

## Teddington School - GCSE Maths Topics

	Foundation	Higher
<b>Year 9 Summer second half term</b>	Algebra - numerical example and counter example	Algebra - numerical, algebraic and geometrical proof
	Algebra - consolidating simplifying, expanding, substitution, factorising and rules of indices	Algebra - consolidating simplifying, expanding, substitution, factorising and rules of indices, algebraic fractions.
	Proportional reasoning and problem solving using proportions eg recipes, best buy, value for money, exchange rates. Use scale factors eg maps.	Proportional reasoning and problem solving using proportions eg recipes, best buy, value for money, exchange rates and speed. Use scale factors eg maps.
<b>Year 10 Autumn first half term</b>		
<b>Year 10 Autumn first half term</b>	Number - Rounding to decimal places and significant figures. Fluency with arithmetic and order of operations for integers and decimals. Solve real life problems using perimeter, area and volume.	Number - Rounding to decimal places and significant figures. Fluency with arithmetic and order of operations for integers and decimals. Solve real life problems using perimeter, area and volume.
	Geometry- Perimeter and area of standard shapes including rectangles, triangles, parallelogram, kite, trapezium, circle, arc length and area of a sector and compound shapes made up of these. Geometrical properties of 2d and 3d shapes including nets and plans. Volume and surface area of prisms. Volume and surface area of simple pyramids. Apply volume to density problems.	Perimeter and area of standard shapes including rectangles, triangles, parallelogram, kite, trapezium, circle, arc length and area of a sector and compound shapes made up of these. Geometrical properties of 2d and 3d shapes including nets and plans. Volume and surface area of prisms and a sphere. Formulae for a sphere is given. Volume and surface area of pyramids and a frustrum. Apply volume to density problems.
	Number - Fractions, decimals and percentages - ensuring fluency with comparing, ordering, equivalent, arithmetic and applications in real life. Able to deal with recurring decimals and fraction equivalents.	Number - Fractions, decimals and percentages - ensuring fluency with comparing, ordering, equivalent, arithmetic and applications in real life. Able to deal with recurring decimals and fraction equivalents.
<b>October half term - first year 10 exam in class on work since GCSE began</b>		
<b>Year 10 Autumn second half term</b>	Geometry - angles. Using angle facts to find missing angles in polygons and straight-line diagrams. Congruent and similar shapes.	Geometry - angles. Using angle facts to find missing angles in polygons and straight-lined diagrams. Congruent and similar shapes. Circle theorems (angles in circles).
	Algebra - solving equations. Write equations from a worded question or related to a diagram and the solve. Solve linear simultaneous equations. Inequalities.	Algebra - solving equations. Write equations from a worded question or related to a diagram and the solve. Solving quadratic equations using all methods. Know quadratic formulae. Solve simultaneous equations including linear and quadratic. Inequalities.
<b>Year 10 Spring first half term</b>		
	Foundation	Higher
<b>Year 10 Spring first half term</b>	Algebra - substitution into formulae and re-arranging formulae. Factorising and expanding including quadratic expressions. Using algebra to solve problems.	Algebra - substitution into formulae and re-arranging formulae. More on factorising and expanding quadratics and binomial expressions. Function notation and manipulating functions. Algebraic proof. Iteration. Using algebra to solve problems.
<b>February half term - second year 10 exam in class on work since first year 10 exam</b>		

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<b>Year 10 Spring second half term</b>	Number - estimating and checking answers for accuracy. Accuracy and error intervals using inequalities. Standard units of measure and conversions. Compound measures: speed, density and pressure. Scale factors for length, area and volume.	Number - estimating and checking answers for accuracy. Accuracy and error intervals using inequalities. Calculations with bounds. Standard units of measure and conversions. Compound measures: speed, density and pressure. Scale factors for length, area and volume.
	<b>Foundation</b>	<b>Higher</b>
<b>Year 10 Summer first half term</b>	Proportional reasoning - percentages, percentage change. Simple and compound interest. Finding the original amount. Ratios. Problem solving using ratios and percentages.	Proportional reasoning - percentages, percentage change. Simple and compound interest. Finding the original amount. Ratios. Problem solving using ratios and percentages.
<p><b>YEAR 10 EXAM PERIOD</b></p> <p><b>A minimum of two papers will be sat in exam hall.</b></p> <p><b>These end of year exams will cover all work since the start of the GCSE course.</b></p>		
	<b>Foundation</b>	<b>Higher</b>
<b>Year 10 Summer second half term</b>	Number - factors, roots and powers. Numbers as products of primes. LCM and HCF. Venn diagrams. Index (power) rules. Standard form and calculations.	Number - factors, roots and powers. Numbers as products of primes and can use to find LCM and HCF. Venn diagrams. Surds - simplify and rationalise denominators. Index rules. Standard form and calculations.
	Geometry - Pythagoras and trigonometry - right-angled triangles only. Know all formulae.	Geometry - Pythagoras and trigonometry for all types of triangles and diagrams, including in 3D. Know all formulae. This includes learning the formulae for sine and cosine rules, and area of a triangle. It includes being able to work out trigonometric ratios for the standard angles without a calculator. Trigonometric graphs.
<b>END OF YEAR 10</b>		