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| **Year 2 - Building and assessing the conceptual understanding and learning – Multiplication and Division** | | | |
| **End of Year Expectations:**  Pupils should be taught to:   * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers * calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs * show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot * solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | | **Non-statutory guidance:**  Pupils use a variety of language to describe multiplication and division.  Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.  Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, and relating these to fractions and measures (e.g. 40 ÷ 2 = 20, 20 is a half of 40). They use commutativity and inverse relations to develop multiplicative reasoning (e.g. 4 × 5 = 20 and 20 ÷ 5 = 4). | |
| **Autumn** | **Spring** | | **Summer** |
| * Continue counting in steps of 2, 5 and 10 forwards and backwards * Begin to relate counting in different steps to the 2, 5 and 10 times tables * Recognise the pattern when counting 2, 5 and 10. * Solve problems involving counting in steps of 2, 5 and 10. * Continue to solve problems involving grouping and sharing using practical apparatus and pictorial representations. * Continue to build upon understanding of repeated addition to solve problems | * Solve problems involving counting in steps of 2, 5 and 10. * Continue to solve problems involving grouping and sharing using practical apparatus and pictorial representations. * Continue to build upon understanding of repeated addition to solve problems * Begin to develop use of the arrays to explore the relationship between multiplication and division. * Build upon understanding of repeated addition as multiplication. * Begin to develop understanding from repeated addition model towards multiplication using the x symbol. * Begin to introduce the ÷ symbol. * Know that multiplication can be done in any order (commutative) but division cannot. | | * Begin to use known multiplication and division facts for 2, 5 and 10 times tables to solve problems. * Use known multiplication facts to derive new known division facts (multiplicative reasoning). * Solve problems involving odd and even numbers, * Build on use of ÷ symbol to solve calculations, * Know that multiplication can be done in any order (commutative) but division cannot. * Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, include problems in contexts. |

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| **Key questions:**   * Can I confidently count forwards and backwards in steps of 2, 5 and 10? * Can I discuss and explain the number patterns in these counting sequences? * Can I solve problems involving grouping and sharing, using practical apparatus and pictorial representations? * Can I use repeated addition to solve multiplication problems? * Can I begin to use and apply my knowledge of counting in 2’s, 5’s and 10’s to solve multiplication and division problems? * Am I beginning to learn my 2, 5 and 10 times tables, remembering some multiplication and division facts? | **Key questions:**   * Can I explain how multiplication and division are related to each other, using arrays to support my explanations? * Can I explain why multiplication can be done in any order, but division cannot? * Can I use and interpret the “x” symbol correctly to represent multiplication problems, relating this to repeated addition? * Can I use and interpret the “÷” symbol appropriately to represent sharing and grouping problems? * Can I explain that the “÷” symbol can mean “shared equally into groups of” or “shared equally between”, depending on the context? * Can I confidently solve a range of multiplication and division problems and explain my solutions? * Am I becoming more confident at my 2, 5 and 10 times tables, remembering more multiplication and division facts? | **Key questions:**   * Can I confidently use and apply multiplication and division facts for the 2, 5 and 10 times tables to solve problems? * Can I confidently use multiplication facts to derive division facts? * Can I explain my understanding of odd and even numbers, relating this to multiplying / dividing by 2? * Can I confidently solve a range of multiplication and division problems, using arrange of strategies, e.g. using and applying known facts, drawing images or using a number line to represent the problem? * Can I record and explain the calculations needed to solve multiplication and division problems, using the mathematical symbols correctly, and showing that I understand that multiplication can be done in any order, whilst division cannot? |