

Multiplication and Division Review 2023



We're delighted to share our freshly updated multiplication and division units following a review of units in partnership with Cambridge University. You can learn more about this project in our Multiplication and Division Review video.

Here's a summary outlining the units that were reviewed and the main changes.

| Unit | What's changing? | Rationale |
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| <p>Year 1 Unit 15</p> <p>Division and Multiplication (3 weeks)</p> <p><i>Previously: Multiplication and division (2 weeks)</i></p> | <ul style="list-style-type: none"> • Changed from a two-week unit to a three-week unit. • Further lessons have been included exploring the array representation and these have been moved to the start of the unit. • An additional division lesson has been included on grouping. • Pupils explore division problems prior to a exploring a multiplication problem | <p><i>More time is given to explore the array at the start of the unit so pupils can gain a deeper conceptual understanding of multiplication and division structures, which will provide pupils with the foundations they need to grasp concepts like commutativity and the link between multiplication and division in Year 2. Division using sharing and grouping is explored prior to exploring a multiplication problem as pupils are better able to link division to prior experiences in EYFS and everyday routines.</i></p> |
| <p>Year 2 Unit 6</p> <p>Multiplication and Division (2 weeks)</p> <p><i>Previously: Multiplication and vision: 2,5,10s (2 weeks)</i></p> | <ul style="list-style-type: none"> • Greater prominence of the array and its use. • More exploration opportunities to create arrays exploring equal and unequal groupings • Use of opening up an array to support calculating multiples of 2, 5 and 10 | <p><i>As above, the array is given greater prominence to emphasise multiplicative structures and support understanding of key concepts like commutativity and the link between multiplication and division. Pupils have greater opportunity to explore, investigate and spot patterns than previously to allow for further opportunity for mathematical thinking and reasoning.</i></p> |
| <p>Year 2 Unit 16</p> <p>Multiplicative thinking (2 weeks)</p> <p><i>Previously: Multiplication and division: 3 and 4 (3 weeks)</i></p> | <ul style="list-style-type: none"> • Changed from a three-week unit to a two-week unit. • Greater emphasis on exploring the relationships that exist between the 2, 5 and 10 times tables and using this to calculate the 3 and 4 times table facts • Additional connections to fractional language when describing fact families to use the one array to create six ways of describing it. | <p><i>Content on bar modelling has been removed and moved to Year 3 units, this allows more focus on using existing representations and further time in the Y2 programme of study for consolidation. More time on exploration of the patterns and connections that exist between multiplication tables will support pupils conceptual understanding. When depth of understanding, fostered in these lessons is partnered with opportunities to develop recall (which can be developed further in Maths Meetings and transitions) pupils will be equipped to become fluent in their multiplication and division facts in preparation for KS2. Further links to fractions will support pupils in making connections between fractions and multiplicative thinking.</i></p> |

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| <p>Year 3 Unit 6</p> <p>Multiplication and division (2 weeks)</p> | <ul style="list-style-type: none"> • More emphasis on the use of array to show commutativity and the inverse. • Addition of two missing number lessons. • Explicit teaching of vocabulary: factor and product. • Removal of correspondence problems to later in the year • The ten times greater lesson has been moved to Unit 7. | <p><i>Like Y1 U15 and Y2 U6, more prominence is placed on the use of array to support conceptual understanding of key multiplicative concepts.</i></p> <p><i>Additional missing number lessons have been included as this has been identified as difficulty point by partner schools. These lessons will connect the language used in multiplication and division e.g. factor, product with reasoning around the correct operation needed to solve missing number problems and will also support pupils with future algebraic concepts.</i></p> <p><i>Further emphasis on using the correct language will support pupils when talking mathematically with peers and mathematical reasoning.</i></p> |
| <p>Year 3 Unit 7</p> <p>Calculating with multiplication and division (3 weeks)</p> <p><i>Previously: Multiplication and division: 3 and 4 (3 weeks)</i></p> | <ul style="list-style-type: none"> • Time given to explore patterns in the 8 times table. • More time spent on developing understanding scaling by 10. • Content on multiplying and dividing by 100 has been moved to Y4. • More time spent on exploring and understanding division structures before moving to division of 2-digit numbers. • Correspondence problems moved from U6 to U7 • Explicit teaching of vocab dividend divisor and quotient | <p><i>Pupils explore problems that involve scaling by 10 to develop understanding on the Y3 objective of solving problems that involve scaling.</i></p> <p><i>Multiplying and dividing by 100 has been removed as it is not a requirement from the Y3 curriculum and will be covered in later years. This has allowed for more time to explore division structures e.g., sharing grouping and precise language of division e.g., dividend, divisor, quotient which will support pupils in mathematical reasoning and gaining a deeper conceptual understanding that they can apply later when dividing more formally.</i></p> |
| <p>Year 3 Unit 12</p> <p>Applying multiplicative thinking (1 week)</p> <p><i>Previously: Securing multiplication and division (1 week)</i></p> | <ul style="list-style-type: none"> • Focus of the unit will be on solving problems in context using mixed operations. • 8 times table will now be introduced in earlier units and consolidated throughout the year. • 6 times table will have less of a focus, but ideas will be introduced in transitions and Do Nows, making connections to the 3 times table. | <p><i>Greater emphasis has been put on applying problems in unfamiliar contexts to give pupils opportunities to utilise tools such as the bar model effectively. This will provide them with the foundations in strategies to solve problems in higher year groups.</i></p> <p><i>Less emphasis has been placed on recalling the 6 times table as this is a Y4 National Curriculum objective, although the ideas are still introduced here, connections should be made with the 3 times table and there is no expectation of pupils being fluent in recall of the 6s until Year 4.</i></p> |
| <p>Year 4 Unit 3</p> <p>Multiplication and division (4 weeks)</p> <p><i>Previously Multiplication and division (3 weeks)</i></p> | <ul style="list-style-type: none"> • Changing from a 3-week unit to a 4-week unit. • Change of sequencing so that this unit begins with exploring factors in multiplication tables. • Addition of two lessons which focus on multiplying and dividing by 10 and 100. | <p><i>Content on exploring multiplication tables has been brought earlier from Unit 5 to Unit 3. This allows pupils to begin to understand structures in those times tables and draw out connections, meaning that they can apply this understanding in the following unit and through the year when developing factual fluency in Maths Meetings</i></p> <p><i>Content on multiplication and division by 100 has been moved from Y3 into Year 4 to allow</i></p> |

