**Curriculum Overview for Mathematics**

**Year 7**

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| **Half Term 1:**  **Properties of Number**  **Declarative Knowledge:**  Know the order of operations and know that multiplication/division and addition/subtraction are equal to each other  Know that multiplication is commutative  Describe numbers using ‘composite’ or ‘prime’  **Procedural Knowledge:**  Use a variety of methods to multiply numbers  List multiples of numbers  Find factors of numbers  Use prime factor decomposition  Find the Highest Common Factor (HCF) and Lowest Common Multiple (LCM) of numbers  **Conditional Knowledge:**  Use prime factor decomposition and  Venn diagrams to find the HCF and LCM  Use partitioning, arrays and mental strategies to simplify larger calculations  **Half Term 1:**  **Directed Number**  **Declarative Knowledge:**  Label a number line with integers  Know what a zero pair is  **Procedural Knowledge:**  Represent zero pairs using a variety of methods  Add and subtract with negative numbers  Multiply and divide with negative numbers  Use a scientific calculator to calculate with negative numbers  **Conditional Knowledge:**  Use the order of operations when calculating with powers/roots and negative numbers | Books | Modelling reading of questions by the class teacher – teaching like a Mathematician  Two key words at the start of each lesson defined  Expectation of Mathematical vocabulary used in lessons |
| Speech | Array, factors, product, composite numbers, prime numbers, multiples, square numbers, cube numbers, highest common factor, lowest common multiple, index form, order of operations, groupings, brackets, Venn diagram, intersection, systematic listing, powers and roots, multiply, divide, addition, and subtraction.  Zero pair, positive, negative, number line, direction, sign, greater than, less than, addition, subtraction, multiplication, division, credit, debit. |
| Checklist RTL | There will be a formal end of half-term exam incorporating the 2 units studied during the half-term.  We will re-teach during an Exam Review lesson after the assessment |
| Home | Key Knowledge Organiser test – revise the key knowledge organiser given at the start of the unit  Dr Frost Maths – practising skills using DrFrostMaths.com (a unique username and password will be provided by the school) |
| **Half Term 2: Place Value, including Metric Units**  **Declarative Knowledge:**  Know the prefixes of metric units of measurement  **Procedural Knowledge:**  Convert fluently between metric units of length, mass and volume/capacity  Convert fluently between units of time and money  **Conditional Knowledge:**  Questions in a context, including reasoning and problem-solving questions  **Half Term 2: Place Value, including Standard Form**  **Declarative Knowledge:**  Know the positions of place value headings in a place value table  Read numbers written in Standard Form  **Procedural Knowledge:**  Compare and order numbers  Round numbers to degree of accuracy  Multiply and divide by powers of 10  **Conditional Knowledge:**  Questions in a context, including reasoning and problem-solving questions  Understand where Standard Form is used in scientific understanding of the universe | Books | Modelling reading of questions by the class teacher – teaching like a Mathematician  Two key words at the start of each lesson defined  Expectation of Mathematical vocabulary used in lessons |
| Speech | Place value, place value table, column headings including decimals and fractions, length, distance, mass, weight, volume, capacity, metre, centimetre, millimetre, tonne, kilogram, gram, milligram Litre, millilitre Hour, minute, second.  Place value, column headings including decimals. Estimate, accuracy, round, to a certain number of decimal places, integer, powers of ten, indices, approximate, order of magnitude, check, solution, over and under estimate. |
| Checklist RTL | There will be a formal end of half-term exam incorporating the 2 units studied during the half-term and will recall work from Half-Term 1  We will re-teach during an Exam Review lesson after the assessment |
| Home | Key Knowledge Organiser test – revise the key knowledge organiser given at the start of the unit  Dr Frost Maths – practising skills using DrFrostMaths.com (a unique username and password will be provided by the school) |