

- Number and Place value Remainder Converting units end of Key Stage 2. - Values of digits Factors 2D representations of 3D Multiples - Negative numbers Primes Coordinates - - Four operations Primes Coordinates - - Fractions Proportion Mean - - Ratio and Proportion Four operations of amounts Proportion Mean - - - Finding percentages of amounts Similar shapes Converting - - - - Similar shapes Converting Units - - - - Algebra - Simple formulae Cube - - - - - - Simple formulae Cube - <td< th=""><th>t</th></td<>	t
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- Simple formulae Cuboids mathemat	
- Linear sequences Triangles calculation	
Cimple equations	, fractions,
Polygons decimals	ercentages.
Measurement Radius They also	
- Converting units of Tangent division ar	d long
measure Diameter multiplicat	on. 30
- Recognise when to use Coordinates minutes for	r 40 marks.
formulae for area and Translations	
Papers 2 8	
Area of parallelegroms Pie charts mathemat	cal fluency,
Line graphs	
and triangles. problems	
Geometry: mathemat	
reasoning.	Pupils have
- Draw 2D shapes 40 minute	for 35
- 2D representations of 3D marks.	
shapes	
- Classify quadrilaterals	

	 Naming parts of circles Angles around a point, on a straight line and vertically opposite angles. Coordinates Translations Statistics Construct pie charts and line graphs Use mean as an average 					
Year	What do students learn?	Why?	Tier 3 keywords	Threshold concepts	Literacy	Assessment
7	 Probability and Number 1 Basic probability Probability Representations- listing outcomes & calculating probabilities as well as Venn Diagrams. Fractions-simplifying, adding/subtracting and multiplying/dividing Order of operations Factors, multiples & primes Directed Number Algebra 1 Manipulating algebra Expanding brackets Substitution 	 Term 1: We start with topics that students might not necessarily have covered in as much depth at KS2, to encourage them to build interest in mathematics rather than repeat material they are already comfortable in. For example, students will not have studied Probability in as much depth as many number topics they may cover later in Year 7. Later in the term, we look at factors, multiples & primes, enabling pupils to find HCF & LCM. We also look at simplifying, adding/subtracting fractions. 	Probability Outcome Impossible Mutually exclusive Exhaustive Experiment Equivalent Operation Division Remainder Factor Multiple Prime Lowest Common Multiple Highest Common Factor Index Notation	 Powers and Roots Expanding brackets Circles (Area and Circumference) Linear Graphs Writing ratios using proportion. Similarity and Congruence. 	Spelling tests We ensure students in Year 7 do a spelling test each half term (Based on Tier 3 vocabulary), with a pre-test at the beginning of the term and a post-test at the end. We record their scores so we can assess the impact of this. Reading Every lesson after lunch starts with 10	Week 10 (Early November) Topic Test/MCQs Week 22 (Early February) Topic test/MCQs Week 35 (Early May) Topic Test/MCQs Week 45 (End of July) End of Topic Test/MCQs • At the above assessment points, teachers will assess the

Special Sequences	- Term two begins with a look at	Base		udents using
Coordinates	Directed Number, enabling pupils to	Exponent		d of topic tests
Linear Graphs	become confident with processing	Square		id multiple
	negative/positive numbers.	Root		oice questions.
Ratio and Proportion 1	 We then move away from number 	Inverse		achers will
Ratio	skills slightly by introducing and	Cube	Maths as greater the	en use this
• Simplifying Ratio.	extending algebra that they will have	Approximation	familiarity with inf	formation to
• Sharing in a given ratio.	seen at KS2. Students are expected	Negative number	higher level rev	view and
• Express one quantity as a ratio	to be able to know and use basic	Directed number	vocabulary will rev	vise topics that
of another.	algebraic notation, recognise	Venn diagram	enhance problem stu	udents needed
 Proportional reasoning Inc. 	expressions, terms, formulae	Sample Space	solving skills at all me	ore help on.
Best buys.	equations and functions. Simplify	Theoretical	levels. Th	ley form a
 Scale diagrams. 	algebraic expressions & substitute	probability	dia	agnostic tool to
	into formulas and expressions.	Bias		lp us with our
Competitive and Managuran 1	Term 3:	Fairness		eliberate
Geometry and Measures 1	Begins with Exploring Sequences:	Variable		actice"
Properties of shapes.	- Recognise/continue a variety of	Unknown		proach.
Line/Rotational Symmetry.	sequences.	Expression	working out is key.	
Perimeter and Area.	- Generate sequences from a term-to-	Equation	, , , , , , , , , , , , , , , , , , ,	
Circle Area and Circumference.	term rule.	Pattern	Students are	
• Parts of a circle.	 Find the term-to-term rule of a 	Sequence	encouraged to work	
 Re-arrange area and 	sequence.	Ascending	down the page by	
circumference formulae.	 We then look at multiplying and 	Descending	dividing their pages	
 Use standard units of 	dividing fractions.	Arithmetic	in two and working	
measure.	Term 4:	Geometric	in columns.	
	- Ratio plays an extremely large part to	Horizontal	Teachers look for	
	play within mathematics and is also	Vertical	clear, concise and	
	one of the most common	Coordinate	correct working out	
	constituents of the new GCSE (25%	Fraction	that is easy for	
	for Foundation tier and 20% for	Proportion	students and others	
	Higher tier students). Initially looking	Sphere	to follow.	
	at proportional reasoning including	Cone		
	best buys. Use notation ratio and	Cylinder	Furthermore, when	
	reduce to it's simplest form. Split a	Quadrilateral	the opportunity	
	quantity into 2 or more parts in a	Square	arises, teachers	
	given ratio. Apply ratio to scale	Rectangle	may ask students to	
	diagrams.	Parallelogram	explain certain	
	Term 5:	Isosceles	concepts in their	
			own words. This	
	An important focus on coordinate grids &	Trapezium		
	straight-line graphs enabling students to:	Kite	may be after a	
	Design and construct an appropriate	Rhombus	teacher has	
	scale for a set of axes.	Delta	explained a certain	
	Work with coordinates in all four	Diagonal	concept to the class	
	quadrants.	Scalene	and wants students	
	 Write equations of lines parallel to 	Equilateral	to narrate this in	
	the x-axis or the y-axis.	Plane	their own words.	
	 Solve geometrical problems on 	Parallel		
	coordinate axes.	Perpendicular	Oracy	

