Division structures *Year 2*

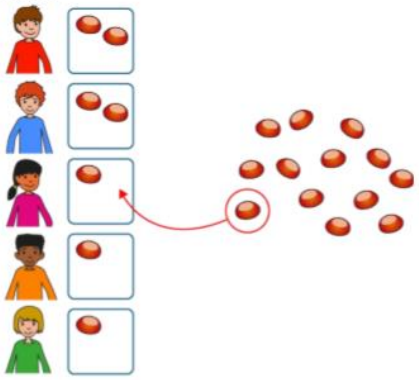
Sharing: dealing out one by one

20 divided between 5 = 4 each

20 ÷ 5 = 4

- 20 is the total number to be shared out
- 5 represents the number of groups/people to share between
- 4 represents how many in each group

'I have twenty conkers, and I share them equally between five children. How many conkers does each child get?'



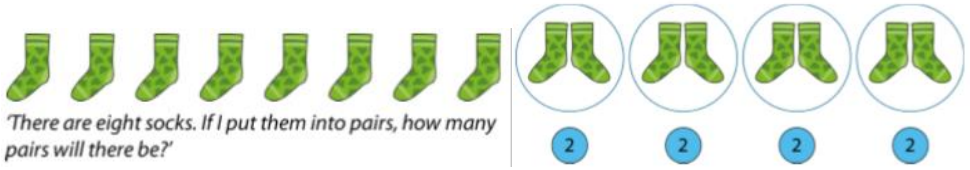
Grouping : putting a set amount in each group and using the inverse of multiplication

8 is divided into groups of 2 = 4 groups

8 ÷ 2 = 4

How many groups of 2 in 8? ? x 2 = 8

- 8 represents the total number to be divided
- 2 represents the number in each group
- 4 represents how many equal groups.

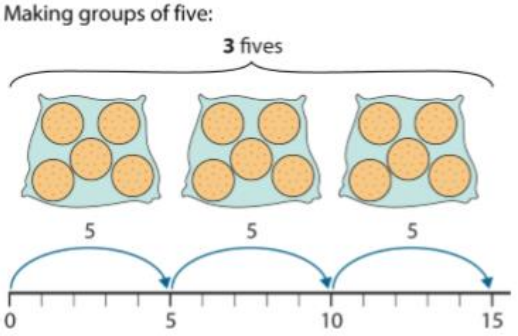


'There are eight socks. If I put them into pairs, how many pairs will there be?'

15 ÷ 5 = 3

How many 5s in 15?

? x 5 = 15

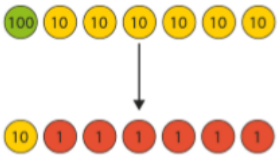


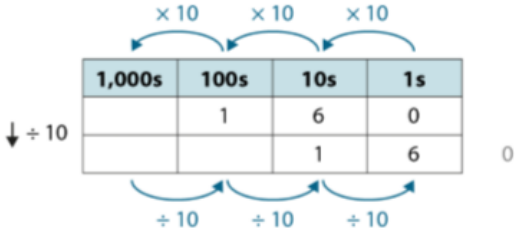
Dividing a multiple of 10 or 100 by 10 or dividing a multiple of 100 by 100 *Year 3*

÷ 10

To divide a multiple of 10 by ten, remove the 0 from the ones place.
Each digit becomes ten times less.

140 ÷ 10 = 14

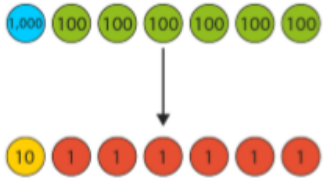


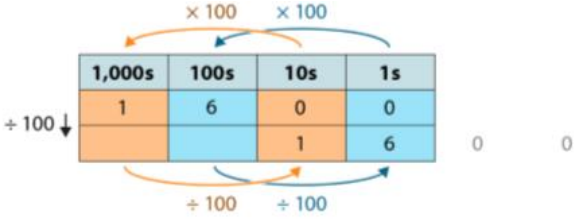


÷100

To divide a multiple of 100 by one hundred, remove the zero in the tens and the ones place
Each digit becomes 100 times less

