KS3 - MATHS (2025-26)

Northumberland's P.R.U.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	
	Autumn 1 – 'Equality & Diversity'								**Autumn 2 – 'Living in the Wider World'**							
	Subject Area Topic								**Subject Area Topic**							
	1. Number Order positive and negative numbers Add and subtract directed numbers Multiply and divide directed numbers Collect like terms involving directed numbers	2. NUMBER Understand and use order or operations including: roots of positive integers Powers of positive integers Powers of negative integers	3. Algebra - FORMULA Substitute into worded formulae Know the difference between formula, identify, equation and expression	4. Algebra - Setting up and solving equations Solve 1 and 2 step equations using inverse operations Set up equations of worded problems	5. Geometry Recap angles on a line, point and vertically opposite Know and use the angle sum of a triangle Know the types of triangles and their geometrical properties	6. Geometry Know the types of quadrilaterals and their geometrical properties Find missing angles in quadrilaterals	7. REVISION / TEACHER ASSESSMENT	8. GL ASSESSMENT	1. Number – Fractions 2 Adding and Subtracting Fractions Apply addition and subtraction, including formal written methods, to simple fractions, both with and without a common denominator (using fraction equivalence, where necessary) Working with mixed numbers Convert	2.Number – Using our number system 2 Using the number system effectively Understand and use place value when calculating with decimals, understanding the impact of multiplying or dividing by a decimal between 0 and 1. Use know facts to derive solutions to problems Recognise and use relationships Between operations, including inverse	3. Algebra Sequences 1 What is a sequence Recognise a sequence as a list of numbers which follow a given rule. Continue a sequence / find missing terms in a given sequence represented as a list of numbers or diagrammatically. Generating sequences Generate the terms of a sequence given either a position to term (nth term) or term to term	4. Measures – Units and scale 2 Metric / Imperial conversions Given conversion factors between metric and imperial units, convert between the two systems of measurement for distance, mass and volume. Opportunity for cultural development: Understanding the change in	5. Statistics - Collecting data 1 Collecting data Classify different data types. Understanding how data is collected, recorded and organised. Opportunity for cultural development: Discuss the recent census, its purpose and benefits when researching family history	6. REVISION / TEACHER ASSESSMENT	7. MISCONCEPTIONS	

									between improper fractions and mixed numbers Apply addition, subtraction and multiplicatio n, including formal written methods, to simple fractions (proper and improper), and mixed numbers.	operations	rule. Describe a term to term rule and position to term rule (nth term) informally Literacy code R5 – Students should Explore where sequences appear in nature (independen t research and summarise information)	UK systems of measurem ent				
	Notes/Links/Interleaving			**Additional Higher Content**					**Notes/Links/Interleaving**		**Additional Higher Content**					
	Spring 1 – 'The Circle of Life'								**Spring 2 – 'Conflict'**							
	Subject Area Topic								**Subject Area Topic**							
	1. Algebra – Functions & Graphs 1 Real Life Graphs Plot and interpret graphs of non-standard functions in real contexts to find approximate solutions to problems such as simple kinematic problems. Students should be able to recognise the shapes of graphs where a quantity varies with time.	2. Number – Percentages 2 Calculating percentages of quantities Interpret percentages as operators to find a given percentage of an amount. Students should be confident, both with and without a calculator, using methods such as a unitary (build-up) method or multiplying the value by the percentage (Students should be encouraged to cancel fractions prior to calculation).	3. Number – Number properties 2 Index notation Use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 Calculate with positive Integer indices Recognise	4. Statistics – Statistical diagrams 2 Pie Charts Interpret and construct pie charts and know their appropriate use Interpret, analyse and compare the distributions of data sets from univariate Empirical distributions through	5 REVISION / TEACHER ASSESSME NT	6. GL ASSESSME NT	1. Geometry – Constructions 2 Construction with a pair of compasses Use the standard ruler and compass constructions Perpendicular bisector of a line segment, Perpendicular to a given line from/at a given point, Bisecting a given angle. Triangle given three sides Construct a 60	2. Probability – Probability 2 Combined events Enumerate sets and combinations of sets systematically, using tables, grids, and Venn Diagrams. Construct theoretical possibility spaces for combined experiments with equally likely outcomes and use these to calculate theoretical probabilities	3. Probability – Probability 2 Estimating probability Understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size. Calculate relative frequency of an event. Calculate the expectation of the occurrence of an event. Use the relative	4 Geometry – Measuring shapes 2 Area and perimeter Use standard units of measure for length and area and related concepts Know and apply formulae to calculate: area of triangles, parallelograms, trapezia Calculate perimeters of 2D shapes	5. REVISION / TEACHER ASSESSMENT	6.MISC ONCE PTION S	

