Key Stage 3 Subject Timeline Year 7 to 8

Subject: Mathematics (Band 2)   **Exam Board: Pearson**

	Year 7					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topics	Pythagoras BIDMAS Rounding Calculations Prime factors, HCF/LCM Use powers	Substitution Collect terms, use brackets Writing expressions Order decimals and fractions Use inequality symbols Calculate with positive and negative decimals	Convert FDP Order FDP Use 4 operations with positive and negative fractions Use probability language Sum of outcomes = 1 Experimental probability	Direct proportion Ratio notation Divide into ratios Convert ratios/fractions Simplifying ratios Using scale factors	Notation for labelling angles Draw/measure angles/lines Angle properties Angle sum for polygons Simple geometric proofs Arithmetic sequences Finding the nth term Geometric sequences Graphs of linear functions	Transformations Enlarging shapes Combined transformations Congruency
Key skills and Concepts	Pythagoras Order of operations Rounding numbers Prime number identification Factors and multiples Powers	Substitution Brackets Ordering numbers Area/perimeter Calculations with negatives	Understanding that fractions have an equivalent decimal and percentage Language of probability Calculating probabilities Probability experiments	Basic proportion Setting up proportion problems Concept of ratio Splitting into ratios Simplifying ratio Using scale factors	Angle notation Drawing and measuring angles Angle sums for interior/exterior Nth term Coordinates Linear graphs	Reflection Rotation Translation Enlargement Combinations of the above Congruency in 2D shapes
Threshold Concepts	Using equipment Recognising square numbers Basic rounding Knowledge of prime numbers and powers	4 operations Basic algebra Concept of fractions being one number divided by another Basic areas of 2D shapes Concept of negative numbers	Understanding of basic probability Concept of decimals and fractions being the same Ordering numbers Concept of negative numbers	Basic proportion understanding Some idea about ratio Simplifying ratio using common factors Some understanding of a scale factor	Different types of angles Basic angle rules Simple substitution Continuing a sequence from a term to term rule Continuing a linear sequence and describing the rule Basic coordinates	Reflecting 2D shapes in a mirror line Concept of enlarging shapes Coordinates in 4 quadrants
Endpoints	Identify factors and multiples Able to calculate HCF and LCM for pairs of numbers Round numbers to DP and simple SF	Substitute into expressions Write expressions Order decimals and fractions Understand and use inequality symbols Calculate area and perimeter of 2D shapes	Order FDP Use 4 operations with fractions Use data from probability experiments to work with probabilities Use the sum of outcomes =1	Understand basic proportion problems Use ratio to solve problems Split amounts into ratios Use scale factors to calculate lengths in 2D shapes	To find missing angles in a range of contexts To work with linear sequences, finding nth term rules To use coordinates in 4 quadrants To draw linear graphs	To use all 4 transformations in a coordinate grid To use vectors To understand scale factor and centre of enlargement as a concept To understand congruency in shapes
Assessment	In class formative assessment	End of term test	In class formative assessment	In class formative assessment	In class formative assessment	End of year exam

Subject: Mathematics (Band 2) **Exam Board: Pearson**

	Year 8					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topics	Factors and multiples HCF/LCM 4 operations Sequences Graphs Understand basic powers Area of 2D shapes Volume of cuboids Convert units	Draw charts and graphs for single/two variable data Averages Pie charts Scatter graphs Algebraic notation Solving equations	Real life graphs Linear graphs Calculations with decimals Rounding Ratio notation Splitting into ratios Fraction/ratio links	Angles in 2D shapes Angles in parallel lines Angles in polygons Congruency Similarity	Calculations with fractions Improper fractions/mixed numbers Converting fractions/decimals Compound measures Linear graphs Gradient Direct proportion	Percentages of amounts Writing numbers as percentages of another Percentages greater than 100% Using the multiplier Compound interest problems
Key skills and Concepts	Factors and multiples Area/perimeter of basic 2D shapes Using 4 operations Using square, square root, cube and cube root signs Volume of cuboids Converting units of measure	Calculating averages Drawing and interpreting pie charts Drawing and interpreting scatter graphs Basic algebraic notation Drawing conclusions from data/charts/graphs	Drawing and interpreting real life graphs Using and drawing linear graphs Rounding to DP and SF Splitting into ratios, worded questions in context	Calculating angles in 2D shapes Angle rules for parallel lines Calculating all angles in polygons, both regular and irregular Congruency and similarity in 2D shapes	Fractions and improper fractions/mixed numbers Converting FDP Drawing graphs Substitution Gradient and y-intercept Basic proportion	Calculating percentages Writing percentages Using a multiplier Compound interest
Threshold Concepts	Factors and multiples Square and cube signs Some knowledge of square roots Concept of volume Knowledge of different units of measure	Ability to read charts/graphs Understanding of correlation Understanding of algebraic notation Concept of averages	Substitution Drawing graphs 4 operations with fractions Rounding to DP Ability to work with ratio	Angle rules for straight line, around a point, triangle Concept of congruency Calculating angles in polygons (basic)	Converting fractions and mixed numbers Substitution Drawing basic graphs 4 operations with fractions	Basic percentages Concept of percentage Finding percentages of amounts Converting FDP
Endpoints	Able to find HCF/LCM Use BIDMAS correctly Use square, cube, square and cube roots effectively Calculate area and perimeter Calculate volume	Find averages Use pie charts Draw and interpret scatter graphs Use algebraic notation correctly and succinctly Draw conclusions from data/charts/graphs	Use real life graphs Draw linear graphs Substitute correctly into equations Round to DP and SF Split numbers into ratios and link with fractions	To calculate angles in 2D shapes To find alternate, corresponding and interior angles Understand congruency and similarity and use these to solve problems	Convert fractions and mixed numbers confidently and use this to answer questions involving 4 operations Convert FDP Substitute into equations and draw graphs Understand basic proportion	Calculate percentages Write numbers as percentages of others Calculate compound interest Converting harder FDP questions and ordering numbers written as FDP
Assessment	In class formative assessment	End of term test	In class formative assessment	In class formative assessment	In class formative assessment	End of year exam