KS3 Maths: Year 7 Key Skills & Concepts	Emerging	Developing	Securing	Mastering
1 Sequences	To be able to describe and continue a sequence given diagrammatically. To predict and check the next term(s) of a sequence	To be able to represent sequences in tabular or graphical forms. To recognise the differences between linear and non-linear sequences	To be able to continue numerical linear and non-linear sequences.	To explain the term-to-term rule of numerical sequences in words. Also to find missing numbers within sequences.
2 Understand and use notation	Is be able find the output of a single function machine given a numerical input. Able to use inverse operations to find the input given the output	To use diagrams and letters to generalise number operations as well as use diagram and letters with single function machines	Can find the function machine given a simple expression Can find numerical inputs and outputs for a series of two function machines	Can find the function machines given a two-step expression Can substitute values into two-step expressions as well as generate sequences given an algebraic rule
3 Equality and Equivalence	Can understand the meaning of equality and understand and use fact families, numerically and algebraically	To solve one-step linear equations +/- using inverse operations as well as using multiply/divide	Can understand the meaning of like and unlike terms and equivalence	To be able to simplify algebraic expressions by collecting like terms, using the $\equiv$ symbol
4 Place value and ordering	Being able to recognise and write the place value of any number up to a billion in words and figures Work out intervals on a number line; position integers on a number line as well as round integers to nearest power of ten	To compare two numbers using =, $\neq$, >, < Can order a list of integers as well as finding the range of a set of numbers Can find the median of a set of numbers	Can understand place value for decimals, able to position decimals on a number line. Can also compare and order any number up to a billion. Can round a number to one significant figure Can also write 10, 100, 1000 etc. as powers of 10	To be able to write positive integers in the form $A \times 10^n$ Investigate negative powers of 10 As well as write decimals in the form $A \times 10^n$
5 Fraction, Decimal and Percentage equivalence	Can represent tenths and hundreds as diagrams, on number lines Can interchange between fractional and decimal number lines Can also convert between fractions and decimals – tenths and hundredths Understands the meaning of percentage using a hundred square	Can convert between fractions and decimals – fifths, eighths and thousandths Can convert fluently between simple fractions, decimals and percentages. Can use and interpret pie charts	To be able to represent any fractions as a diagram Can represent fractions on a number line Can also Identify and use equivalent fractions as well as understand fractions as division	To be able to convert fluently between Fractions, Decimals and Percentages

6 Addition and Subtraction	Can use rods to model commutative and associative properties of addition, using number lines to support understanding. Is able develop pupils fluency with number bonds up to 9 + 9 Being able to read number lines, use number lines to solve missing number problems as well as using place value grids and base 10.	Can develop mental strategies for addition and subtraction as well as use formal methods for addition and subtraction of integers and decimals	Can choose the most appropriate method: mental strategies, formal written or calculator Can solve problems in context of perimeter Able to solve financial maths problems, problems involving tables and timetables Solving problems with frequency trees, bar charts and line charts	Adding and subtracting in standard form
7 Multiplication and Division	Can multiply and divide integers by 10 and 100. Can complete basic multiplication and division calculations using formal methods. Can identify metric equivalences and conduct basic metric transformations.	Can complete basic multiplication and division calculations including decimals using formal methods. Can fill in missing spaces to complete multiplications and divisions to correctly complete an operation. Can carry out the inverse to a multiplication and division problem to find the original number.	Correctly apply BIDMAS to calculations involving multiplication and division amongst other operations and indices. Can formulate and answer worded problems involving both multiplication an division, as well as the other functions. Can convert metric units using multiplication and division. Can solve problems using the area of rectangles and parallelograms	Can identify letters in calculation cards involving multiplication and division. Can use formal methods to divide decimals. Can solve problems using the area of triangles and trapeziums. Can multiply and divide basic algebraic expressions.