

Knowledge Organiser Maths Term 1 Year 7

Section 1: Sequences 7 Hours

- * Show sequences as pictures, by numbers, on a graph or as Algebra
- * Find the next term(s) in a sequence or find the missing terms
- * Find the rule that takes you from one term to the next
- * Know the difference between linear and non linear sequences

Key Words / Vocabulary

- Sequence – a pattern in maths
- Term - the position of a number in the sequence
- Term to term rule – the rule that takes you from one number to the next
- Linear – a pattern that gives a straight line on a graph
- Non – Linear - does not give a straight line on a graph

Section 2 : Place Value and Ordering Integers and Decimals 10 Hours

- * Accurately write large and small numbers knowing the value of the different digits
- * Put numbers in order of size
- * Understand and use inequality signs
- * Find range and median of a set of numbers
- * Order decimals according to size
- * Round correctly to decimal places and significant figures
- * Write and use powers of 10
- * Write large and small numbers in standard form

Key Words / Vocabulary

- Place Value – the name given to value of the column the number is in
- Digit – place or value of one number in a longer number
- Integer - a whole number (no decimals)
- Round - Use rules to shorten a number correctly
- Inequalities – use greater than or less than to show relationship between numbers
- Range – The difference between the biggest and smallest numbers in a set of numbers
- Median – The middle number in a set of numbers
- Power – a way of writing a number multiplied by itself
- Significant Figures – Used in rounding the important number of digits required
- Standard Form - a method for writing very large and very small numbers

Section 3 : Algebraic Notation 7 Hours

- * Be able to use function machines and their inverse
- * Write using correct Algebraic notation
- * Substitute numbers into Algebraic expressions/formulas
- * To work out sequences by substituting values into them
- * Be able to plot linear straight lines

Key Words / Vocabulary

- Function Machines – Following rules to generate an answer
- Inverse – working back from the answer to find the input
- Algebraic notation – using rules of algebra to represent numbers and letters
- Expression – An algebraic sentence
- Substitution – putting numbers in instead of letters
- Variable – a letter that can change depending on the number inputted

Section 4 : Equality and Equivalence 6 Hours

- * Be able to solve equations that involve + / -
- * Be able to solve equations that involve x / \div
- * Be able to simplify expressions

Key Words / Vocabulary

Term – a 'thing' in Algebra separated by other terms by a plus or a subtract eg $4y$ or $5ab$

Equation – An algebraic sentence that has an equal sign

Solve – Work out the unknown letter using algebra rules

Simplify – make the expression easier , eg have less terms

Section 5 : Fraction, Decimal and Percentage Equivalence 9 Hours

- * Be able to change between fractions, percentages and decimals
- * Be able to show fractions/decimals and percentages on different diagrams, number lines
- * Be able to decide which fraction is biggest
- * Realise that fractions are a type of dividing
- * Be able to take information from a pie chart
- * Use mixed numbers and top heavy fractions

Key Words / Vocabulary

Fraction – a number with a top number (numerator) and bottom number (denominator)

Percentages - is a number out of 100

Decimals – are a number out of 1

Equivalent Fractions – Fractions that have the same value but the top and bottom numbers are different

Mixed Number/ Fraction – A number that has a whole number and a fraction

Top Heavy Fraction – Where the numerator is bigger than the denominator