		 Term 6: Exclusively looking at Shape: Properties of shapes including correct notation and symmetry. Perimeter & area of 2D and compound shapes. Circle area & circumference. The curriculum at this stage is broken down into distinct parts yet the nature of maths means that topics are interleaved and revised at each stage of the year. The regular assessments points, and more importantly, the periods after the assessment points allow teachers to identify what topics have been taught well, which topics students have learnt as a result but also to identify topics to re-teach and revise before moving on to build on these skills. 	Polygon Rotational symmetry Perimeter Distance Dimension Compound shape Height Radius Diameter Circumference Sector Semicircle Irrational Protractor Centimetre Millimetre Acute Obtuse Reflex Interior Exterior Congruent Similar Hypotenuse Prove		Teachers should ensure that students answer in full, eloquent sentences and should ask students to repeat these if they are not said correctly. This is to help build their public speaking skills and also to help the whole school literacy programme.	
Year	What do students learn?	Why?	Tier 3 keywords	Threshold concepts	Literacy	Assessment
8	Number Using Percentages Converting between Fractions, decimals and percentages. Percentage increase/decrease/reverse Statistics Interpreting and comparing data Averages Scatter graphs Data project Algebra Solve linear equations Sequences, finding the nth term.	 Term 1: The term starts by looking at drawing and measuring angles with some calculations. This work will have been covered in Year 6 and is also touched upon in the Year 7 curriculum so teachers can develop these skills if students are competent, or ensure competency if students are still not fully grasping certain concepts. The term then looks at interpreting & comparing data, averages, comparing data and scatter graphs. All these topics are rarely covered in the Year 7 curriculum, and Scatter graphs not at all, so they should be topics that are interesting to students. 	Mean Median Mode Range Approximate Midpoint Discrete Data Pictogram Frequency Sector Correlation Interpolation Extrapolation Outlier Axis Scale Recurring Terminating Significant figures	 Scatter graphs Solving equations Linear graphs Direct and inverse proportion Pythagoras 	Reading Every lesson after lunch starts with 10 minutes of DEAR time. We are great supporters of this in Maths as it is so important that students are able to decipher long problems. Writing Although there is less extended writing in Maths, working out is key.	 Week 10 (Beginning of November) Topic Test/MCQs Week 22(Beginning of February) Topic test/MCQs Week 35 (Beginning of May) Topic Test/MCQs Week 45 (Mid of July) End of Topic Test/MCQs At the above assessment points, teachers will assess the learning of

Graphs of Linear and	Term 2:	Multiplier	Students are	students using
Quadratic Functions.	 The term starts by solving linear 	Percentage	encouraged to work	end of topic tests
	equations, from the Y6 of study,	Inverse	down the page by	and multiple
Ratio, Proportion and Rates of	students should be able to find pairs	Powers	dividing their pages	choice questions.
Change	of numbers that satisfy an equation	Roots	in two and working •	 Teachers will
 Direct and Inverse 	with 2 unknown, and in Y7, they have	Operation	in columns.	then use this
proportion	worked on algebraic notation,	Intersection	Teachers look for	information to
Best Buys	manipulation and substitution. It's an	Substitute	clear, concise and	review and
Units of measure	important piece of knowledge they	Ascending	correct working out	revise topics that
	need to grasp before then moving on	Descending	that is easy for	students needed
Geometry and Measures	further in algebra.	Linear	students and others	more help on.
Perimeter and Area		Term	to follow.	They form a
Volume	 Work on sequences is continued 	Gradient		diagnostic tool to
 Pythagoras 	from work on sequences in Year 7,	Quadratic	Furthermore, when	help us with our
 Geometric reasoning and 	with the introduction of looking at	Index	the opportunity	"deliberate
proof	nth term involving negative numbers	Plan	arises, teachers	practice"
Calculating Angles	and fractional increases. Geometric	Elevation	may ask students to	approach.
 3-D shape 	sequences should also be introduced	Formula	explain certain	
s s b shape	here.	Expression	concepts in their	
		Variable	own words. This	
	 Linear graphs are introduced 	Parallelogram	may be after a	
	although they will be seen again later	Trapezium	teacher has	
	in the year, in term 3. Students will	Perimeter	explained a certain	
	not know how to re-arrange	Area	concept to the class	
	formulae yet, but students will be	Cylinder	and wants students	
	able to look at equations in the form	Prism	to narrate this in	
	y = mx + c.	Radius	their own words.	
		Diameter		
	Term 3:	Cuboid	Oracy	
	- The term will focus on Linear graphs,	Cube	Teachers should	
	students should have seen graphs of	Cross-section	ensure that	
	the form x = a, y = b and y=+/- x in Y7	Hypotenuse	students answer in	
	and they will learn y=mx+c in depth.	Pythagoras	full, eloquent	
		Geometry	sentences and	
	Term 4:	Alternate angles	should ask students	
	- During this term, students build upon	Corresponding	to repeat these if	
	work in Year 7 by using percentages.	angles	they are not said	
	This includes finding percentage	Co-interior angles	correctly. This is to	
	increase/decrease, reverse	Reflex	help build their	
	percentages (where you have to find	Acute	public speaking	
	the original amount). Percentage	Obtuse	skills and also to	
	multipliers are also introduced which		help the whole	
	is a key skill throughout the GCSE		school literacy	
	curriculum.		programme.	
	The students will also have a good			
	understanding of ratio and			

