Progression in written calculation strategies for division

(Examples indicate end of year expectations)

Reception

Statutory Guidance

Solve problems, including doubling, halving and sharing

Half of 6

Year 1

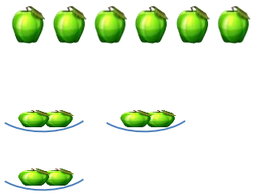
Statutory Guidance

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

Possible representations

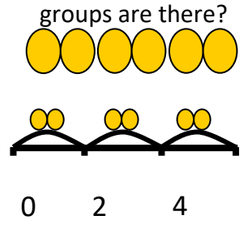
Sharing

How many apples are in each bowl if I share 6 apples between three bowls?



Grouping

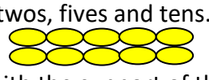
Put these counters into groups of two. How many groups are there?



0 2 4 6

Non- statutory guidance

They make connections between arrays, number patterns, and counting in twos, fives and tens.



(with the support of the teacher)

Year 2

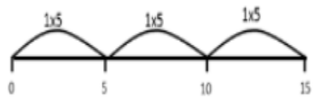
Statutory Guidance

Solve problems involving division, using materials, arrays, repeated addition, mental methods, and division facts, including problems in contexts.

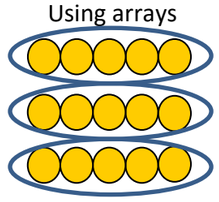
Possible representations

e.g. 15 ÷ 5 =

Counting up on a number line.



Using arrays



Division facts: 2,3,5 & 10

Non- statutory guidance

They connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes.

Year 3

Statutory Guidance

Write and calculate mathematical statements for division using multiplication tables that they know, progressing to formal written methods

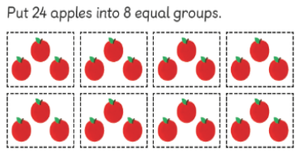
Division facts include: 2,3,4,5,8 and 10.

e.g. 24 ÷ 8 =

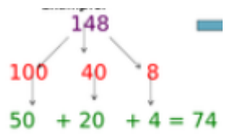
Counting **up** on a number line.

Other possible representations

Put 24 apples into 8 equal groups.



148 ÷ 2 =



Non-statutory guidance

Use known division facts to derive related facts. e.g.

If I know that 24 ÷ 8 = 3, then…

240 ÷ 8 =30

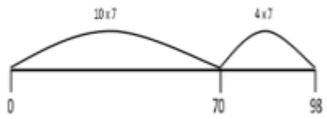
Year 4

Statutory Guidance

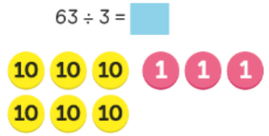
No reference to written division calculations.

Children continue to relate division to known multiplication facts (up to 12 x 12)

e.g. 98 ÷ 7 = Counting up on a number line.

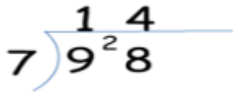


Possible representations



Non- statutory guidance

Pupils practise to become fluent in the formal written method of short division with exact answers



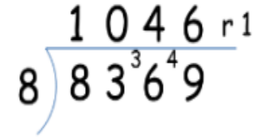
Year 5

Statutory Guidance

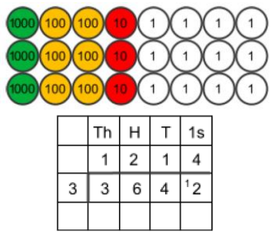
Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

Divide whole numbers and those involving decimals by 10, 100 and 1000

e.g. 8369 ÷ 8 =



Place value counters are useful representations when regrouping is required e.g. 3642 ÷ 3



Non- statutory guidance

Interpret non integer answers to division by expressing results in different ways e.g

$98 \div 4 = \frac{98}{4} = 24r2 = 24\frac{1}{2} = 24.5$

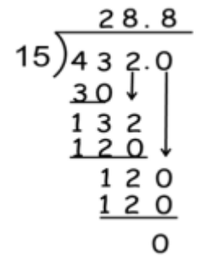
Year 6

Statutory Guidance

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.

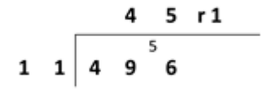
Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.

Long division e.g. 432 ÷ 15



And short division are statutory requiremnts

496 ÷ 11 becomes



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