
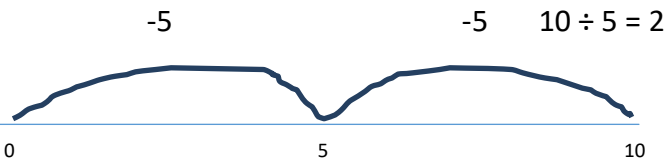


Division: Written Calculations

EYFS:	Objectives (by end of year)
<p>Children will engage in a wide variety of songs and rhymes, games and practical activities.</p> <p>In practical activities and through discussion they will begin to use the vocabulary associated with halving.</p> <p>E.g. 'Share the stars between two people. Half the stars for you and half of the stars for me.'</p> <div style="text-align: center;">  </div>	<p>Solve problems, including halving and sharing.</p>
Year 1: Sharing... leading to grouping	
<p>'Share 20 crayons between 2 pots.'</p> <p>'How many crayons are in each pot?'</p> <p>Children should move from sharing to grouping in a practical way...</p> <p>'Put 20 crayons into groups of 10. How many pots do we need?'</p>	<p>Solve one-step problems involving division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p>
Year 2: Grouping / Arrays / Repeated subtraction	
<p>Continue work on sharing and grouping e.g. $10 \div 5 = 2$ (language to use: 10 divided into groups of 5 equals 2)</p> <p>Use arrays to support division and multiplication</p> <p>Know that division is repeated subtraction:</p> <div style="text-align: center;">  </div>	<p>Recall and use division facts for the 2, 5 and 10 multiplication tables.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (\div) and equals (=) signs.</p> <p>Solve problems involving division, using materials, arrays, mental methods, and division facts, including problems in contexts.</p> <p>Show that multiplication of two numbers can be done in any order (commutative).</p>
Year 3: Division within the multiplication tables leading to short division	
<p>Revise all work for 2, 5 and 10 times and divide from Year 2.</p> <p>Plenty of work associated with divide and multiply using pictorial methods. Use the language of $12 \div 4$ means 12 divided into groups of 4</p> <p>___ 4 (One group of 4)</p> <p>___ 8 (Two groups of 4)</p> <p>___ 12 (Three groups of 4) = 3</p>	<p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p> <p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, using mental and progressing to a formal written method.</p>

Leading to short division: $\begin{array}{r} 13 \\ 4 \overline{)52} \\ \underline{1} \end{array}$	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems
Year 4: Short division with remainders	
Short division with remainders: $\begin{array}{r} 032r2 \\ 6 \overline{)11914} \\ \underline{6} \\ 11 \\ \underline{12} \\ 19 \\ \underline{18} \\ 14 \\ \underline{12} \\ 2 \end{array}$	Recall multiplication and division facts for multiplication tables up to 12 x 12. Divide two-digit and three-digit numbers by a one-digit number using a formal written layout (not explicitly stated in the programmes of study but implied in the non-statutory guidance).
Year 5: Short division. Decimal division in context to be included.	
Formal written method of short division: $\begin{array}{r} 122 \text{ r } 2 \\ 7 \overline{)856} \\ \underline{7} \\ 15 \\ \underline{14} \\ 16 \\ \underline{14} \\ 2 \end{array}$ $\begin{array}{r} \text{£}04.22 = \text{£}4.22 \\ 6 \overline{)\text{£}25.32} \\ \underline{6} \\ 21 \\ \underline{21} \\ 32 \\ \underline{30} \\ 2 \end{array}$	Divide numbers up to four digits by a one-digit number using a formal short written method of short division and interpret remainders appropriately for the context.
Year 6: Short and long division – dividing by a two-digit number (including decimal division).	
Short division for appropriate two-digit divisors. Long division for 3/4-digit numbers divided by a two-digit number. $\begin{array}{r} 1539 \text{ r } 1 = 1539 \text{ r } 1 \\ 3 \overline{)4618} = 1539 \frac{1}{3} \\ = 1539.33 \end{array}$ <p>Where possible aim to use a short method of division:</p> $\begin{array}{r} 230 \text{ r } 2 \\ 15 \overline{)6452} \\ \underline{30} \\ 34 \\ \underline{30} \\ 45 \\ \underline{30} \\ 15 \\ \underline{15} \\ 2 \end{array}$ <p>Use workings out to support the calculation.</p>	Divide numbers up to four digits by a two-digit whole number using the formal written method of short division where appropriate, interpreting remainders according to the context. Divide numbers up to four digits by a two-digit whole number using the formal written method of long division and interpret remainders as whole numbers, fractions, or by rounding, as appropriate for the context.

If short division is not possible then use long division by chunking:

$$\begin{array}{r} 92 \text{ r } 9 \\ 27 \overline{) 2493} \\ \underline{1350} \text{ (50)} \\ 1143 \\ \underline{810} \text{ (30)} \\ 333 \\ \underline{270} \text{ (10)} \\ 63 \\ \underline{54} \text{ (2)} \\ 9 \end{array}$$

Use variation to assist with the calculation.

$$10 \times 27 = 270$$

$$20 \times 27 = 540$$

$$30 \times 27 = 810$$

$$100 \times 27 = 2700$$

$$50 \times 27 = 1350$$