



Armfield Academy – Mathematics Department

Year 10 Foundation Curriculum Overview



Maths home Learning is completed using Century Learning.

RECALL STARTERS – Use WRM Flashback 4 (in shared drive) for lesson starters to recap prior learning

Use Pre requisite Quiz's to recap prior learning before starting a Unit

HALF TERM 1	
Week	Curriculum Overview
1	Probability (carry over from year 9) PLUS TOPICS FROM YR 9 QLA DOCUMENT
2	
3	
4	Congruency and Enlargement
5	Enlarge a shape by a positive integer scale factor (R) Enlarge a shape by a fractional scale factor (R) Identify similar shapes Work out missing sides and angles in a pair given similar shapes (R) Use parallel line rules to work out missing angles Establish a pair of triangles are similar Understand the difference between congruency and similarity Understand and use conditions for congruent triangles
6	Trigonometry
7	
HALF TERM 2	
Week	Curriculum Overview
8	Trigonometry As above.....
9	Representing Solutions of Equations and Inequalities Understand the meaning of a solution
10	
11	

	Form and solve more complex equations and inequalities
12	Revision week and assessment
13 14	Simultaneous Equations Determine whether a given coordinate is a solution to a pair of linear equations Solve a pair of linear simultaneous equations using graphs Solve a pair of linear simultaneous equations by adding or subtracting equations Use a given equation to derive related facts (R) Solve a pair of linear simultaneous equations by adjusting one equation Solve a pair of linear simultaneous equations by adjusting both equations Form a pair of linear simultaneous equations from given information Form and solve a pair of linear simultaneous equations from given information
HALF TERM 2	
Week	Curriculum Overview
15	Simultaneous Equations As above
16 17	Angles and Bearings Use cardinal directions and related angles (R) Draw and interpret scale diagrams (R) Understand and represent bearings Measure and read bearings Make scale drawings using bearings Calculate bearings using angle rules
18 19	Working with Circles Recognise and label parts of a circle (R) Calculate the circumference of a circle Calculate the area of a circle Calculate the fractional parts of a circle Calculate the length of an arc Calculate the area of a sector
20	Vectors Understand and represent vectors Use and read vector notation Draw and understand vectors multiplied by a scalar Draw and understand addition and subtraction of vectors
HALF TERM 4	
21	Curriculum Overview
22	Vectors As above....
23 24	Ratio and Fractions Compare quantities using a ratio (R) Link ratios and fractions (R) Share in a ratio (given total or one part) (R) Use ratios and fractions to make comparisons

	<p>Link ratios and graphs</p> <p>Solve problems with currency conversion</p> <p>Link ratios and scales (R)</p> <p>Use and interpret ratios of the form 1:n and n:1</p> <p>Solve best buy problems</p> <p>Combine a set of ratios</p> <p>Link ratio and algebra</p> <p>Mixed ratio problems</p>
25 26	<p>Percentages and Interest</p> <p>Convert and compare fractions, decimals and percentages (R)</p> <p>Work out percentages of amounts (with and without a calculator) (R)</p> <p>Increase and decrease by a given percentage (R)</p> <p>Express one number as a percentage of another (R)</p> <p>Calculate simple and compound interest</p> <p>Repeated percentage change</p> <p>Find the original value after a percentage change (R)</p> <p>Solve problems involving growth and decay</p> <p>Solve problems involving percentages, ratios and fractions</p>
27	<p>Probability</p> <p>Know how to add, subtract and multiply fractions (R)</p> <p>Find probabilities using equally likely outcomes (R)</p> <p>Use the property that probabilities sum to 1 (R)</p> <p>Using experimental data to estimate probabilities</p> <p>Find probabilities from tables, Venn diagrams and frequency trees</p> <p>Construct and interpret sample spaces for more than one event (R)</p> <p>Calculate probabilities with independent events</p> <p>Use tree diagrams for independent events</p>
HALF TERM 5	
Week	Curriculum Overview
28	<p>Probability</p> <p>As above..</p>
29	<p>Collecting and Representing Data</p> <p>Understand populations and samples</p> <p>Primary and secondary data</p> <p>Construct and interpret frequency tables and frequency polygons</p> <p>Construct and interpret two-way tables (R)</p>
30	<p>Construct and interpret line and bar charts (including composite bar charts)</p> <p>Construct and interpret pie charts (R)</p> <p>Criticise charts and graphs</p> <p>Find and interpret averages from a list (R)</p> <p>Find and interpret averages from a table (R)</p>
31	<p>Construct and interpret time series graphs (R)</p> <p>Construct and interpret stem and leaf diagrams</p> <p>Compare distributions using charts and measures</p> <p>Construct and interpret scatter graphs (R)</p> <p>Draw and use a line of best fit (R)</p>

	Understand extrapolation
32	Non Calculator Methods
33	Mental/written methods of integer/decimal addition and subtraction (R) Mental/written methods of integer/decimal multiplication and division The four rules of fraction arithmetic (R) Exact answers Rounding to decimal places and significant figures (R) Estimating answers to calculations (R) Understand and use limits of accuracy Use number sense Solve financial maths problems Break down and solve multi-step problems
HALF TERM 6	
Week	Curriculum Overview
34	Types of Number and Sequences
35	Understand the difference between factors and multiples (R) Understand primes and express a number as a product of its prime factors (R) Find the HCF and LCM of a set of numbers (R) Describe and continue arithmetic and geometric sequences Explore other sequences Find the rule for the nth term of a linear sequence (R)
36	REVISION WEEK AND ASSESSMENT
37	Indices and Roots
38	Square and cube numbers (R) Calculate higher powers and roots Powers of ten and standard form (R) The addition and subtraction rules for indices (R) Understand and use the power zero and negative indices Work with powers of powers Calculate with numbers in standard form (R)
39	Multiplicative Reasoning
40	Simplify algebraic expressions Use identities Form and solve equations and identities with fractions Represent Numbers algebraically Algebraic arguments and proof