	Students should be able to plot and interpret conversion graphs.	Convert fractions and decimals to and from percentages Order decimals and fractions. Work interchangeably with terminating decimals and their corresponding fractions, changing these into percentages. Interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively.	square numbers up to 225 and cube numbers up to 1000. Prime Factorisation Use the concepts and vocabulary of prime numbers, factors (divisors),multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation theorem. Use Venn diagrams to determine the LCM and HCF or 2 or 3 numbers.	appropriate graphical representation involving discrete data Algebra – Algebraic Methods 1 Trial and Improvement Substitute numerical values into formulae and expressions, including scientific formulae. Round numbers to a given degree of accuracy (1/2 decimal places / Significant figures) This unit is a precursor to iteration because the technique of trial and improvement is often used in problem solving where, for example, a reasonable approach might result in an equation that does not have an analytical solution that is accessible to students			degree angle and use this method to construct an equilateral triangle. Use these to construct given figures; know that the perpendicular distance from a point to a line is the shortest distance to the line		frequency from experiments or observations as an estimate for the probability of the occurrence of an event, and consider its limitations	Compound shapes Find the perimeter and area of compound shapes made from triangles and quadrilaterals			

	Notes/Links/Interleaving		Additional Higher Content				Notes/Links/Interleaving							Additional Higher Content
	Summer 1 – 'Health & Leisure'						**Summer 2 – 'Crime & Punishment'**							
	Subject Area Topic						**Subject Area Topic**							
	1. Ratio and Proportion – Ratio and proportion 2 Sharing into a given ratio Divide a given quantity into two or more parts in a given part:part or part:whole ratio Express the division of a quantity into two parts as a ratio Apply ratio to real contexts and problems (such as those involving conversion, comparison, scaling, mixing, concentrations) Embed ratio into geometric problems including those involving angles and side lengths Relate ratios to fractions Working with proportional quantities Understand and use proportion as equality of ratios Use unitary method and ratio tables to solve problems involving direct proportion.	2. Number- Accuracy 2 Rounding to significant figures Round numbers and measures to a given number of significant figures. Solve calculation problems, then round the final answer to a given degree of accuracy. Make links between rounding to a given number of decimal places / specified integer and number of significant figures.	3.Geometry – 3D Shapes 2 Understanding nets Identify properties of the faces, surfaces, edges and vertices of; cubes, cuboids, prisms, cylinders, pyramids, cones and spheres. Use conventional terms and notations: vertices, edges, planes Identify the 12 Pentominos and which of these are the net of an open top box. Find the surface area of a given 3D shape by considering its net. Be aware of Euler's theorem for the relationship between the number of faces, vertices and	4.Geometry – 3D Shapes 2 Volume and surface area of cuboids. Use standard units of measure and related concepts (length, area, volume) Know and apply formulae to calculate surface area and volumes of cuboids.	5. GL ASSESSMENT	6. GL ASSESSMENT	1. Number - Calculating 3 Apply multiplication & Division techniques, including formal written methods, to decimals.	2. Algebra – Algebraic Concepts 3 Use and interpret algebraic manipulation including brackets. Understand and use the concepts and vocabulary of expressions, equations, terms and factors. Simplify and manipulate algebraic expressions by: Multiplying a single term over a bracket Taking out common factors Solve linear equations in one unknown algebraically (including those with the unknown on both sides of the equation) Derive an equation, solve the equation, and interpret the solution.	3.. Geometry – Properties of Shapes 2 Understand and use alternate, complementary and corresponding angles on parallel lines.	4. Geometry – Properties of Shapes 2 Use the sum of angles in a triangle (eg to deduce and use the angle sum in any polygon, and to derive properties of regular polygons)	5 Algebra – Algebraic methods 2 Understand and use the concepts and vocabulary of inequalities Use the symbols <, >, ≤, and ≥ Solve linear inequalities in one variable; represent the solution set on a on a number line	6 REVISION / TEACHER ASSESSMENT	7. MISCONCEPTIONS

	Solve problems involving direct proportion Use compound units such as rates of pay and unit pricing		edges for 3D shapes. Correctly visualise which edges meet when a net of folded.										
	Notes/Links/Interleaving		**Additional Higher Content**				**Notes/Links/Interleaving**			**Additional Higher Content**			