Armfield Academy – Mathematics Department
Year 7 Core Curriculum Overview

This maths scheme of work is structured to build securely on prior learning, with concepts sequenced for progression and depth. Retrieval practice is embedded to strengthen fluency and long-term retention. Teaching is responsive, with assessment informing adaptation to meet learners' needs. All pupils are challenged through high expectations, with scaffolds to ensure inclusivity and access for all. The scheme aims to develop problem-solving, reasoning, and resilience alongside core mathematical skills. In year 7 we have the 'Core' and the 'Support' curriculum, these are intertwined and teachers have flexibility and fluidity to push pupils in their charge while embedding fundamental knowledge needed for the rest of KS3.

Note: Objectives in blue are additional content for extension

Term 1	
Week	**Curriculum Overview**
1	**Sequences**
2	- Describe and continue sequences - Find the next term(s) - Linear and non-linear sequences - Continue linear sequences - Continue non-linear sequences - Term-to-term rules - Find missing terms E
3	**Algebraic Notation**
4	- 1-step function machines (number) - 1-step function machines (algebra) - Find a function (one step) - Substitution (one step) - 2-step function machines (number) - 2-step function machines (algebra) - Find a function (two step) - Substitution (two step)
5	**Equality and Equivalence**
6	- Write integers in numerals and words - Intervals on a number line - Compare and order integers - Place value for decimals - Decimals on a number line - Compare and order decimals - Round to powers of 10 - Round to the nearest integer - Round to decimal places - Powers of 10 (E) - Numbers greater than 1 in standard form (E) - Negative powers of 10 (E) - Numbers between 0 and 1 in standard form (E)
7	**Place Value and Ordering** - Write integers in numerals and words - Intervals on a number line - Compare and order integers - Place value for decimals

		- Decimals on a number line - Compare and order decimals - Round to powers of 10 - Round to the nearest integer - Round to decimal places - Powers of 10 (E) - Numbers greater than 1 in standard form (E) - Negative powers of 10 (E) - Numbers between 0 and 1 in standard form (E)
8		**Four Operations**
9		- Add and subtract integers - Add and subtract decimals - Multiply and divide by 10, 100 and 1000 - Multiply by 0.1 and 0.01 (E) - Multiply integers - Divide integers - Multiply decimals - Divide decimals by integers - Divide by a decimal (E) - Order of operations
10		**Averages and Range** - Mode - Mean - Median - Range - Solve problems with averages and range
11		**Rounding and Estimation** - Round to 1 significant figure - Round to 2 or more significant figures - Estimate answers to calculations - Solve problems with estimation - Understand and use error interval notation (E)
12		**Graphing Data**
13		**ASSESSMENT WEEK** - Pictograms - Bar charts - Dual bar charts - Composite bar charts - Coordinates in the first quadrant - Scatter graphs - Correlation - Lines of best fit - Time-series graphs - Non-linear relationships
14		**Review and Reteach** - Here we allocate a week to reviewing and reteaching in order to reinforce key concepts, address gaps in understanding, and ensure a strong foundation before advancing in the curriculum.

Term 2	
Week	**Curriculum Overview**
1	**Fractions, Decimals and Percentages**
2	- Represent tenths and hundredths - Number lines with fractions and decimals - Tenths, hundredths, fifths and quarters - Eighths and thousandths - Understand percentages - Convert simple fractions, decimals and percentages - Fractions as diagrams - Fractions on a number line - Equivalent fractions - Fractions as division - Convert fractions, decimals and percentages - Fraction, decimals and percentages greater than 1 (E)
3	**Directed Number**
4	- Directed number and number lines - Compare and order directed numbers - Calculations that cross zero - Directed number and zero pairs - Add directed numbers - Subtract directed numbers - Multiply and divide directed numbers - Order of operations with directed numbers - Use a calculator with directed numbers
5	**Fractions and Percentages of Amounts**
6	- Fraction of an amount - Use a fraction to find the whole - Percentage of an amount (non-calculator) - Percentage of an amount (calculator) - Percentage increase and decrease - Use a percentage to find the whole (E) - Solve problems with fractions and percentages greater than 1 (E)
7	**Perimeter and Area**
8	- Convert metric units of length - Perimeter of a polygon - Perimeter of a compound shape - Area of rectangles and parallelograms - Area of a triangle - Area of a trapezium - Solve problems with perimeter and area - Form expressions with perimeter and area (E)
9	**Speed, Distance and Time**
10	**ASSESSMENT WEEK**
11	- Convert between milliseconds, seconds, minutes and hours - Convert between hours, days and years - Fractions of time - Solve problems with tables and timetables - Solve problems with time and the calendar - Calculate speed

	- Calculate time and distance - Solve problems with speed, distance and time - Interpret distance-time graphs - Draw distance-time graphs - Calculate speed from a distance-time graph (E)

Term 3	

Week	Curriculum Overview
1	**Revision and Reteach** - Here we allocate a week to reviewing and reteaching in order to reinforce key concepts, address gaps in understanding, and ensure a strong foundation before advancing in the curriculum.
2 3 4	**Properties of Number** - Multiples - Factors - Prime numbers - Write a number as a product of prime factors - Square, cube and triangular numbers - Square roots and cube roots - Explore higher powers and roots (E) - Highest common factor (HCF) - Lowest common multiple (LCM) - HCF and LCM from a Venn diagram (E)
5 6 7	**Add and Subtract Fractions** - Simplify a fraction - Convert between mixed numbers and improper fractions - Add and subtract fractions with the same denominator - Add and subtract with fractions and integers - Add and subtract fractions where denominators share a simple common multiple - Add and subtract fractions with any denominator - Add and subtract improper fractions and mixed numbers - Use equivalence to add and subtract decimals and fractions (E) - Add and subtract simple algebraic fractions (E) - Substitution and solving equations with fractions (E)
8 9 10	**Angles in Polygons** - Draw and measure lines and angles - Understand and use geometric notation - Angles around a point - Angles on a straight line - Vertically opposite angles - Recognise and name polygons - Angles in a triangle - Angles in a quadrilateral - Solve problems with angles - Parallel and perpendicular lines - Angles in parallel lines (E) - Angles in a polygon (E) - Simple proofs (E)
11	**Week 11= Revision and preparation week**
12	**Week 12 ASSESSMENT WEEK** - This week is preparation time that fits around end of year summative assessments

13	**Review and Reteach**
14	- Here we allocate a week to reviewing and reteaching in order to reinforce key concepts, address gaps in understanding, and ensure a strong foundation before advancing in the curriculum.