Year 7 Maths
Age Related Expectations

All children are assessed against the Age Related Expectations (ARE) within the different curriculum subjects. The ARE's are taken from the National Curriculum but are consolidated to reflect what *we* expect of a child. For example, three or four national curriculum targets might be summarised in one ARE. Judgements are generally based on a variety of different sources but will generally be a combination of on-going formative assessment in class, book work and formal summative testing.

Intro: The curriculum in Key Stage 3 is more diverse and varied than Key Stage 2. The focus moves from number and calculation and broadens to include; algebra, ratio & proportion and probability. Whilst all the elements of calculation, place value and fractions are still covered within Key Stage 3, it is instead under the heading, number.

	Key Performance Indicators	Age Related Expectations
Number	- Order, sort and interpret any number (including decimals and negatives). - Use place value to multiply and divide any number by powers of 10. - Understand and apply the concept of multiples, factors and primes individual, pairs or groups of numbers. For example, finding the Lowest Common Multiples of a pair of numbers. - Use formal methods for addition, subtraction, multiplication and division fluently including increasingly complex decimals. - Explore and understand rules for adding and subtracting positive and negative integers. - Multiply and divide negative numbers. - Use and apply BIDMAS to the number system, ensuring the calculations are carried out in order. - Round any number to any specified degree of accuracy, including decimals and measures. - Understand the concept of percentages and use this to find percentages of a quantity. - Compare the result of two percentage calculations. For example 15% of 40 and 10% of 50. - Understand the interrelated nature of fractions, decimals and percentages, converting between them and ordering with increasing fluency. - Add, subtract and multiply fractions fluently.	By the end of year 7 a child should be increasingly fluent in making meaningful connections between different mathematical concepts and apply them readily. A child should understand and solve a variety of algebraic equations; understanding how to manipulate expressions and equations fluently. A child is applying formulas and known rules to geometry and measures problems to find information.
Algebra	- Use and interpret algebraic notation including ab (a x b) 3y (3 x y), substituting numerical values into formula to find the value of an equation. - Combine variables within an equation or expression and simplify by collecting like terms. - Recognise and use the relationships between operations and use inverse to change the subject of a formula. - Use and interpret bracket notation with algebraic equations, multiplying out a single bracket. - Plot a linear function on a graph from an equation and interpret mathematically. - Understand linear sequences and finding a formula to solve the next and nth terms.	
Geometry and Measures	- Use the properties and vocabulary of 3D shapes and their nets to solve problems. - Calculate the area and perimeter of a variety of 2D and compound shapes, including triangles using a formula. - Represent 3D shapes in 2D. - Work with shapes on a 4 quadrant grid to translate, reflect and rotate in any direction or plane. - Use a ruler and a protractor to draw accurately. - Recognise, describe and name all common 2D shapes and apply angle facts to solve a variety of problems. - Understand and use place value when using different measures of length, mass, time and volume changing freely between different units of metric measures.	
Statistics	- Create, use and interpret a variety of different tables and graphs to observe and analyse statistical information including; stem and leaf diagrams, vertical line charts and pie charts. - Use the mode, median, mean and range fluently to compare, describe and analyse groups of data.	
Ratio, Proportion and Rate of Change*	- Understand and use ratio notation, including reducing it to its simplest form. - Understand a relationship between two quantities and use this information to solve problems involving direct proportion.	
Probability*	- Record, describe and analyse the frequency of outcomes of simple probability experiments; understanding that the sum of all possible outcomes equals 1.	

*These strands will not be formally reported on but might be discussed by the teacher at parents evening.