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| | <ul style="list-style-type: none"> • Greater emphasis on the idea of multiplication and division as scaling- ten times as many, one hundred times as many / ten times the size etc. • Additional lesson on short multiplication and a greater emphasis on modelling this alongside manipulatives • Inclusion of estimating alongside the formal strategies • Greater emphasis on comparing methods of multiplication to illustrate the similarities and differences between strategies | <p><i>more time in securing the foundations of scaling by 10.</i></p> <p><i>More time will be spent in the small steps required to reach formal methods to ensure that pupils have a deep conceptual understanding as well as a procedural understanding when solving problems.</i></p> |
| <p>Year 4 Unit 5</p> <p>Calculating with multiplication and division (1 week)</p> <p><i>Previously: Securing multiplication facts (1 week)</i></p> | <ul style="list-style-type: none"> • Change of sequencing so this unit focusses more on progressing to formal division strategies. Previous content on securing facts has been moved to Unit 3. • Explicit teaching of vocabulary: dividend, divisor and quotient. • Addition of division by partitioning (continuing from Yr3) • Additional short division lesson | <p><i>Content on securing facts has been moved earlier in the year so that pupils can then apply their understanding in subsequent lessons and when recalling facts in Maths Meetings.</i></p> <p><i>Emphasis on use of accurate division vocabulary will support pupils when engaging in mathematical talk and reasoning.</i></p> <p><i>Fluency in solving division problems had been identified as a difficult point by partner schools and therefore more time has been given on developing mental and written strategies for division.</i></p> |
| <p>Year 5 Unit 4</p> <p>Multiplication and division (3 weeks)</p> | <ul style="list-style-type: none"> • Additional lessons on long multiplication • Additional lesson on multiplying by powers of 10 with a focus on deriving facts through multiplying and dividing by 10, 100 and 1,000. • Inclusion of estimating alongside the formal strategies • Lessons focussing on factors, multiples, square and prime numbers are more exploratory. | <p><i>Additional lesson on multiplying two digit numbers by two and three digit numbers have been included to support pupils in making connections between representations and allow more time for pupils to embed the small steps required for understanding.</i></p> <p><i>Square tiles are used to make arrays to support pupils in developing deeper conceptual understanding.</i></p> |
| <p>Year 5 Unit 11</p> <p>Calculating with whole numbers and decimals (3 weeks)</p> | <ul style="list-style-type: none"> • Two lessons dedicated to multiplying and dividing decimal numbers by 10, 100 and 1,000 instead of one lesson • Two lessons dedicated to column addition and column subtraction of decimal numbers instead of one lesson. • An additional lesson on exploring efficient multiplication strategies | <p><i>More time has been dedicated to multiplying by 10, 100 and 1000 to ensure all small steps are embedded. Previous learning on this has also been adapted to focus on developing a depth of understanding when scaling by 10 (and 100 in Y4) so that pupils can apply understanding in Year 5 (see Y3 U6 and Y4 U3).</i></p> <p><i>Additional lessons are included on columnar addition and subtraction and multiplication strategies to allow pupils to embed small steps and gain a greater conceptual understanding.</i></p> |