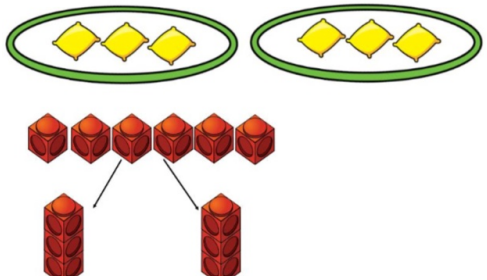
ALVERTON CALCULATION POLICY - DIVISION

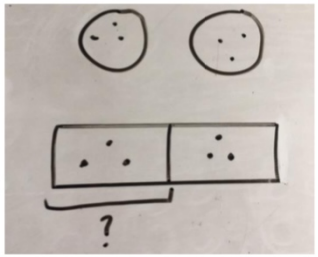
EYFS/Year 1

Count in 2s and 10s.
Find half of even numbers up to 12.

Sharing using a range of objects.
6 ÷ 2



Represent the sharing pictorially.



6 ÷ 2 = 3

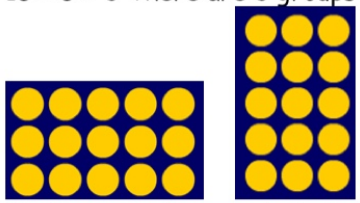
3	3

Children should also be encouraged to use their 2 times tables facts.

Year 2

Counting in 2, 5, 10.
Finding half of numbers up to 40. Begin to find half of multiples of 10.

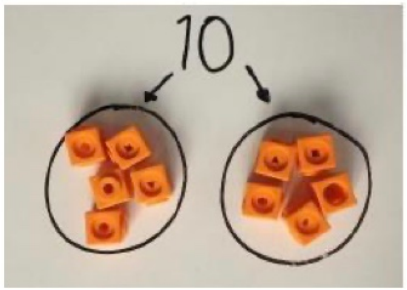
Use of arrays as a pictorial representation for division. 15 ÷ 3 = 5 There are 5 groups of 3.
15 ÷ 5 = 3 There are 3 groups of 5.



Children should be able to find $\frac{1}{2}$ and $\frac{1}{4}$ and simple fractions of objects, numbers and quantities.

Division as Grouping and Sharing

I have 10 cubes, can you share them into 2 equal groups?

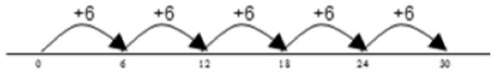


Year 3

Count in 2, 3, 4, 5, 9 and 10.
Find half of even numbers to 100 by partitioning

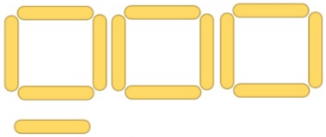
Jumps in groups on number line

Grouping
How many 6's are in 30?
30 ÷ 6 can be modelled as:



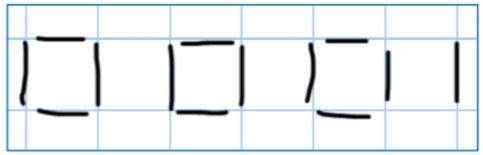
2d ÷ 1d with remainders using lollipop sticks. Cuisenaire rods, above a ruler can also be used.
13 ÷ 4

Use of lollipop sticks to form wholes- squares are made because we are dividing by 4.

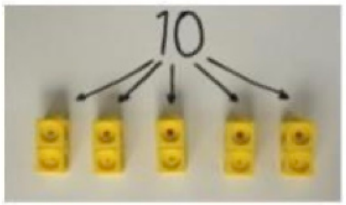
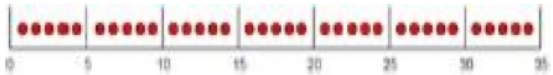
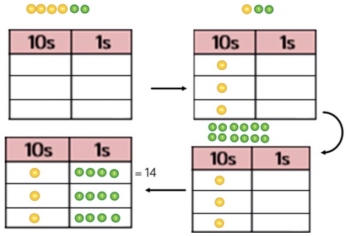
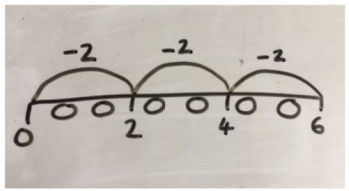
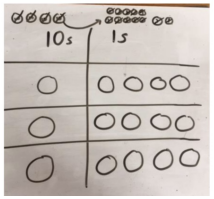
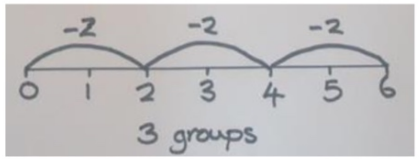


There are 3 whole squares, with 1 left over.

Children to represent the lollipop sticks pictorially.



There are 3 whole squares, with 1 left over.

	Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding.   	Sharing using place value counters. 42 ÷ 3 = 14 
	Children to represent repeated subtraction pictorially.  	Children to represent the place value counters pictorially. 
	Abstract number line to represent the equal groups that have been subtracted.  	

ALVERTON CALCULATION POLICY - DIVISION

Year 4

Count in 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 25, 50, 100

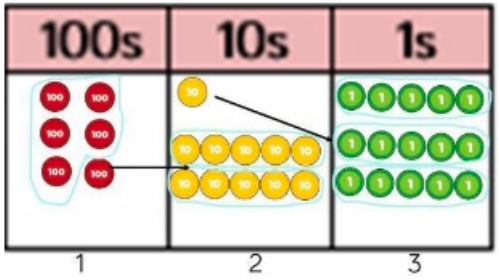
Find half of even numbers to 200.

Begin to halve amounts of money.

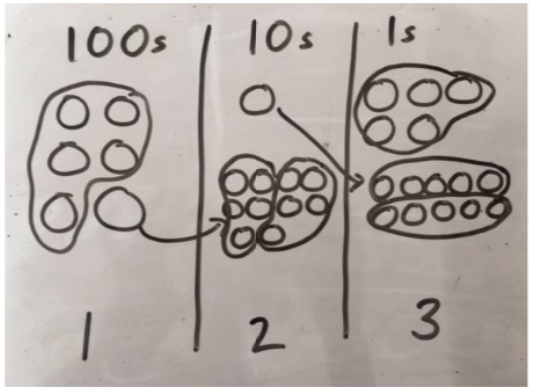
Short Division with and without remainders

Short division using place value counters to group:

615 ÷ 5



Represent the place value counters pictorially.



Year 5

Introduction to long division through chunking.

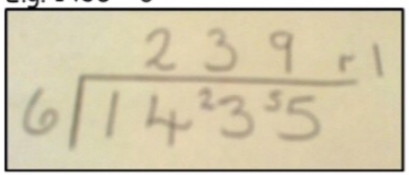
830 ÷ 25

Step 1	10 x 25 (250)	830 − 250 = 580
Step 2	10 x 25 (250)	580 − 250 = 330
Step 3	10 x 25 (250)	330 − 250 = 80
Step 4	3 x 25 (75)	80 − 75 = 5
Answer	33 r5	

Formal Written Methods

Continued as shown in Year 4, leading to the efficient use of a formal method. The language of grouping to be used (see link from fig. 1 in Year 4)

E.g. 1435 ÷ 6



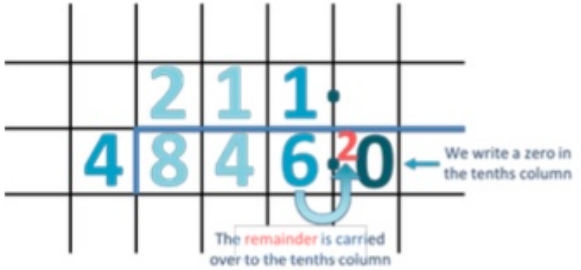
Children begin to practically develop their understanding of how express the remainder as a decimal or a fraction. Ensure practical understanding allows children to work through this (e.g. what could I do with this remaining 1? How could I share this between 6 as well?)

Year 6

Children will continue using formal short division expressing the remainder as a decimal.

Children can then progress onto expressing the remainder as fractions (e.g. 5/8) and decimals (e.g. 663.625).

846 ÷ 4



Children to the calculation using the short division scaffold.

$$5\overline{)615} = 123$$

When dividing by a 2-digit number they will either continue to refine their chunking (repeated subtraction) or move on to formal long division (Mike's group)

Move onto divisions with a remainder:

$$5\overline{)432} = 86 \text{ r } 2$$

$$8\overline{)5309} = 663 \text{ r } 5$$

Begin by modelling method with a 1-digit divisor.

Long Division

Divide :	$3\overline{)74}$ — 2 → Dividing 7 tens by 3, we get 2 tens, and some extra.
Multiply :	2 → 6 → 3×2 tens = 60 tens.
Subtract :	2, −6 → Subtracting 6 tens from 7 tens
Bring down :	−6 ↓ → 14 → 1 ten 4 ones = 14 ones
Repeat or find the Remainder :	24 → Dividing 14 ones by 3, we get 4 ones and some extra. −12 → 3×4 ones = 12 ones. 2 → Remainder
Check :	Check your answer: Dividend = Divisor × Quotient + Remainder

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		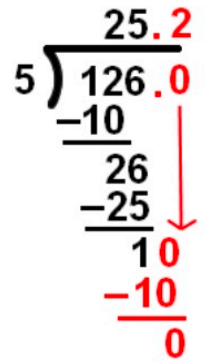 When there is a remainder which you need to write as a decimal, bring down the 0 in the from then tenths column, and repeat the process as before.