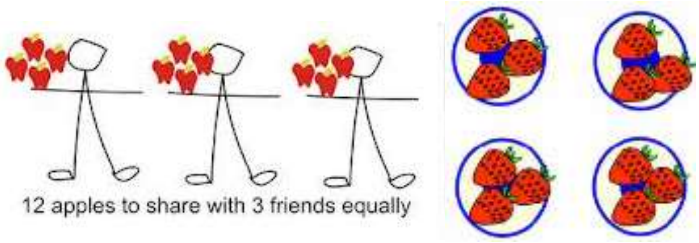
Division

Stage 1:

Recording and developing mental images

Children will engage in a wide variety of songs and rhymes, games and activities. In practical activities and through discussion they will begin to solve problems involving halving and sharing. Share the apples between two people.

'Half of the apples for you and half of the apples for me.'



Sharing and Grouping

- They solve sharing problems by using a 'one for you, one for me' strategy until all of the items have been given out. Children should be taught to share using concrete apparatus.
- They solve grouping problems by creating groups of the given number. Children should apply their counting skills to develop some understanding of grouping.

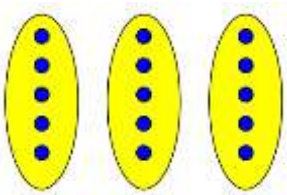
Children will move from sharing to grouping in a practical way

Sharing- 'Share 20 crayons between 2 pots.' 'How many crayons are in each pot?'

Grouping- 'Put 20 crayons into groups of 10. How many pots do we need?

They will begin to use their own jottings to record division.

'How many groups of 5?'
'15 shared equally between 3 people is…?'
'15 divided by 3 equals 5'
'15 divided by 5 equals 3'



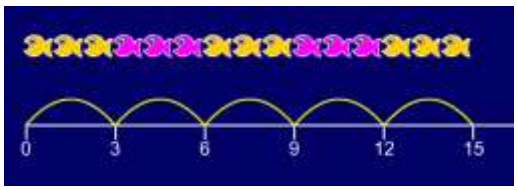
Stage 2:

Bead strings, number lines simple multiples

- Using a bead string, children can represent division problems
- They count on in equal steps based on adding multiples up to the number to be divided.

Grouping- When packing eggs into baskets of three they count in threes

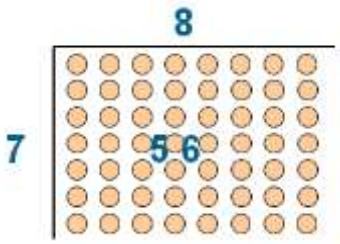
Sharing- If the problem requires 15 eggs to be **shared** between 3 baskets, the multiple of three is obtained each time all three baskets have received an egg.



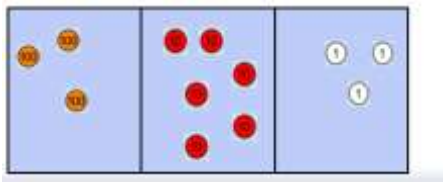
Stage 3: Arrays for division

Children construct arrays by grouping the dividend into groups of the divisor. The number of groups made is recorded as the quotient.

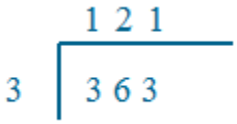
Divided (56) ÷ divisor (7) = Quotient (8)



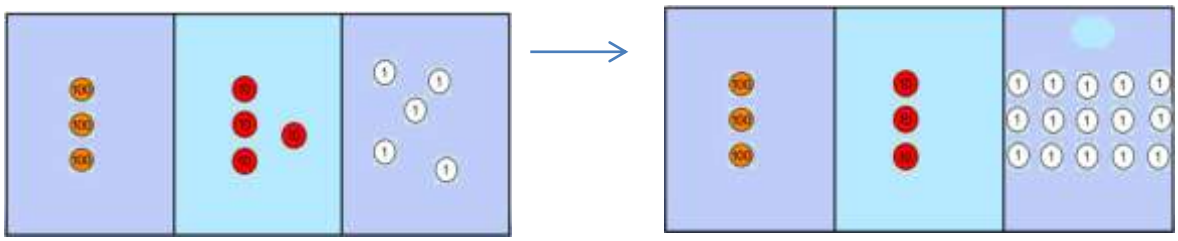
Children then begin to construct the arrays using place value equipment to represent the dividend.

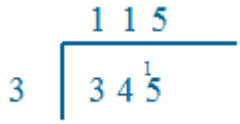


Each part of the number is grouped or shared into the divisor. Explaining the recording of the division as



Exchange is needed as complete groups of the divisor cannot be made.

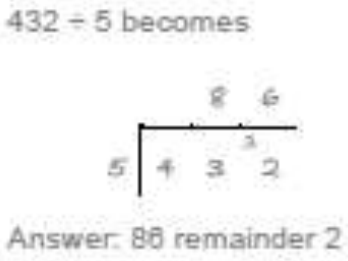




Stage 4:

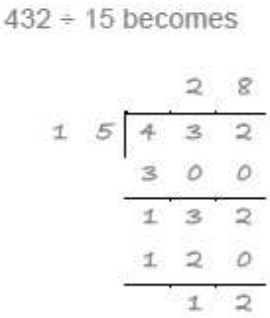
Short division

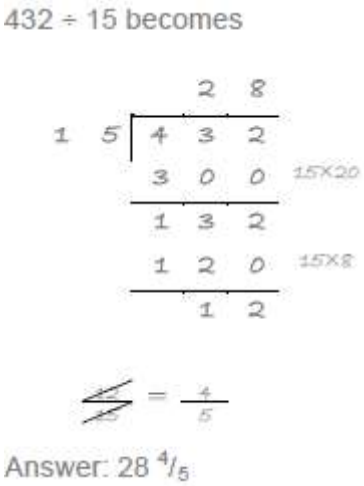
For calculations where numbers with up to 4 digits are divided by a single digit number, children are expected to use short division.



Long division

For calculations where numbers of up to 4 digits are divided by a two digit number, children are expected to use long division.





Children may choose to record the 'chunks' alongside to help them calculate the final answer and will start to interpret the 'remainder' in the most appropriate way to the context of the question.