proportion, the link between proportion with linear functions. Students will look into direct and inverse proportion (without algebra). This will include topics such as "Best buys" where students are required to find out which products are the best value.
 Term 4 finishes with Compound measures. This builds on work students will have done in KS2 on comparing units and measurements.
Term 5: - Term 5 starts by identifying properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres and then use these knowledge to solve problems involving 3D shapes.
 The term ends with students building on the work they did at KS2 and in Year 7 looking at Perimeter and Area. They also look at volume of shapes, which students won't have seen since Year 6.
Term 6: - Building on work in Term 6 on areas and perimeter, the students will derive and apply formulae to calculate and solve problems involving volume of cuboids (including cubes) and other prisms (including cylinders)
 Students then look at angles on a straight line, angles around a point, and vertically opposite angles. The students will derive and use the sum of angles in a triangle to deduce the angle sum in any polygon, and derive the properties of regular polygons.

		 The term finish by learning Pythagoras and using it in similar triangles to solve problems involving right-angled triangle including in 3D shapes. 				
Year	What do students learn?	Why?	Tier 3 keywords	Threshold concepts	Literacy	Assessment
10 Foundation	Number • Calculating with percentages • Indices	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the more challenging work later. Key	Factor Multiple Prime HCF	 Percentage multipliers Upper/Lower bounds Indices 	Writing Although there is less extended writing in Maths, working out is key.	October There is normally an assessment opportunity here. Although there is no
All of year 10 follow the same SOW but take different routes depending upon their success and	 Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs Linear and quadratic equations and graphs Algebraic Fractions Coordinate Geometry Geometry and Measures Measures Congruence and Similarity Pythagoras' theorem and basic trigonometry Volume Transformations and 	misconceptions should be addressed here to avoid issues with later topics. Work around error intervals and bounds provides the main body of work although students should do some rounding work prior to this. Indices is the next topic and utilises the knowledge acquired from the first weeks of term. The rules of indices are explored and examples and non examples used to generate discussion and key components. Pythagoras concludes term 1 and provides a fantastic opportunity to interleave other areas of the curriculum. Percentages, ratio, area and fractions should appear here and retrieval starters will help reduce the curve of forgetfulness.	LCM Product upper and lower bounds Powers Roots Reciprocal Indices Right-angled Hypotenuse Congruent Scale Factor Multiplicative Recurring Notation Invariant Radius Diameter Chord	 Congruent triangles Pythagoras and Trigonometry Rearranging formulae Y = mx + c 	Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for clear, concise and correct working out that is easy for students and others to follow. Furthermore, when the opportunity arises, teachers may ask students to explain certain	official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE June at the end of their academic year. 3 x 1.5 hour GCSE papers. Students are given three GCSE papers
potential tier entry. Staff have autonomy to work on areas of the curriculum	Vectors Probability Bar and Pie charts Tree diagrams Venn diagrams Statistics Measures of central tendency (Median, mean, mode and modal class)	Term 2: The theme of shape continues after half term with a focus upon trigonometry. This may be bypassed by the weaker end of year 10 as it is not appropriate for them. Triangles is a key theme in the next topic of congruence and similarity as well. For foundation this should just be the basic rules and encourage students to use scale factors to link similar shapes.	Tangent Arc Circumference Sector Segment Coordinate Gradient Y intercept Parallel Perpendicular Turning point Roots		concepts in their own words. This may be after a teacher has explained a certain concept to the class and wants students to narrate this in their own words. Oracy	from a past examination series. This allows us to compare our new results with past cohorts, to assess where the current cohort stand in relation to past cohorts.

deemed	Measures of spread	This is another fantastic opportunity to link	Numerator	Teachers should	Following their end of
	(Range, quartiles and	back to prior learning with indices. 'Scale	Denominator	ensure that	year examinations,
most	inter-quartile range)	factor' is a key phrase and allows for a natural	Translation	students answer in	students receive
annronriato	Discrete and Continuous	link into enlargements. Students should expect	Column Vector	full, eloquent	Question Level
appropriate	data	to see positive and fractional scale factors here.	Reflection Rotation	sentences and should ask students	analysis sheets which link to maths videos
to their	Lines of best fit	nere.	Clockwise / anti	to repeat these if	and exercises from
	Product rule for counting		Centre of rotation	they are not said	HegartyMaths which
group.	Listing of outcomes	The final few weeks of term revert back to	centre of rotation	correctly. This is to	enable students to
		number work with percentages. This will involve percentage of amounts, multipliers,		help build their	look at their areas of
		reverse percentages and percentage change.		public speaking	weakness. This is
		Growth and decay (compound interest) may be		skills and also to	particularly key for
		appropriate for the top end of the foundation		help the whole	students to use before
		students. (Much of this body of work should		school literacy	their next round of
		build upon the percentages work from year 9).		programme.	examinations which
					occur in November of
		Term 3:			Year 11.
		'New style' GCSE topics such as the product			
		rule for counting commence term 3.			Pre/Post tests
		Foundation students should also be able to list			At the beginning and
		outcomes in an ordered and structured			end of each topic, students are given a
		fashion. Students will need to link situations to			Pre and Post test on
		sample space diagrams and be able to			the given topic.
		represent ideas in a Venn diagram. This			the given topic.
		challenging topic offers a great opportunity to			This is based on
		interleave ratio and fractions of amounts.			developments of
		Whilst not on the SOW, a link to frequency			cognitive science that
		trees may be appropriate here.			"primes" students'
					brains for what they
		Term 3 concludes with work on Volume. This			are about to learn. It
		was covered in year 8 but should involve work			also offers teachers to
		around working backwards and rearranging			assess any prior
		equations. Volumes of cones, spheres and			learning from student
		pyramids should be tackled here as with higher although the work may just focus upon			and adapt their
		substitution of values.			teaching sequence to
		substitution of values.			the needs of their
		Term 4:			individual students.
		Straight line graphs start off term 4. This topic			The post tests also
		was covered in years previously, however the			allow students to buil
		focus is now towards basic coordinate			confidence as they ca
		geometry. The scheme of work is flexible at			see that they have
		this point depending upon how students			learnt topics that they
		respond to this part of the curriculum. Links to			may not have been
		real life graphs (distance time) will provide an			able to do in the past
		opportunity to link work with that of Science.			
		Some quadratic graph work may happen here			

