**Maths Medium Term Planning**

**Year Six**

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| **WR Block: Four Operations** | | **Autumn Term** | |
| **National Curriculum Objectives** | **Small Steps** | **Prior Learning** | **Future Progression** |
| * Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. * Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. * Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. * Perform mental calculations, including with mixed operations and large numbers. * Identify common factors, common multiples and prime numbers. * Use their knowledge of the order of operations to carry out calculations involving the four operations. * Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. | * Add and subtract integers * Common factors * Common multiples * Rules of divisibility * Primes to 100 * Square and cube numbers * Multiply up to a 4-digit number by a 2-digit number * Solve problems with multiplication * Short division * Division using factors * Introduction to long division * Long division with remainders * Solve problems with division * Solve multi-step problems * Order of operations * Mental calculations and estimation * Reason from unknown facts | **Y5**   * Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). * Add and subtract numbers mentally with increasingly large numbers. * Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. * Solve multi-step problems in contexts, deciding which operations and methods to use and why. * Multiply numbers up to 4 digits by a one-digit number using a formal written method, including long multiplication for two-digit numbers. * Multiply and divide numbers mentally drawing upon known facts. * Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. * Solve problems involving addition, subtraction, multiplication and division and a combination of these including understanding the meaning of the equal sign. | **KS3**   * Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property. * Use the 4 operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative. * Use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals. * Recognise and use relationships between operations including inverse operations. * Use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 and distinguish between exact representations of roots and their decimal approximations. |
| **Key Vocabulary**  **New Vocabulary:**  No new vocabulary – see whole school vocabulary progression document for key vocabulary across school. | **Key Vocabulary:**  **Previous Year Group:**  factor pair | **Stem Sentences**  In column addition/ subtraction, we always start with the \_\_\_ column.  \_\_\_ is a factor of all numbers.  I know that \_\_\_ is a factor of \_\_\_ because \_\_\_\_.  To a square number, you multiply the numbers by \_\_\_.  To a cube number, you multiply the number by \_\_\_ and then by \_\_\_ again.  \_\_\_ has greater priority than \_\_\_ so first I need to \_\_\_ then I need to \_\_\_. | |
| **Concrete, Pictorial, Abstract Models/ Calculations** | |  | |
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