Written Methods for Division

share
divide by
equal groups
division
dividend
factor
quotient
remainder
divisor



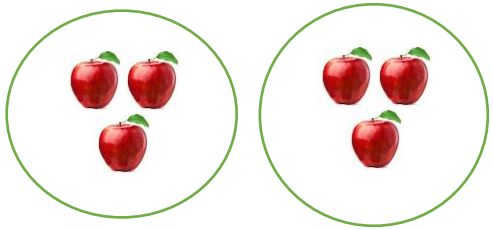
EYFS

To know if a number to ten is odd or even by sharing between two.

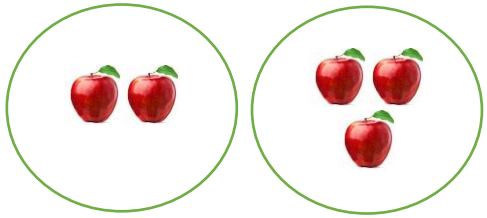
Strategies include:

Have a set of objects and share between two hoops to find if there is an equal/even amount.

6 Shared between 2 is even because they have an equal amount.



5 Shared between 2 is odd because they don't have an equal amount.

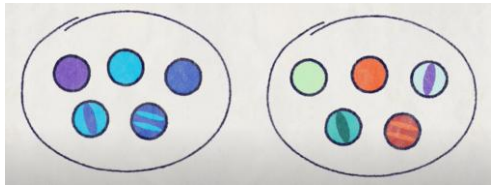


Year 1

- Solve one step problems involving division by calculating the answer using concrete objects, pictorial representations, and arrays with support of the teacher.

Strategies include:

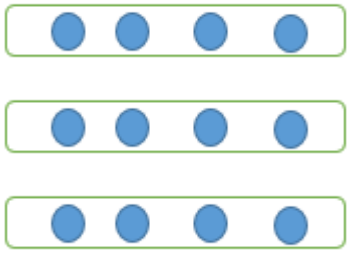
Sharing objects.
10 ÷ 2 = 5



Sharing by drawing objects.
20 ÷ 5 = 4

x x	x x	x x	x x	x x
x x	x x	x x	x x	x x

Dividing using arrays with the support of the teacher.
12 ÷ 4 = 3



There are 3 equal groups of 4.

Year 2

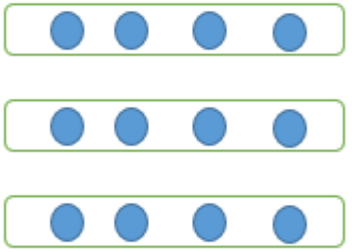
- Calculate mathematical statements for division.
- Solve problems using materials, arrays, repeated addition, mental methods.

Strategies include:

Sharing by drawing objects.
20 ÷ 5 = 4

x x	x x	x x	x x	x x
x x	x x	x x	x x	x x

Dividing by grouping independently.
12 ÷ 4 = 3



There are 3 equal groups of 4.

Using multiples.
30 ÷ 5 = 6

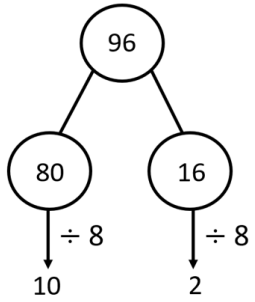
5, 10, 15, 20, 25, 30

There are 6 multples of 5.

Year 3	Year 4	Year 5	Year 6
• Recall and use the division facts for 3, 4 and 8. • Write and calculate statements using the tables they know, two-digit x one-digit numbers, using mental and progressing to formal written methods.	• 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 • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	• Identify multiples and facts. • Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication and two-digit numbers. • Multiply and divide whole numbers and those involving decimals by 10. 100 and 1000. • Recognise and use square numbers and cube numbers.	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long division.

By partitioning

1) 96 ÷ 8 = 12



Short division

98 ÷ 7 becomes

$$\begin{array}{r} 1\ 4 \\ 7\overline{)\,9\ 8^{\,2}} \end{array}$$

Answer: 14

432 ÷ 5 becomes

$$\begin{array}{r} 8\ 6\ \text{r}\,2 \\ 5\overline{)\,4\ 3^{\,3}\ 2} \end{array}$$

Answer: 86 remainder 2

496 ÷ 11 becomes

$$\begin{array}{r} 4\ 5\ \text{r}\,1 \\ 1\ 1\overline{)\,4\ 9^{\,5}\ 6} \end{array}$$

Answer: $45\frac{1}{11}$

Long division

432 ÷ 15 becomes

$$\begin{array}{r} 2\ 8\ \text{r}\,12 \\ 1\ 5\overline{)\,4\ 3\ 2} \\ -\ 3\ 0\ 0 \\ \hline 1\ 3\ 2 \\ -\ 1\ 2\ 0 \\ \hline 1\ 2 \end{array}$$

Answer: 28 remainder 12

432 ÷ 15 becomes

$$\begin{array}{r} 2\ 8 \\ 1\ 5\overline{)\,4\ 3\ 2} \\ -\ 3\ 0\ 0 \quad 15\times 20 \\ \hline 1\ 3\ 2 \\ -\ 1\ 2\ 0 \quad 15\times 8 \\ \hline 1\ 2 \end{array}$$

$\frac{12}{15} = \frac{4}{5}$

Answer: $28\frac{4}{5}$

432 ÷ 15 becomes

$$\begin{array}{r} 2\ 8\cdot 8 \\ 1\ 5\overline{)\,4\ 3\ 2\cdot 0} \\ -\ 3\ 0 \\ \hline 1\ 3\ 2 \\ -\ 1\ 2\ 0 \\ \hline 1\ 2\ 0 \\ -\ 1\ 2\ 0 \\ \hline 0 \end{array}$$

Answer: 28·8