		 although this depends upon whether it is appropriate for the group. Term 5: Both higher and foundation start term 5 with fractions. Foundation students work should focus upon the 4 operations and apply this to mixed numbers as well. Rearranging equations follows and this may allow for links back to the volume and area work with rearranging from a given area or volume. A key crossover topic of transformations follows. We have covered enlargements already and so the focus should be on combining transformations. Reflection will link to the straight line graph topic and translations will precede the vectors topic that follows. Adding and subtracting column vectors will really stretch the top end of foundation. Students should be able to combine transformations, describe them and evaluate a 			Although not the most robust form of data to gather, it does help focus students on what they are about to learn and where it fits within the mathematics curriculum and what examination questions on the topics look like.
11	Number • Standard form	scenario when something has gone wrong. Term 6: In the final term students will predominantly work on statistical concepts. Representations of data such as bar and pie charts form the basis of this. There may be an opportunity to interleave percentages and ratio here. Links to other subjects where charts are used (Geography for example) may well be seen here. Following the end of year mock exams it is highly likely students will be undertaking DIRT tasks based upon weaknesses. If there is time however Circle Theorems will be introduced. Term 1:		Reading Students are often	Term 2 Y11 PPE Beginning of
Foundation	Calculating with percentages	 Review and revision is built into the scheme of work for the first week and a half. This is to ensure that 	Volume Scale factor Ratio	given textbook work or worksheets that involve worded	November 3 x 1.5 Hour GCSE Papers.

	. In stars		Defere	maalalamaa Thia will	
	Indices	topics taught at the end of last term are embedded and it allows students	Prism Pyramid	problems. This will	Term 3 Y11 PPE
/This is for	Algebra	to begin the year with confidence.	Cuboid	help them develop their reading and	End of February
(This is for	Algebra: quadratics,	 Volume is the first topic this term. A 	Cube	inference skills and	3 x 1.5 Hour GCSE
students	rearranging formulae and	lot of new content is covered	Cylinder	also expose them to	Papers
whom we	identities	including: ratio in length, area and	Pi	a greater variety of	
	Inequalities	volume; volume of a sphere, cone	Radius	vocabulary.	Students have two sets
believe will	 Algebra and graphs 	and pyramid. Also giving answers, for	Diameter		of "Pre Public
not be able to	Sketching graphs	volume, in terms of pi will be a new	Height	Writing	Examinations (PPEs)"
	Solving quadratic	concept. New ideas include:	Length	Although there is	in November and
access the	equations	quadratics, rearranging formulae and	Triangular prims	less extended	February.
Higher tier	 Quadratic graphs 	manipulating expressions which have	Inequality	writing in Maths,	
scheme of		powers in them Review and revision time is	Solve Illustrate	working out is key.	The examinations offer teachers a chance to
	Geometry and measures	incorporated into the scheme of	Integer	Students are	assess the learning of
work. These	• Volume	work to allow time for teachers to	Geometric	encouraged to work	students and identify
students will	Trigonometry	clear up misconceptions students	Form	down the page by	areas of strength and
	Vectors	may have on any work they have	Graph	dividing their pages	areas that need
follow this	Ratio, Proportion and Rates of	covered so far.	Linear	in two and working	improvements.
scheme of	Change	Term 2:	Sketch	in columns.	
	Direct and inverse	 Inequalities is the first topic this 	Function	Teachers look for	After each
work from	proportion	term. This work has not been seen	Quadratic	clear, concise and	examination, students
the beginning	Growth and decay	since year 8. Students will need to be	Cubic	correct working out	will be given Question
of Year 9.		shown how illustrate an inequality on	Reciprocal	that is easy for	Level Analysis sheets
UTTEdi J.		a number line and then develop skills further by solving inequalities.	Equation Plot	students and others to follow.	which link to maths videos and exercises
		 Algebra and further graphs is the 	Co-ordinates	to follow.	on "HegartyMaths"
If we are		next topic. Students recap their	Axes	Furthermore, when	which students can
		equation solving skills and look at	Grid	the opportunity	then use to address
unsure of		how we can solve equations using	Direct proportion	arises, teachers	their weakest areas.
which tier		graphs. Including the solution of	Inverse proportion	may ask students to	
students will		geometrical problems and problems	Graphically	explain certain	After the November
students will		set in context.	Trigonometry	concepts in their	examination series,
eventually		 Sketching graphs is the last topic this 	Ratio	own words. This	students are given a
enter,		term where students learn how to	Hypotenuse	may be after a	booklet of 12 past
		recognise, sketch and interpret graphs of linear functions, quadratic	Opposite Adjacent	teacher has explained a certain	papers in a plastic wallet which also
students will		functions, simple cubic functions and	Right angle	concept to the class	contain the papers'
always start		the reciprocal	Cosine	and wants students	answers. Students are
			Sine	to narrate this in	advised and
following the		$v = \frac{1}{2}$	Tangent	their own words.	encouraged to
Higher tier		function $x = 0$	Exact value		complete the 12
scheme of			Significant figure	Oracy	papers before the
		Term 3:	Decimal place	Teachers should	February examination
work, with		- Direct and inverse proportion is the	Evaluate	ensure that	series in order to
the option of		first topic this term. Work in this	Pythagoras	students answer in	improve their marks.
		topic builds upon previous work from	Quadratic Root	full, eloquent sentences and	Pre/Post tests
		years 7, 8 and 9 and moves into the		Sentences and	116/1031 (6313

