



Module/Unit of Learning	Taught During	What will students learn?	How does this help to broaden horizons?	Links to other Subjects
Area and Perimeter	Autumn term 1	Students now begin to explore these shapes in further depth. Utilising their KS3 knowledge on area and perimeter and extending it to further complex shapes. Finding the area of shaded shapes and problem solving.	Explore jobs and careers that use shape. Focus on jobs and courses that would be local as well as those further afield.	Technology
Expanding and Factorising	Autumn term 1	Students have spent time in year 7 and 8 representing numerical rules in general form and manipulating algebraic expressions. This unit will continue to build on that. Students will learn to expand and factorise up to cubic expressions.		Science
Circles And Circle Theorems for Higher groups	Autumn term 2	Students learn how to find the area and circumference of a circle and sectors. Students who may sit the higher will also cover circle theorems.		Technology
Algebraic Graphs	Autumn term 2	Students will take their learning of linear graphs in year 8 and discover that not all relationships can be represented linearly. They will explore quadratic, cubic and reciprocal relationships and how these can be visually represented in graph form. They will move on from solving equations algebraically to solving them graphically.		Science
Analysing Data	Spring term 1	The world of data. Students will begin learning about all the types of data, how this informs us in the best ways to represent data and how they can investigate hypotheses and draw conclusions. Students will revise work completed in year 6 on and KS3 on averages, discuss why each one is important and when each can be used at its best. They will discover new ways to compare and represent data with the use of frequency diagrams, stem and leaf diagrams, quartiles and box-plots.	Being able to interpret and interrogate data is a skill for understanding the world.	Science and Geography
Parallel lines and Polygons	Spring term 1	Students will have covered angles rules in KS3, review and recap. Focus on combining the angle rules learned so far and be able to explain and reason, linking to forming and solving equations.	Students will have the opportunity to link to previous topics such as solving linear equations.	



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Displaying Data		Spring 2	Students will continue their work from earlier this year on analysing data. Students will focus on methods to display data, including scatter graphs, time series, cumulative frequency graphs and frequency polygons.	During this module students will look at real-life data either collected themselves or through a secondary source. Students will learn to develop a critical eye looking at how data can be used to manipulate.	Science, Geography, PE, PSHE – link to Politics
Factors indices and standard form		Spring 2	Revisiting work from year 7 on the language of number, primes, factors and multiples. Students will explore the concept of working with very large or small numbers through the writing of numbers in standard form.		Science and Geography
Surds Higher groups only		Summer 1	Students will take their previous indices knowledge on further with irrational numbers and surd work.	Show that surds are used to make sure that calculations are precise.	Technology (engineering)
Fractions Foundation groups only		Summer 1	Recapping fraction work from KS3, exploring the 4 operations with fractions. Starting to link using fractions in different areas of Maths.		
Equations		Summer 1 and 2	Students will focus on further work on solving linear equations and will draw in linear equations with a fraction involved in the process. Higher students will look at solving more complex equations.		Science
Algebraic fractions and equations-Higher only		Summer 2	Having reviewed numerical fractions students will look at how we can apply the same knowledge to algebraic fractions. Higher Students will use their work on factorising from Autumn Term to further simplify algebraic fractions.		
Real life Graphs		Summer 2	Student will revisit their work on compound measures from Year 8 and they will look at the graphs linked with speed, distance and time	Shows real life applications to graphs.	Science
Assessments		Summer 2	2 Exam papers Calculator and Non-Calculator sat in the hall to build exam experience.	Preparing students for success in their external examination	
Plans, Elevations, Constructions and Loci		Summer 2	Students will learn to do a plan drawing of a 3D shape. Accurately construct 2D shapes using a ruler, protractor and compass. Follow detailed instructions for finding loci and regions that meet a set of criteria.	Real life examples and seeing the careers plans an elevations are used in.	Science and Technology.