1600 ÷ 100 = 16

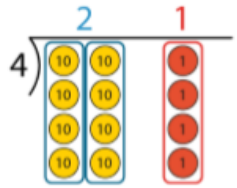




Short division: dividing a 2 or 3 digit by a single digit *Year 4*

Concrete representations (Introduced at *Year 3*)

84 ÷ 4 = 21

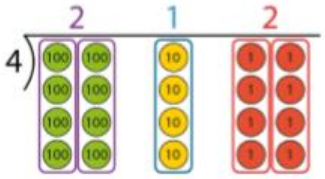


8 tens divided by 4

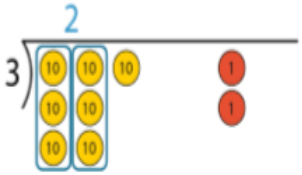
How many 4s in 8?

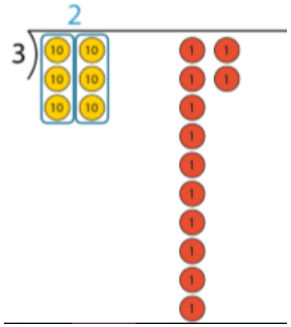
4 ones divided by 4

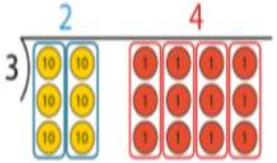
How many 4s in 4?



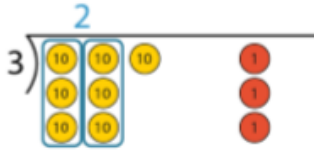
72 ÷ 3 = (regrouping)

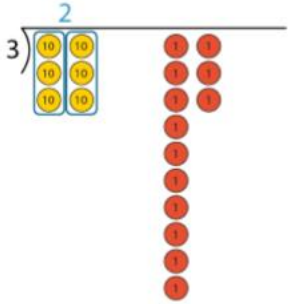


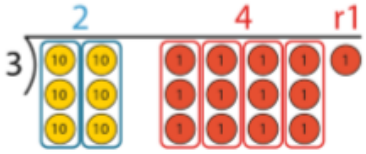




73 ÷ 3 = (remainders)







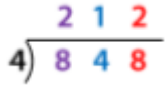
Formal method

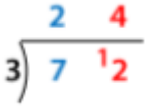
Always start with dividing the highest digit (work left to right)

84 ÷ 4 = 21

8 tens ÷ 4 = 2 tens

4 ones ÷ 4 = 1 one





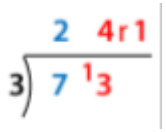
7 tens ÷ 3 = 2 tens r 1 ten

There are 2 3s in 7 with 1 remaining

Exchange 1 ten for 10 ones

12 ones ÷ 3 = 4 ones

There are 4 3s in 12.



7 tens ÷ 3 = 2 tens r 1 ten

There are 2 3s in 7 with 1 remaining

Exchange 1 tens for 10 ones

13 ones ÷ 3 = 4 r1

There are 4 3s in 13 with 1 remaining.

Short division: dividing 2,3 or 4 digits by 2 digits
Year 6

434 ÷ 31
How many 31s in 434?

Start by building up a ratio chart for the multiples of the divisor (31) by filling in the facts they can recall quickly by using strageties such as doubling and place value. *E.g double the x2 fact to get the x 4 fact or half the x 10 fact to get x5 fact.*

	× 31
1	31
2	62
3	
4	124
5	155
6	
7	
8	248
9	
10	310

0 31)4 3 4	4 hundreds ÷ 31 = 0 hundreds r 4 hundreds • *'Write "0" in the hundreds column…'*
0 31)4 ^{4}3 4	4 hundreds = 40 tens • *'…and write "4" to the left of the tens digit of the dividend.'*
0 1 31)4 ^{4}3 4	43 tens ÷ 31 = 1 ten r 12 tens • *'Write "1" in the tens column…'*
0 1 31)4 ^{4}3 ^{12}4	12 tens = 120 ones • *'…and write "12" to the left of the ones digit of the dividend.'*
0 1 4 31)4 ^{4}3 ^{12}4	124 ones ÷ 31 = 4 ones (refer to the ratio chart) • *'Write "4" in the ones column.'*