Armfield Academy – Mathematics Department

Year 8 Curriculum Overview

****Note: Objectives in blue are additional higher content for extension****

Maths home Learning is completed using Century Learning.

Half Term 1	
Week	Curriculum Overview
1 2	**Prime Number and Proof** - Identify factors of a number - Identify multiples of a number - Find the HCF, LCM of two numbers - Write a number as a product of its prime factors
3 4 5	**Ratio and Scale** - Understand ratio and its link to multiplication - Circumference of a circle - Use ratio notation - Reduce ratios to simplest form - Solve ratio problems - **Ratio in the form 1:n** - **Comparing ratios**
6 7	**Multiplicative Change** - Use Scale factors, linking to ratio, to solve simple directional proportion problems - Explore conversion graphs - Convert between currencies - Explore direct proportion graphs (H) - Explore relationships between similar shapes - Understand scale factors as multiplicative representations - Draw and interpret scale diagrams - Interpret maps using scale factors and ratio - Scale diagrams and maps
Half Term 2	
Week	Curriculum Overview
8 9	**Multiplying and dividing fractions** - Represent multiplication of fractions - Multiply a fraction by an integer - Find the product of a pair of unit fractions - Find the product of a pair of any fractions - Divide an integer by a fraction - Divide a fraction by a unit fraction - Understand and use the reciprocal - Divide any pair of fractions - Multiply and divide improper and mixed fractions - Multiply and divide algebraic fractions **Multiplying and dividing mixed numbers**
10 11 12	**Working in a Cartesian plane** - Plotting and interpreting straight line graphs - Equations of lines parallel to the axes - Model situations by translating them into expressions, formulae and graphs - **Find the equation of a straight line (H)** - **Find the mid-point of a line segment (H)** - **Find the gradient of a line segment (H)** - **Drawing quadratic graphs (H)**
13	**Revision and assessment**
14	**Collecting and Representing data** - Scatter graphs and correlation (and line of best fit) - Listing outcomes

	- Read, interpret and collect data in frequency tables - Represent and interpret data in two way tables
Half Term 3	
Week	Curriculum Overview
15	**Collecting and Representing data** - Scatter graphs and correlation (and line of best fit) - Listing outcomes - Read, interpret and collect data in frequency tables - Represent and interpret data in two way tables
16 17	**Tables and Probability (Further)** - Sample space diagrams - Probabilities from two way tables - Probabilities from venn diagrams - **Product rule for number of outcomes (H)**
18 **19** 20	**Brackets, equations and inequalities** - Forming and using expressions, formulae and identities - Multiplying out single brackets - Factorise into a single bracket - Forming and solving equations and inequalities, with and without brackets - **Solving equations with unknowns on both sides** - **Expanding binomials**
Half Term 4	
Week	Curriculum Overview
21	**Brackets, equations and inequalities** - Forming and using expressions, formulae and identities - Multiplying out single brackets - Factorise into a single bracket - Forming and solving equations and inequalities, with and without brackets - **Solving equations with unknowns on both sides** - **Expanding binomials**
22 23	**Sequences** - Generate sequences given a rule in words - Generate sequences given a simple algebraic rule - Generate sequences given a complex algebraic rule - **Find the rule for the nth term of a linear sequence** **Indices** - Investigate positive powers of 10 - Investigate negative powers of 10 - Work with numbers in standard form - Compare and order numbers in standard form - Calculate with numbers in standard form - Use a calculator to work with numbers in standard form - **Understand and use negative indices** - **Understand and use fractional indices**
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25	**Revision and assessment**
26	**Fractions and Percentages** ● Calculate percentages of amounts (no calculator and calculator methods) ● Using multipliers for calculating percentage increase/decrease ● One number as a percentage of another ● **Finding the original given any percentage**

	• Revisit Fraction, Decimal and Percentage equivalence • Calculate fractions of amounts
Half Term 5	
Week	Curriculum Overview
27 28	**Fractions and Percentages** • Calculate percentages of amounts (no calculator and calculator methods) • Using multipliers for calculating percentage increase/decrease • One number as a percentage of another • **Finding the original given any percentage** • Revisit Fraction, Decimal and Percentage equivalence • Calculate fractions of amounts
29 30	**Standard Index Form** - Conversion between numbers in ordinary and standard form - Comparing numbers in standard form - **Calculating with standard form** - **Negative and simple fractional indices**
31 32	**Number Sense** - Developing mental strategies - Measure and units - Estimation, including rounding to a given number of decimal places - Revisit order of operations - **Simple surds** - **Converting area units** - **Error interval notation** - Developing mental strategies - Measure and units - Estimation, including rounding to a given number of decimal places - Revisit order of operations - **Simple surds** - **Converting area units**
Half Term 6	
Week	Curriculum Overview
33 34 **35**	**Angles in parallel lines and polygons** - Angles in parallel lines - Angles in special quadrilaterals - Angles in polygons - **Standard constructions including perpendicular** **Diagonal properties of quadrilaterals**
36	**Angles of trapezia and circles** - Calculate the area of a trapezium - Investigate the area of a circle - Calculate the area of a circle and parts of a circle without a calculator - Calculate the area of a circle and parts of a circle with a calculator
37	**Revision and assessment**
38	**Angles of trapezia and circles** - Calculate the area of a trapezium - Investigate the area of a circle - Calculate the area of a circle and parts of a circle without a calculator - Calculate the area of a circle and parts of a circle with a calculator

39	**Exam review and consolidation**