· · ·		Factorics			At the begins is a set
dropping	concept of inverse proportion and	Factorise		should ask students	At the beginning and
down to the	representing proportion graphically. - Trigonometry is the next topic	Turning point Maximum		to repeat these if they are not said	end of each topic, students are given a
	covered. Students were only	Minimum		correctly. This is to	Pre and Post test on
Foundation	introduced to this in year 10, they	Intercept		help build their	
tier at an	will need time to consolidate this and				the given topic.
				public speaking skills and also to	This is based on
appropriate	then they will be introduced to	Decay		help the whole	This is based on developments of
	knowing exact trig values. - Review and revision time is	Compound interest		school literacy	cognitive science that
later stage).	incorporated into the scheme of	Interest			"primes" students'
	work to allow time for teachers to	Annual		programme.	brains for what they
	clear up misconceptions students	Depreciate			are about to learn. It
	may have on any work they have	Vector			also offers teachers to
	covered so far.	Scalar			assess any prior
		Parallel			learning from students
	Term 4:	Column			and adapt their
	- Solving quadratic equations is the	Diagrammatic			teaching sequence to
	first topic. This builds upon previous	Addition			the needs of their
	work on guadratics. Students also	Subtraction			individual students.
	learn how to solve quadratic	Subtraction			individual statemes.
	equations graphically.				The post tests also
	- This is followed by quadratic graphs.				allow students to build
	Students will have previously learnt				confidence as they can
	how to plot a quadratic graph, they				see that they have
	will need to recap this then move				learnt topics that they
	onto being able to identify and				may not have been
	interpret roots, intercepts and				able to do in the past.
	turning points of quadratic				
	functions graphically.				Although not the most
	 Growth and decay is the next topic 				robust form of data to
	where students learn to set up,				gather, it does help
	solve and interpret the answers in				focus students on
	growth and decay problems,				what they are about to
	including compound interest. This				learn and where it fits
	builds upon their previous work on				within the
	percentage multipliers. - Review and revision time is				mathematics
					curriculum and what
	incorporated into the scheme of				examination questions
	work to allow time for teachers to				on the topics look like.
	clear up misconceptions students				
	may have on any work they have covered so far.				
	Term 5:				
	- Vectors is the final topic to be				
	covered before revision starts.				
	Students will have seen vectors in				
	transformations. New content				
	transformations, new content				

		involves: applying addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic representation of vectors.				
Year 9	Number • Rounding	Term 1: Year 9 starts with revision and extension of number skills. It starts with rounding and	Significant figures Decimal places Error intervals	 Rounding Standard form Expanding and 	Reading Every lesson after lunch starts with 10	January In January, there is also a written
Students in	Error intervals Estimation	estimation, using these skills to look at error intervals. Standard form and indices are also	Error bounds Bounds of	factorising - Averages	minutes of DEAR time.	assessment that Year 9 students sit based on
Year 9	 Standard form Indices 	covered.	accuracy Standard form	- Solving equations	We are great	topics that they have covered to date.
follow the	Maths & Money	The term finishes looking at consolidating algebra skills, including expanding and	Coefficient Powers	 Straight line graphs 	supporters of this in Maths as it is so	This allows teachers to
same	 Algebra Expanding and factorising 	factorising brackets (single and double where appropriate), along with exploring algebraic	Roots Square root	 Plans and elevations 	important that students are able to	assess understanding and to address any
scheme of work.	Basic rearrangingIdentities	equivalence and identities Term 2:	Cube root Reciprocal Expand	- Maths and money	decipher long problems.	areas of weakness from students.
Mhore	 Substitution and using formulae Solving equations 	The term starts looking at percentages, percentage change and reverse percentages. Number work follows with a look at maths and	Factorise Quadratic Identity		Writing Although there is less extended	Term 6 Y9 PPE June at the end of their academic year.
Where	 Solving simultaneous equations 	money, exploring how balance sheets are created and what they mean. The term	Reverse percentages		writing in Maths, working out is key.	2 x 1.5 hour GCSE papers.
there is a	 Linear inequalities Linear nth term 	finishes exploring probability, probability trees	Credit			
high	Sequences	and averages.	Debit Balance		Students are encouraged to work	Students are given two GCSE papers (1
likelihood of	Straight line graphsRearranging formulae	Term 3: Term 3 continues work on averages looking at	Frequency tree Proabiblity		down the page by dividing their pages	calculator and 1 non- calculator) from a past
students		averages from frequency tables. There is then	Mean		in two and working	examination series.
studying	Ratio, Proportion and Rates of Change	a period of re-teach and revision before a written assessment. The term concludes	Median Mode		in columns. Teachers look for	This allows us to compare our new
Higher,	 Using percentages and % change 	looking at boxplots, before looking at aspects	Range		clear, concise and	results with past
there are	Reverse percentages	of geometry including angles in parallel lines and bearings.	Boxplots Interquartile		correct working out that is easy for	cohorts, to assess where the current
extension	 Compound measures Direct and Inverse 	Term 4:	range Lower quartile		students and others to follow.	cohort stand in relation to past
topics	proportion Units 	The term starts with some more geometry, looking at constructions and loci. Students	Upper quartile Parallel		Furthermore, when	cohorts.
which will	Similarity	then return to algebra work, looking at using	Corresponding		the opportunity	
be covered.	Geometry and Measures Angles in parallel lines 	formulae, including subsititution, solving equations, simultaneous equations, linear inequalities and linear nth term.	angle Co-interior angle Vertically opposite		arises, teachers may ask students to explain certain	
	Bearings Constructions and loci Transformations	Term 5: This shorter term concentrates on algebra and	Bearings Loci Substitution		concepts in their own words. This may be after a	
	TransformationsPlan and elevation	builds on the work of nth term in the previous	Substitution		teacher has	

