perimeter and averages by setting up and solving equations given key facts about shapes and data.	As the students journey through year 7 is continuing, they are beginning to build that knowledge of interlinking topics. By introducing the concept of equations now students can further explore their shape knowledge and extend the challenge with averages. Students are learning about the interconnectivity of mathematical learning.	Oracy: developing precise spoken explanation
Fractions and Percentages	Spring Term 2	Now students have secure foundations we will recap their work on fractions and percentages from Key Stage 2. Students will be stretched to learning about all four operations with fractions and including the division of fractions by fractions. Students will build their vocabulary with “vinculums” and “reciprocals”. Students have previously only worked with non-calculator methods and so they will be introduced to increasingly complex questions and how the modes on the calculator can support these.	Students are building up their skills, from non-calculator numerical knowledge to the use of mathematical instruments to support them. The scientific calculator is a sophisticated piece of kit these days and used in both Science and Maths extensively. Support them with this is vital.	Geography: working with data Science: working with data

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Ratio and Direct Proportion	Summer Term 1	Students will learn how to form ratios and how they link to fraction knowledge from the previous unit. Students concept of multiplicative reasoning is building up and they will focus on direct proportion questions with concepts, such as recipes, conversion of currency, best buy problems.	This is now the fifth strand of the maths curriculum being looked at and means that students are developing their skills to be well rounded mathematicians. The knowledge of proportion is vital to build up to work on speed, density, pressure and such concepts as trigonometry, enlargements and similarity.	Catering and Hospitality: scaling recipes Science: proportional reasoning
Lines and Angles	Summer Term 1	Having dealt with the space inside of shapes earlier in the year, students are now going to focus on the key properties surrounding those shapes. Students will ensure that their declarative knowledge on angle facts is secure and they will build in work from previous units with algebra to develop further problem solving skills with equations, expressions and ratio problems with angles in 3 and 4 sided shapes.	Euclid's fundamentals of shape is the building blocks to success with this area of mathematics. This solid foundation with angle facts will pave the way to ensure work with circle theorems, proof and polygons in the later years will be successful.	Oracy: developing precise spoken explanation Construction: spatial reasoning Engineering: structural geometry
Primes, Factor and Roots	Summer Term 2	Circling back around to the students fundamentals of number properties students will build on their work with primes, and begin to break all numbers into a product of their primes. They will use this knowledge to find large roots of values and Highest Common Factors and Lowest Common Multiples of values where inspection will be arduous.	To build up to work on the Laws of Indices we need students to master the fundamentals with primes. Knowing there are various ways of presenting numbers, allows us to introduce the concept of Surds in their later years.	
Probability	Summer Term 2	To finish the year we are introducing brand new topic – the concept of probability. This unit alongside teaching them what it is, it will encapsulate a large portion of their learning from the year with fractions, percentages, equations and expressions to solve problems with a probability setting.	Probability is brand new as a concept in Key Stage 3 and so introducing it at the end of the year allows all students to grapple with this concept. It is a perfect module to support the interlinks between their learning for the year with the number of concepts that can be reviewed and built on.	