| MULTIPLICATION \& DIVISION |  |  |  |  |  |
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| Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |
| - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. | - recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers <br> - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division ( $\div$ ) and equals (=) signs <br> - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <br> - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | - recall and use multiplication and division facts for the 3,4 and 8 multiplication tables <br> - write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods <br> - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which $n$ objects are connected to m objects. | - recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers <br> - recognise and use factor pairs and commutativity in mental calculations <br> - multiply two-digit and three-digit numbers by a one-digit number using formal written layout <br> - solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. | - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <br> - know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers <br> - establish whether a number up to 100 is prime and recall prime numbers up to 19 <br> - multiply numbers up to 4 digits by a one- or twodigit number using a formal written method, including long multiplication for two-digit numbers <br> - multiply and divide numbers mentally drawing upon known facts <br> - 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 <br> - multiply and divide whole numbers and those involving decimals by 10,100 and 1000 <br> - recognise and use square numbers and cube numbers, and the notation for squared ${ }^{(2)}$ and cubed ( ${ }^{3}$ ) <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes <br> - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <br> - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. | - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication <br> - 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 <br> - 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 <br> - perform mental calculations, including with mixed operations and large numbers <br> - identify common factors, common multiples and prime numbers <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. <br> - solve problems involving addition, subtraction, multiplication and division <br> - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. |

