MATHS: Year 10 Foundation Course Outline

Half term	TOPIC	CONTENT	Suggestions for enrichment activities (eg: films, websites, books, museums and activity centres)
1	Properties of shapes, parallel lines and angle facts	Estimating and measuring angles, parallel and perpendicular lines, properties of quadrilaterals and triangles, using angles of triangles	http://nrich.maths.org/2927
	Interior and exterior angles of polygons	Regular and irregular polygons, sums of interior and exterior angles, congruency	http://nrich.maths.org/2844
	Statistics and sampling	Investigations, fairness, data collection, bias, samples and population	http://nrich.maths.org/2564
OCTOBER HALF TERM HOLIDAY			
2	The averages	Mean, median, mode and range from tables and charts; compare averages	http://nrich.maths.org/6245
	Perimeter and area	Scale including decimal, convert metric units, surface area	http://nrich.maths.org/650
	3D forms and volume	Identify solids, nets of cuboids and prisms, calculate and estimate volumes	http://nrich.maths.org/570
CHRISTMAS HOLIDAYS			
3	Real-life graphs	Draw and label axes, interpret and plot information, gradient	http://nrich.maths.org/11821
	Straight-line graphs	Use $y=mx+c$, plot an interpret graphs, gradient, parallel lines	http://nrich.maths.org/6603
	Transformations I: translations, rotations and reflections	Congruency, direction of turn, rotations, translations (including vectors), centre of rotation	http://nrich.maths.org/6539
FEBRUARY HALF TERM HOLIDAY			
4	Transformations II: enlargements and combinations	Reflect in diagonal lines, scale, centre of enlargement, positive and fractional scale factors, similarity	http://nrich.maths.org/6923
	Ratio	Two and three part ratios, 1:m and m:1, ratio as a fraction, compare ratios	http://nrich.maths.org/4740
	Proportion	Scale up recipes, currencies, direct and inverse, better buy comparisons	http://nrich.maths.org/6468
EASTER HOLIDAYS			
5	Right-angled triangles: Pythagoras and trigonometry	Lengths of longer and shorter sides, trigonometric ratios in 2D problems, angles of elevation and depression, round answers	http://nrich.maths.org/2721
	Probability I	Language of probability, outcomes	http://nrich.maths.org/4304
	Probability II	Sample space and tree diagrams	http://nrich.maths.org/314
	Multiplicative reasoning	Use compound measures such as density and speed, profit and loss percentages	http://nrich.maths.org/5627
MAY HALF TERM HOLIDAY			
6	Plans and elevations	Sketch 3D solids, faces, edges, vertex	http://nrich.maths.org/6307
	Constructions, loci and bearings	Angles, bisectors, congruency, loci problems, 3 figure bearings	http://nrich.maths.org/7148
	Quadratic equations: expanding and factorising	Factorise and solve quadratic equations	http://nrich.maths.org/6842
	Quadratic equations: graphs	Generate points and plot quadratic graphs, interpret in real-life situations	http://nrich.maths.org/6965

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