·	Surface area	half term. Sequences are explored, recognising	Simultaneous		explained a certain	
These topics		famous ones and also learning about	equation		concept to the class	
will also be	Probability	geometric, quadratic and quadratic nth term.	Linear inequality		and wants students	
	Probability and frequency	Rearranging formulae follows and then there is	Inequality		to narrate this in	
covered for	trees	some work on compound measures to	Great than		their own words.	
students in	 Probability tree diagrams 	conclude the half term's work.	Less than			
students in		Tarma G	Nth term		Oracy	
later years if	Statistics	Term 6: Work on ratio and proportion starts the final	Linear Geometric		Teachers should ensure that	
-	Statistical measures	term, looking at direct and inverse proportion.	Fibonacci		students answer in	
it is decided	 Averages from frequency tables 	Units and ideas of similary are explored before	Direct proportion		full, eloquent	
they have a	Boxplots	another period of revision and reteach in	Inverse proportion		sentences and	
-		anticipation of a written assessment. The year	Units		should ask students	
chance of		concludes with some geometry topics:	Similarity		to repeat these if	
entering the		transformations, plans & eleveations, and	Scale factor Transformations		they are not said	
-		surface area.	Transformations Translation		correctly. This is to help build their	
higher tier			Enlargement		public speaking	
exam.			Reflection		skills and also to	
Cxam.			Rotation		help the whole	
			Front elevation		school literacy	
			Side elevation		programme.	
			Plan			
			Surface area			
Voor	What do students loarn?	W/by/2	Tior 2 kowwords	Throshold concents	Litoracy	Accoccmont
Year	What do students learn?	Why? Term 1:	Tier 3 keywords	- Percentage	Literacy Reading	Assessment October
Year 10	_	Term 1:	Factor	- Percentage	Literacy Reading	October
	Higher				-	
	Higher	Term 1: Students start the year looking at factors,	Factor Multiple Prime Product	- Percentage multipliers	Reading	October There is normally an assessment opportunity here.
	Higher Number	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should	Factor Multiple Prime Product upper and lower	 Percentage multipliers Upper/Lower bounds Surds 	Reading Writing Although there is less extended	October There is normally an assessment opportunity here. Although there is no
10	Higher Number • Calculating with	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work	Factor Multiple Prime Product upper and lower bounds	 Percentage multipliers Upper/Lower bounds Surds Measures of 	Reading Writing Although there is less extended writing in Maths,	October There is normally an assessment opportunity here. Although there is no official timing for
10 All of year	Higher Number • Calculating with percentages	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing	Factor Multiple Prime Product upper and lower bounds Powers	 Percentage multipliers Upper/Lower bounds Surds Measures of central 	Reading Writing Although there is less extended	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this
10	Higher Number • Calculating with	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work	Factor Multiple Prime Product upper and lower bounds Powers Roots	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency 	Reading Writing Although there is less extended writing in Maths, working out is key.	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment
10 All of year 10 follow	Higher Number • Calculating with percentages • Surds	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work.	Factor Multiple Prime Product upper and lower bounds Powers	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the
10 All of year	Higher Number • Calculating with percentages • Surds • Indices	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency 	Reading Writing Although there is less extended writing in Maths, working out is key.	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment
10 All of year 10 follow	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks
10 All of year 10 follow the same SOW but	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will
10 All of year 10 follow the same	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns.	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks
10 All of year 10 follow the same SOW but take	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the primary focus is fractional and negative	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow.
10 All of year 10 follow the same SOW but take different	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs Linear and quadratic	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse Congruent	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry Conditional 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for clear, concise and	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE
10 All of year 10 follow the same SOW but take	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the primary focus is fractional and negative powers.	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE June at the end of
10 All of year 10 follow the same SOW but take different routes	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs Linear and quadratic equations and graphs	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the primary focus is fractional and negative	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse Congruent Scale Factor	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry Conditional Probability 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for clear, concise and correct working out	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE
10 All of year 10 follow the same SOW but take different routes depending	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs Linear and quadratic equations and graphs Algebraic Fractions	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the primary focus is fractional and negative powers. Pythagoras concludes term 1 and provides a	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse Congruent Scale Factor Multiplicative Recurring Notation	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry Conditional Probability Rearranging 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for clear, concise and correct working out that is easy for	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE June at the end of their academic year.
10 All of year 10 follow the same SOW but take different routes	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs Linear and quadratic equations and graphs Algebraic Fractions Coordinate Geometry	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the primary focus is fractional and negative powers. Pythagoras concludes term 1 and provides a fantastic opportunity to interleave the surds knowledge just acquired. We look at Pythagoras in both 2d and 3d and students	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse Congruent Scale Factor Multiplicative Recurring Notation Invariant	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry Conditional Probability Rearranging formulae 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for clear, concise and correct working out that is easy for students and others to follow.	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE June at the end of their academic year. 3 x 1.5 hour GCSE papers.
10 All of year 10 follow the same SOW but take different routes depending	Higher Number Calculating with percentages Surds Indices Number recap and review Algebra Introduction to quadratics Rearranging formulae Sketching graphs Linear and quadratic equations and graphs Algebraic Fractions Coordinate Geometry	Term 1: Students start the year looking at factors, multiples and primes. Whilst this has been taught as early as year 7, these topics underpin the higher tier content that follows. This should be a quick recap for higher students with work around error intervals and bounds providing the main body of work. Indices and surds utilises the knowledge acquired from the first week of term and is a great opportunity to extend students towards the highest grade topics. Indices will in part recap elements of year 9 (rules) but the primary focus is fractional and negative powers. Pythagoras concludes term 1 and provides a fantastic opportunity to interleave the surds knowledge just acquired. We look at	Factor Multiple Prime Product upper and lower bounds Powers Roots Reciprocal Indices Surd Rationalise Irrational Right-angled Hypotenuse Congruent Scale Factor Multiplicative Recurring Notation	 Percentage multipliers Upper/Lower bounds Surds Measures of central tendency Indices Properties of polygons Congruent triangles Pythagoras and Trigonometry Conditional Probability Rearranging formulae 	Reading Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working in columns. Teachers look for clear, concise and correct working out that is easy for students and others	October There is normally an assessment opportunity here. Although there is no official timing for assessment during this time, an assessment on the work from the year to date will help inform staff of progress. DIRT tasks related to this will follow. Term 6 Y10 PPE June at the end of their academic year. 3 x 1.5 hour GCSE

