

What are the intended aims for this year's curriculum? To build upon year 7 knowledge and introduce some more building blocks required at GCSE											
Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
Topic(s): Sequences, formulae and compound measures		Topic(s): Percentages		Topic(s): Ratio and Proportion		Topic(s): 3D shapes		Topic(s): Linear equations and graphs		Topic(s): Transformations and Pythagoras	
Aim of A&R		Aim of A&R		Aim of A&R		Aim of A&R		Aim of A&R		Aim of EoY exam	
'Big idea(s)' / fundamental concepts		Understanding how percentage are used in real life		Understanding how to split values into different ratios		Calculating the surface area and volume of 3D shapes		To solve different types of equations both algebraically and graphically. To understand how different events can be represented graphically.		Describe and carry out four transformations. To use Pythagoras' Theorem to find a missing length in a right angles triangle.	
Knowledge to be learnt		Revise percentage of an amount Increase and decrease an amount by using a percentag Increase and decrease an amount using multiplier Calculate simple and compound interest t. Express one quantity as a percentage of another Repeated percentage change using multipliers Reverse percentage problems		Write a fraction as a ratio Use ratio notation, including reduction to simplest form Divide a given quantity into two parts in a given part: part or part: whole ratio Change a recipe Use map scales and scale diagrams		Convert between metric units, metric area measurements and metric volume measurements Calculate the volume of prisms inc cylinders Calculate the surface area of prisms inc cylinders Find the missing side when given the volume or surface area of a shape Worded questions on finding volume and surface are		Solve one step linear equations Solve two step linear equations Solve equations with an unknown on both sides Set up a simple linear equation and solve it Solve a simple simultaneous equation Draw a straight-line graph Solve simple simultaneous equations graphically Understand $y = mx+c$ and what m and c represent Rearrange an equation to the form $y=mx+c$ Find the equation of a parallel line Interpret real life graphs		Perform a translation with/without vector notation Describe a translation using vector notation Perform and describe a rotation about the origin Perform and describe a rotation about any point Identify rotational symmetry and lines of symmetry Perform and describe reflections in any line parallel to the axis Perform and describe reflections in a diagonal line Perform and describe an enlargement by a positive scale factor Perform and describe an enlargement by a positive scale factor with a CoE Recognise congruent shapes Surds Use Pythagoras Theorem to find the longest side Use Pythagoras Theorem to find one of the shorter sidest) Use Pythagoras Theorem to prove a triangle is right-angled Complete worded problems involving Pythagoras	
Key vocabulary		Simple Interest, Compound Interest, reverse percentages, multiplier, annually, depreciates		ratio, simplest, scale factor, proportion.		volume, surface area, prism, cylinder, metric, cone, pyramid, cube, cuboids, sphere		Gradient, perpendicular, parallel, simultaneous equations, y- intercept, linear.		Enlargement, reflection, rotation, translation, scale factor, vector, transformation, centre of enlargement, origin, symmetry Pythagoras, hypotenuse, right-angled triangle, surd.	
No A&R		Assess Term 1		No A&R		Review of Term 2 + 3 (40% each) and Term 1 (20%)		N/A		Assess understanding of entire term and identify gaps to be worked on in Term 6	

The role of reading and comprehension	Reading worded questions involving compound measures and identify the different types of units		Decoding the questions and identifying the subtle differences between a questions that is asking you to calculate a percentage change, and one in which the percentage change is given and you are calculating the original amount.		Decoded the question and identifying which part of the ratio you are being given.		Understanding worded questions in real life contexts, such as how much it costs to fill up a swimming pool, or how many parcels can physically fit inside a lorry.		Converting a worded questions into an algebraic problem in order to solve it.		Describing different transformations. Decoding worked Pythagoras questions
The role of independent extended writing	N/A		N/A		N/A		N/A		N/A		N/A
The role of maths/ numeracy	In all the above		In all the above		In all the above		In all the above		In all the above		In all the above
Links to careers/ aspirations	Kinematics and other formulae are used in lots of different jobs including engineering, road traffic accident investigators, designing things such as speed cameras scientists etc		Percentages are involved in real life such as sales, price index, banking, mortgages, credit cards etc. Retail		Chefs amend recipes depending on the number of people they are catering for. Painters mix up paint in ratios. Maps are used in geography.		Volume is used in manufacturing – reducing the cost of the packaging whilst still ensuring the product fits. It is also used in the design on things such as swimming pools.		Simultaneous equations are used to find the point of intersections (where a collision may occur, the point where one deal becomes cheaper than the other etc). Equations are used in almost any situation where there is an unknown quantity, for example the cost of hiring an electrician can be represented by an equation if you know the call out charge and hourly rate etc.		Tiling, art and design, altering pattern sizes in textiles, graphic design, scale drawings. Mirror images can be found in the chemical structure of sugar molecules, symmetry occurs a lot in nature Architecture, engineering, construction, surveying.
Core skills	To recognise different sequences, describe sequences using the nth term rule and to sue this to find missing terms. To substitute into different formula, ensuring that the units are the same		To recognise percentage as meaning out of 100 and to calculate percentage increases/decreases and to recognise where this can be applied in real life. To have a basic understanding of interest rates and how these are used.		To understand how to split a quantity into a ratio. To understand how to use a map scale.		To calculate the volume of different 3D shapes		To set up and solve different types of equations. To use and draw different types of linear graphs		To perform and describe translations, rotations, reflections and enlargements, To Use Pythagoras' Theorem to find a missing side
Dept. enrichment activities							G&T club Last year some students visited a nuclear plant				
Home learning opportunities	Research task: Can you find examples of the Fibonacci sequence in real life?		Look at different accounts online and explore interest rates. If you have a credit card/mortgage, promote a discussion about this with your child.		Cook with your child, can you amend the recipe for more/less people? Read a map instead of using a sat nav, can you tell how far away something is using a map? Can you follow the instructions on the back of a bottle of squash and mix the squash and the water in the recommended ratio?		Calculate the volume of different shapes in your house, for example cereal boxes, chocolate tins etc		Give you child the total cost of multiple items, can they find the cost of one (e.g. 5 apples cost £1, what is the cost of one? I bought a banana and orange for 50p, the banana cost 20p, how much was the orange?). Explore the meaning of call out charge, mobile phone tariffs etc.		Look at tessellation art on google. Look at how the tiles in your kitchen/bathroom fit together. Research Pythagorean triples.