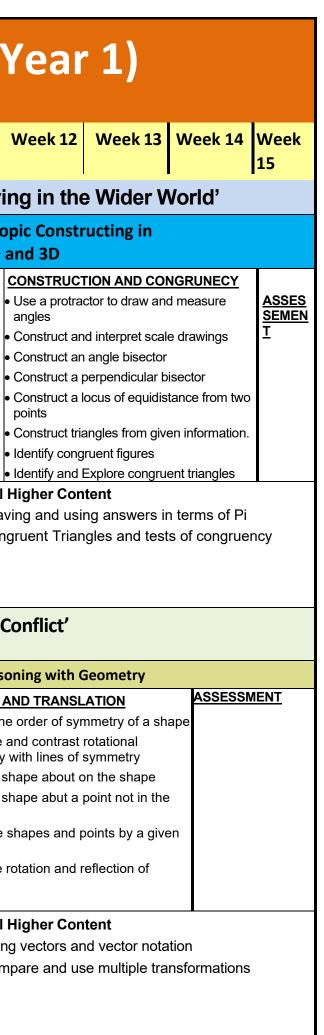
KS4 Mathematics Programme of Study (Year 1)

Northumberland's P.R.U.

- 22	101	unamberiar	us P.R.O.										
		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	1
Auutumnuuuuun		Autumn 1 – 'Equality & Diversity'								Autumn 2 – 'Livir			
				Sub	Subject Area Topic: Reasoning with Algebra					Subject Area To 2D a			
	Auutumnuuuutumn	 Lines parallel to x and y axis Using a table of values Comparing Gradients Comparing y intercepts Understand and use y =mx+c Sub 			MING AND SOLVING E ng one step equations a ng two step equations a ing equations and in kets e equations with unk sides stitute into a formula rrange a one step for	nd inequalities nd inequalities equalities with nowns on	TESTING CONJECTURES Calculating and using Factors, Multiples and Primes Always, Sometimes, Never Expand Binominals Using proof			 THREE DIMENSIONAL SHAPES Know the names of 2D and 3D shapes Identify faces, vertices and edges of 3D shapes Construct accurate nets of 3D shapes Draw and use Plans and elevations Calculate the area of simple 2D shapes Use the formula to find the area of a circle Calculate Surface area of cubes and cuboids Calculate Surface area of a triangular print 			• • • • •
		Notes/Links/InterleavingAdditional Higher Content;Use of calculator for more complex calculations.• Write and equation in the form y= mx+ cUsing linear Graphs for trends and data in Science• Solve inequalities with unknowns on both sides• Expanding triple brackets							Notes/Links/ Use of calcula complex calc Substituting formula	Interleaving ator for more ulations. into a real life ngs in Science	Additiona • Le • Co	al H avi	
		Spring 1 – 'The Circle of Life'							Spring 2 – 'Co				
		Subject Area Topic Reasoning with Number							Subject Area Topic Reaso				
	Spring	 NUMBERS Use and manipulate directed numbers Solve problems with integers Solve Problems with decimals Identify and use the HFC and LCM To manipulate fractions using the four operations Solve problems involving fractions To write numbers in standard index form 		 USING PERCENTAGES Calculate and use equivalent Fractions, Percentages and Decimals Find a percentage of an amount without a calculator Find a percentage of an amount with a calculator Calculate percentage increase and decrease Express change as a percentage Solve reverse percentage problems 		 Calculate Solve pro Use bills a solve prot Calculate be paid or Use exchange 	Simple Interest compound interest blems involving VAT and banks statements blems and budget the amount of tax nee n a wage	to eded to to to to to to to to to to to to to t	te angles on straight lines te angles in Triangle and		 ROTATION Identify Compar symmet Rotate a shape Translat vector Compar shapes 	the ry v a sh a sh æ s	
		calculations.	t erleaving or for more compl rd from in Science		 Additional Higher Content Understand and use Surds Calculating with numbers in Standard Form Solve problems with repeated percentage change Solve unit pricing problems 				Use of ca calculation Forming	Notes/Links/Interleaving Use of calculator for more complex calculations. Forming equations for unknown quantities and results in science			al H sing



		Summer 1 – 'H	ealth & Leisure'	Summer 2 – 'Crime & Punishment'			
	Subject Area Topic Reasonin	g with Proportion		Subject Area Topic Rate, Representation and Revision			
<u> </u>	 PYTHAGORAS' <u>THEOREM</u> Find Squares and square roots Calculate the hypotenuse of a right angled triangle Calculate a shorter side of a right angled triangle Use Pythagoras' on a coordinate grid REASONING AND PRC Understand and app similarity Enlarge a shape a po from a point factor Enlarge a shape a po factor Enlarge a shape a po factor Enlarge a shape a po factor Applying scale factor lengths of similar shape 	 SOLVING RATIO AND PROPRTION PROBLEMS Understand and use direct proportion Plot and use direct proportion graphically Apply inverse proportion to solve problems Calculate an amount given a ratio Solve problems with ratio when given one part 	<u>ASSESMENT</u>	 RATES To calculate speed, distance and time without a calculator To calculate speed, distance and time with a calculator Plot and use distance time graphs Solve problems involving Density, Volume and Mass. Calculate rates and change and their units 	PROBABILITY REVISION ANI • To understand and use a probability line ASSESSMENT		
əmmus	Use of calculator for more complex calculations. • Enlarge a sha • Solve proble • Explore ratio		Content agoras' Theorem to 3D problems ape a negative scale factor ems with similar triangles ons in right angle triangles showing inverse proportion.		Notes/Links/Interleaving • Compound measures in Science	Additional Higher C Converting compound units Use Tree Diagrams Use Tree diagrams without	3