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potential	Measures	topics coming together here. (Percentages,	Chord	arises, teachers	from a past
-	Properties of polygons	ratios, surds, algebra etc).	Tangent	may ask students to	examination series.
tier entry.	Congruence and Similarity	Term 2:	Arc Circumference	explain certain concepts in their	This allows us to compare our new
Further	 Pythagoras' theorem and basis trigger another 	Term 2.	Sector	own words. This	results with past
	basic trigonometry	The there of the second in the offer helf terms	Segment	may be after a	cohorts, to assess
Maths is	Volume	The theme of shape continues after half term	Gradient	teacher has	where the current
	 Transformations and Vectors 	with a focus upon trigonometry. Sine rule and Cosine rule is to be left until year 11 however	Y intercept	explained a certain	cohort stand in
undertaken	Circle Theorems	students should have a sound understanding of	Parallel	concept to the class	relation to past
with 10x1		exact values as well as finding missing angles	Perpendicular	and wants students	cohorts.
	Probability	and lengths. This should be done in 2d as well	Turning point	to narrate this in	
after school	Bar and Pie charts	as 3d. Triangles is a key theme in the next topic	Roots	their own words.	Following their end of
	Tree diagrams	of congruence and similarity as well. Links to	Numerator		year examinations,
each week	Venn diagrams	proving congruence should be seen and similar	Denominator	Oracy	students receive
to	Theoretical probability	shape work will involve line, area and volume	Translation	Teachers should	Question Level
	Conditional probability	scale factors. This is another fantastic	Column Vector	ensure that	analysis sheets which
encourage		opportunity to link back to prior learning with	Reflection	students answer in	link to maths videos and exercises from
-	Statistics	indices. 'Scale factor' is a key phrase and allows	Rotation Clockwise / anti	full, eloquent sentences and	
students	Measures of central	for a natural link into enlargements. Students	Centre of rotation	should ask students	Hegarty Maths which enable students to
aspiration	tendency (Median, mean,	should expect to see positive, fractional and	Histograms	to repeat these if	look at their areas of
•	mode and modal class)	negative scale factors here.	Frequency Density	they are not said	weakness. This is
towards	 Measures of spread 			correctly. This is to	particularly key for
	(Range, quartiles and	The final few weeks of term revert back to		help build their	students to use before
grade 8 and	inter-quartile range)	number work with percentages. This will		public speaking	their next round of
9.	Sampling	involve percentage of amounts, multipliers,		skills and also to	examinations which
5.	Discrete and Continuous	reverse percentages and percentage change. Growth and decay (compound interest) along		help the whole	occur in November of
	data	with recurring decimals are key topics on the		school literacy	Year 11.
	Histograms	higher tier papers. (Much of this body of work		programme.	
	Cumulative Frequency	should build upon the percentages work from			
	Box plots	year 9).			
	Lines of best fit	, ,			
	Product rule for counting	Term 3:			
		'New style' GCSE topics such as the product			
		rule for counting commence term 3. Students			
		will need to link situations to sample space			
		diagrams and be able to represent ideas in a			
		venn diagram. This challenging topic offers a			
		great opportunity to interleave ratio, fractions			
		of amounts and even forming and solving			
		quadratic equations. A thorough understanding			
		of 'notation' is important here.			
		Term 3 concludes with work on Volume. This			
		was covered in year 8 but should involve work			
		around working backwards and rearranging			

