Year 8 Curriculum
Mathematics

	Term 1 (Autumn)		Term 2 (Spring)		Term 3 (Summer)	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Key Concepts – All sets	• Ratio – Representation and notation – Links to proportion – Simplifying and comparing – Problem solving • Scale and rates of change – Direct proportion – Conversion graphs – Currency conversions – Similar shapes – Scale factor and scale diagrams • Multiplying & Dividing Fractions – Integers, unit fractions and any proper fractions – Reciprocals • Working in a Coordinate Grid – Four quadrants – Lines parallel to the axes – y = x, y = kx, y = x + a – Plot y = mx + c – Gradient – Link to linear sequences	• Representing Data – Scatter graphs – Correlation and line of best fit – Types of data – Frequency tables – Two-way tables • Tables & Probability – Sample space – Two-way tables – Venn diagrams • Brackets Equations & Inequalities – Expand brackets and simplify – Form and solve linear equations with brackets – Form and solve simple inequalities – Directed numbers with algebra	• Sequences – Generating sequences, including from the nth term – Find the nth term of linear sequences • Indices – Add, subtract, multiply and divide with indices – Laws of indices for multiplication and division • Fractions & Percentages – Convert between FDP – Fractions of amounts – Percentages of amounts – Percentage increase and decrease – Express as a fraction or percentage	• Standard Form – Positive and negative powers of ten – Convert between large and small numbers into standard form – Compare and order – Add, subtract, multiply and divide – Calculator use • Accuracy & Conversion – Round to powers of ten, decimal places and significant figures – Order of operations – Estimation – Convert metric units of length, mass and capacity • Angles – Notation – Names – Problems in parallel lines, special quadrilaterals – Construct special shapes – Properties of special quadrilaterals – Interior and exterior angle sum of polygons	• Trapezia & Circles – Area of triangles, rectangles, parallelograms, trapezium – Perimeter and area of compound shapes – Area and circumference of a circle, including problem solving • Symmetry & Reflection – Line symmetry – Reflect in horizontal, vertical and diagonal lines – Reflect on a coordinate grid	• Data Handling – Questionnaires – Bar charts, including duel bar charts – Pictograms – Pie charts – Line graphs – Compare – Grouped data • Averages & Spread – Mean, median and mode – Range – Identify outliers – Compare distributions

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Year 8 Curriculum *(continued)*

Mathematics

	Term 1 (Autumn)		Term 2 (Spring)		Term 3 (Summer)	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Extension Objectives – All sets	• Link ratio to gradient of a straight line • Link to diameter and circumference • Graphs representing direct proportion • Read map scale factors • Multiply and divide improper fractions and mixed numbers • Multiply and divide simple algebraic fractions • Explore negative gradients • Non-linear graphs • Midpoint of a line segment	• Identify linear and non-linear relationships • Product rule for counting to find the total number of possible outcomes • Expand double brackets • Form and solve equations and inequalities with unknowns on both sides	• Find the nth term for complex linear sequences • Raise one power to another • Percentage change • Reverse percentage change	• Understand and use negative indices • Fractional indices (unit fractions only) • Error interval notation • Convert metric units of area and volume • Properties of diagonals in special quadrilaterals • Construct angle bisector and perpendicular bisector	• Area and perimeter of compound shapes including parts of circles • Recognise and name lines of symmetry on a coordinate grid	• Mean from ungrouped frequency table • Estimate from grouped frequency table

Year 8 Assessment
Mathematics

All pupils will sit several knowledge tests and an assessment in Year 8.

	Knowledge Tests	Assessment		Revision Resources
	Autumn/Spring Terms	**Summer Term**		*Kennet Resources* • Year 8 Knowledge Organisers • Learning Habits *External Resources* • www.mymaths.co.uk • www.bbc.com/bitesize You can also find revision material on Frog
Style of Assessment	Each knowledge test consists of 10 multiple-choice questions	**Paper 1:** Non-Calculator	**Paper 2:** Calculator	
Topics Assessed	• Core knowledge taught until that point in the academic year	The exam will assess any content taught up to this point in the year or any previously taught content. The units covered are: • Ratio • Rates of Change • Multiplying & Dividing Fractions • Working on a Coordinate Grid • Representing Data • Tables & Probability • Brackets, Equations & Inequalities • Sequences A revision list and revision materials will be provided prior to the assessment.		

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