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	
Date	Curriculum Overview
WC 29/08	**Probability (carry over from year 9) PLUS TOPICS FROM YR 9 QLA DOCUMENT**
WC 05/09	Relative Frequency
WC 12/09	Expected number of outcomes Independent Events
WC 19/09	**Congruency and Enlargement**
WC 26/09	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
WC 03/10	**Trigonometry**
WC 10/10	Explore ratio in similar right angled triangles Work fluently with the hypotenuse, opposite and adjacent sides Use the tangent ratio to find missing side lengths Use the sine and cosine ratios to find missing side lengths Use sine, cosine and tangent to find missing side lengths Use sine, cosine and tangent to find missing angles Calculate sides in right-angled triangles using Pythagoras' Theorem (R) Select the appropriate method to solve right angled triangles problems Work with key angles in right angled triangles

HALF TERM 2	
Date	Curriculum Overview
WC 31/10	**Trigonometry** As above…..
WC 07/11	**Representing Solutions of Equations and Inequalities** Understand the meaning of a solution
WC 14/11	Form and solve one-step and two-step equations (R) Form and solve one-step and two-step inequalities (R)
WC 21/11	Show solutions to inequalities on a number line Interpret representations on number line as inequalities Draw straight line graphs (R) Find solutions to equations using straight line graphs Form and solve equations with unknowns on both sides (R) Form and solve inequalities with unknown on both sides

	Form and solve more complex equations and inequalities
WC 28/11	**Revision week and assessment**
WC 05/12 WC 12/12	**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

Date	Curriculum Overview
WC 02/01	**Simultaneous Equations** As above
WC 09/01 WC 16/01	**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
WC 23/01 WC 30/01	**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
WC 06/02	**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

Date	Curriculum Overview
WC 20/02	**Vectors** **As above….**
WC 27/02 WC 06/03	**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

	Link ratios and graphs Solve problems with currency conversion Link ratios and scales (R) Use and interpret ratios of the form 1:n and n:1 Solve best buy problems Combine a set of ratios Link ratio and algebra Mixed ratio problems
WC 13/03 WC 20/03	**Percentages and Interest** Convert and compare fractions, decimals and percentages (R) Work out percentages of amounts (with and without a calculator) (R) Increase and decrease by a given percentage (R) Express one number as a percentage of another (R) Calculate simple and compound interest Repeated percentage change Find the original value after a percentage change (R) Solve problems involving growth and decay Solve problems involving percentages, ratios and fractions
WC 27/03	**Probability** Know how to add, subtract and multiply fractions (R) Find probabilities using equally likely outcomes (R) Use the property that probabilities sum to 1 (R) Using experimental data to estimate probabilities Find probabilities from tables, Venn diagrams and frequency trees Construct and interpret sample spaces for more than one event (R) Calculate probabilities with independent events Use tree diagrams for independent events

HALF TERM 5
Curriculum Overview

Date	
WC 17/04	**Probability** **As above..**
WC 24/04 WC 01/05 WC 08/05	**Collecting and Representing Datac** Understand populations and samples Primary and secondary data Construct and interpret frequency tables and frequency polygons Construct and interpret two-way tables (R) Construct and interpret line and bar charts (including composite bar charts) Construct and interpret pie charts (R) Criticise charts and graphs Find and interpret averages from a list (R) Find and interpret averages from a table (R) Construct and interpret time series graphs (R) Construct and interpret stem and leaf diagrams Compare distributions using charts and measures Construct and interpret scatter graphs (R) Draw and use a line of best fit (R) Understand extrapolation

WC 15/05	**Non Calculator Methods**
WC 22/05	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	
Date	Curriculum Overview
WC 05/06	**Types of Number and Sequences**
WC 12/06	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)
WC 19/06	**REVSION WEEK AND ASSESSMENT**
WC 26/06	**Indices and Roots**
WC 03/07	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)
WC 10/07	**Multiplicative Reasoning**
WC 17/07	Simplify algebraic expressions
	Use identities
	Form and solve equations and identities with fractions
	Represent Numbers algebraically
	Algebraic arguments and proof