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	equations. Volumes of cones, spheres and			
	pyramids should be tackled here.			
	Term 4:			
	Straight line graphs starts off term 4. This topic			
	was covered in years previously, however the			
	focus is now towards perpendicular lines and			
	coordinate geometry. (This ties in really nicely			
	with the Further Maths curriculum that some			
	of year 10 are undertaking after school). The			
	scheme of work is flexible at this point			
	depending upon how students respond to this			
	part of the curriculum. Function notation may			
	be explored as well as the solving of quadratic			
	equations. These graphs can then be plotted			
	and opportunities to find turning points and			
	minimum points may arise. 10x1 and possibly			
	x2 may then explore the equations of circles.			
	There could be a great link back to			
	simultaneous equations from year 9 here.			
	Term 5:			
	Both higher and foundation start term 5 with			
	fractions. Higher students need to focus upon			
	mixed numbers and then onto algebraic			
	fractions. This is an opportunity to link back to			
	the previous term where students needed to			
	factorise quadratic equations to then be able			
	to solve them. Complex rearranging follows			
	with the work predominantly focusing upon			
	rearranging where a term appears on both			
	sides. Fractions will be used as part of this to			
	supplement their prior learning.			
	supplement then provided million			
	A key processory to big of the set			
	A key crossover topic of transformations			
	follows. We have covered enlargements			
	already and so the focus should be on			
	combining transformations. Reflection will link			
	to the straight line graph topic and translations			
	will precede the vectors topic that follows.			
	Adding and subtracting column vectors can			
	then inform the more challenging higher tier			
	vectors work. X1 and x2 may then focus on the			
	vector proofs.			
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		Term 6: To combat the curve of forgetting, students are re introduced to cumulative frequency which they looked at in year 9. Links to box plots will be made and the challenging topic of histograms will follow. Links to other subjects where charts are used (Geography for example) will be exploited here. Following the end of year mock exams it is highly likely students will be undertaking DIRT tasks based upon weaknesses. If there is time however Circle Theorems will be introduced.				
Year	What do students learn?	Why?	Tier 3 keywords	Threshold concepts	Literacy	Assessment
 11 (The vast majority of students in Year 9 will follow the Higher tier scheme of work. For students that may struggle, 	Algebra Algebra Expanding brackets Factorising quadratics Re-arranging formulae Algebraic proof Functions Equations of circles Tangents to circles Solving equations (including quadratics) Sketch graphs (quadratics, linear, cubic, reciprocal, trigonometric) Completing the square Inequalities Transforming functions Iteration Pre-calculus and area under a curve Algebraic fractions	Term 1: Term 1 starts by exploring algebra in more depth, building on work in Year 9 and 10. Students should have already learnt how to expand double brackets but are introduced here to triple brackets. Students will factorise harder quadratics, including the difference of two squares. Building on work from Year 9, students will need to be able to recognise the difference between expressions, equations, identities and be able to use algebra in proofs. Inverse, Composite Functions are introduced here for the first time. This is taught here after students have practised rearranging formulae in year 10 and Year 9. Students will also build on their knowledge of trigonometry and Pythagoras by looking at 3D problems. Exact trigonometric values will be seen here and students will need to learn these off by heart or know how to derive them. The term finishes by looking at compound	Binomials Factorising Quadratics Surds Equations Expressions Identities Inverse function Composite function Iteration Tangent Completing the square Quadratic formula Roots Turning point Direct/Inverse Proportion Inequalities Vectors Proof Scalar Reciprocal	 Solving quadratics in different ways. 3D Pythagoras and Trigonometry problems Equations of circles Transforming functions Finding gradients of curves Algebraic fractions 	Reading Students are often given textbook work or worksheets that involve worded problems. This will help them develop their reading and inference skills and also expose them to a greater variety of vocabulary. Writing Although there is less extended writing in Maths, working out is key. Students are encouraged to work down the page by dividing their pages in two and working	Term 2 Y11 PPE Beginning of November 3 x 1.5 Hour GCSE Papers Term 3 Y11 PPE End of February 3 x 1.5 Hour GCSE Papers Students have two sets of "Pre Public Examinations (PPEs)" in November and February. The examinations offer teachers a chance to assess the learning of students and identify areas of strength and
and whose final tier decision may be	Ratio, Proportion and Rates of Change • Growth and Decay • Compound Interest • Direct and Inverse proportion	interest and depreciation. This builds on the knowledge of percentage multipliers covered earlier in their school career. Term 2: Term 2 starts by looking at the equations of circles with the centre at the origin. Students will use their knowledge of y = mx + c to be	Cubic Sine rule Cosine rule Segment Chord Tangent Radii Cyclic quadrilateral		in columns. Teachers look for clear, concise and correct working out that is easy for students and others to follow.	areas that need improvements. After each examination, students will be given Question Level Analysis sheets which link to maths videos and exercises

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						are about to learn. It
						also offers teachers to
						assess any prior
			functions.			learning from students
			Tama di			and adapt their
			-			teaching sequence to the needs of their
						individual students.
know and apply the sine rule to work out the						
area of a triangle, find missing sides or angles The post tests			area of a triangle, find missing sides or angles			The post tests also
			of a triangle.			allow students to build
			At this point in the town students will share be			confidence as they can
						see that they have learnt topics that they
reflections of a given function. Students			-			icarni topics that they

should be comfortable sketching graphs of	may not have been
quadratics and trigonometry by know which is	able to do in the past.
why transformations of graphs is introduced	
here.	Although not the most
	robust form of data to
The students then move on to looking at	gather, it does help
numerical methods including 'iteration' where	focus students on
students will need to know how to use iterative	what they are about to
formulas.	learn and where it fits
	within the
The term concludes introducing students to	mathematics
circle theorems, including applying and proving	curriculum and what
the standard circle theorems.	examination questions
	on the topics look like.
Term 5:	
Term 5 starts looking at gradients and rates of	
change. Students look at interpreting the	
gradient at a point on a curve and apply the	
concepts of average and instantaneous rates of	
change (gradients of chords and tangents) in	
numerical, algebraic and graphical contexts.	
The penultimate topic of the course is "pre-	
calculus and area under a curve." Students	
must calculate or estimate gradients of graphs	
and areas under graphs (including quadratic	
and non-linear graphs). Students must then	
interpret the results in cases such as distance-	
time graphs, velocity-time graphs and graphs in	
financial contexts.	
The final topic is algebraic fractions where	
students will use all of their algebra skills to	
date to solve problems. This is introduced here	
as it incorporates a lot of previous topics that	
students must be secure about, including	
factorising quadratics and the four operations	
with fractions.	
The term concludes with revision.	
Term 6:	
Term 6 involves revision of topics identified	
from the Question Level Analysis (QLAs) from	
the February examination series. Teachers will	
tailor lessons to address any gaps in students'	
knowledge.	
in other beck	

Students will also complete past paper booklets that they will be given to prepare students for their examinations.		