

Subject	Year 9 Foundation Threshold Concepts – Autumn Term	How to support students' learning
Mathematics	<u>Unit 1 - Number</u> 1a. Integers and place value 1. Use and order positive and negative numbers 2. Add, subtract multiply and divide integers - positive and negative 3. Know and use the order of operations (not including powers) 1b. Decimals 1. Use decimal notation and place value 2. Identify the value of digits in a decimal or whole number 3. Compare and order decimal numbers 4. Add, subtract, multiply and divide decimals 5. Round numbers to a given power of 10 6. Check answers by rounding and using inverse operations 7. Round to the nearest integer 8. Round to a given number of decimal places and significant figures 9. Estimate calculations by rounding numbers to 1 significant figure 10. Use one calculation to find the answer to another 1c. Indices, powers and roots 1. Find squares and cubes 2. Find square roots and cube roots 3. Recognise powers of 2, 3, 4 and 5 4. Understand surd notation on a calculator	<u>Unit 1 - Number</u> ▪ Encourage your child to learn their times tables, prime numbers below 100 and square numbers up to 225 (15^2) ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place. ▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book.

	5. Use index notation for powers of 10 6. Use index notation in calculations 7. Use the laws of indices 8. Use the order of operations (including powers) 1d. Factors, multiples and primes 1. List all three-digit numbers that can be made from three given integers 2. Recognise odd, even and prime numbers 3. Find factors and multiples of numbers 4. Find common factors and common multiples of numbers 5. Find the HCF and LCM of numbers by listing 6. Write a number as the product of its prime factors 7. Use prime factor decomposition and Venn diagrams to find the HCF and LCM <u>Unit 2 – Algebra</u> 2a. Algebra: the basics 1. Use correct algebraic notation 2. Identify expressions/equations/identities/formulas 3. Use the identity symbol and the not equal to symbol 4. Write and simplify expressions 5. Multiply and divide expressions 6. Use index notation and index laws when multiplying or dividing algebraic terms 7. Expanding single brackets 8. Simplify expressions with single brackets 9. Factorise algebraic expressions into single brackets	<u>Unit 2 – Algebra</u> ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place. ▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book.
--	--	---

	2b. Expressions and substitution into formula 1. Substitute numbers into expressions and formulae 2. Write and use formulae 3. Write and use formulae with brackets 4. Use maths and science formulae <u>Unit 3 – Statistics</u> 3a. Tables, charts and graphs 1. Design tables and data collection sheets 2. Read data from tables 3. Use data from tables 4. Design and use two-way tables 5. Draw and interpret comparative and composite bar charts 6. Interpret and compare data shown in bar charts, line graphs and histograms 7. Plot and interpret time series graphs 8. Use trends to predict what might happen in the future 9. Construct and interpret stem and leaf and back-to-back stem and leaf diagrams 10. Construct frequency polygons 3b. Pie charts 1. Draw and interpret pie charts 3c. Scatter graphs 1. Plot and interpret scatter graphs 2. Determine whether there is a relationship between sets of data 3. Draw a line of best fit on a scatter graph 4. Use the line of best fit to predict values	<u>Unit 3 – Statistics</u> ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place. ▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book.
--	--	--