

MATHS: Year 9 Higher Course Outline



Half term	TOPIC	CONTENT	Suggestions for enrichment activities (eg: films, websites, books, museums and activity centres)
1	Calculations, checking and rounding	Use all four operators, round to multiples of 10 and integers, estimate	http://nrich.maths.org/2053
	Indices, roots, reciprocals and hierarchy of operations	Use index notation, solve problems using index laws, use integer and negative powers	http://nrich.maths.org/6401
OCTOBER HALF TERM HOLIDAY			
2	Factors, multiples and primes	Prime factor decomposition, common factors and multiples of two numbers	http://nrich.maths.org/704
	Standard form and surds	Add, subtract, multiply and divide in standard form; understand surd notation	http://nrich.maths.org/620
	Algebra: the basics	Expressions, substitution, simplify, expanding using brackets	http://nrich.maths.org/5675
CHRISTMAS HOLIDAYS			
3	Setting up, rearranging and solving equations	Use and substitute into formulae, use iteration to find approximate solutions, change the subject	http://nrich.maths.org/1926
	Sequences	n th term of arithmetic and quadratic sequences, real-life problems	http://nrich.maths.org/8054
FEBRUARY HALF TERM HOLIDAY			
4	Averages and range	Mean, mode, median and range; data collection, discrete and grouped data	http://nrich.maths.org/5988
	Representing and interpreting data	Dual bar charts, pie charts, frequency polygons, simple histograms, line graphs and time series	http://nrich.maths.org/6411
	Scatter graphs	Draw and interpret, line of best fit, correlations	http://nrich.maths.org/7502
EASTER HOLIDAYS			
5	Fractions	Equivalency, four operators with fractions, convert to recurring decimal	http://nrich.maths.org/365
	Percentages	Increase and decrease, multipliers	http://nrich.maths.org/2739
	Ratio and proportion	Divide into ratio, $1:m$ and $m:1$, direct proportion, recipes, currencies	http://nrich.maths.org/4895
MAY HALF TERM HOLIDAY			
6	Polygons, angles and parallel lines	Regular and irregular polygons, interior and exterior angles, angles in triangles and quadrilaterals	http://nrich.maths.org/5441
	Pythagoras' Theorem and trigonometry	Pythagoras in 2d problems, answers in surd form, angles of elevation and depression, use trigonometric ratios	http://nrich.maths.org/1949