

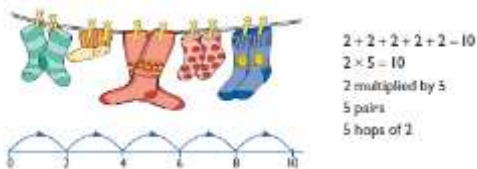
Division

Year 1

Mental Strategies

Children should experience [regular counting](#) on and back from different numbers in 1s and in multiples of 2, 5 and 10.

They should begin to recognise the number of groups counted to support understanding of relationship between multiplication and division.



Children should begin to understand division as both sharing and grouping.

Sharing – 6 sweets are shared between 2 people. How many do they have each?



Grouping-
How many 2's are in 6?



They should use objects to group and share amounts to develop understanding of division in a practical sense.
E.g. using Numicon to find out how many 5's are in 30?
How many pairs of gloves if you have 12 gloves?

Children should begin to explore finding simple fractions of objects, numbers and quantities.

E.g. 16 children went to the park at the weekend. Half that number went swimming. How many children went swimming?

Year 2

Mental Strategies

Children should count regularly, on and back, in steps of 2, 3, 5 and 10.

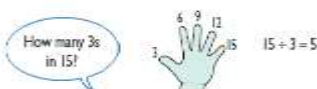
Children who are able to count in twos, threes, fives and tens can use this knowledge to work out other facts such as 2×6 , 5×4 , 10×9 . Show the children how to hold out their fingers and count, touching each finger in turn. So for 2×6 (six twos), hold up 6 fingers:



Touching the fingers in turn is a means of keeping track of how far the children have gone in creating a sequence of numbers. The physical action can later be visualised without any actual movement.

This can then be used to support finding out 'How many 3's are in 18?' and children count along fingers in 3's therefore making link between multiplication and division.

Children should continue to develop understanding of division as sharing **and** grouping.



15 pencils shared between 3 pots, how many in each pot?

Children should be given opportunities to find a half, a quarter and a third of shapes, objects, numbers and quantities. Finding a fraction of a number of objects to be related to sharing.

They will explore visually and understand how some fractions are equivalent – e.g. two quarters is the same as one half.

[Use children's intuition to support understanding of fractions as an answer to a sharing problem.](#)

3 apples shared between 4 people = $\frac{3}{4}$



Year 3

Mental Strategies

Children should count regularly, on and back, in steps of 3, 4 and 8. Children are encouraged to use what they know about known times table facts to work out other times tables. This then helps them to make new connections (e.g. through doubling they make connections between the 2, 4 and 8 times tables).

Children will make use multiplication and division facts they know to make links with other facts.
 $3 \times 2 = 6$, $6 \div 3 = 2$, $2 = 6 \div 3$
 $30 \times 2 = 60$, $60 \div 3 = 20$, $2 = 60 \div 30$

They should be given opportunities to solve grouping and sharing problems practically (including where there is a remainder but the answer needs to be given as a whole number) e.g. Pencils are sold in packs of 10. How many packs will I need to buy for 24 children?

Children should be given the opportunity to further develop understanding of division (sharing) to be used to find a fraction of a quantity or measure.

[Use children's intuition to support understanding of fractions as an answer to a sharing problem.](#)

3 apples shared between 4 people = $\frac{3}{4}$



Vocabulary

See Y1 and Y2
inverse

Generalisations

Inverses and related facts – develop fluency in finding related multiplication and division facts.
Develop the knowledge that the inverse relationship can be used as a checking method.

<p><u>Vocabulary</u> share, share equally, one each, two each..., group, groups of, lots of, array</p> <p><u>Generalisations</u></p> <ul style="list-style-type: none"> • True or false? I can only halve even numbers. • Grouping and sharing are different types of problems. Some problems need solving by grouping and some by sharing. Encourage children to practically work out which they are doing. <p><u>Some Key Questions</u> How many groups of...? How many in each group? Share... equally into... What can do you notice?</p>	<p><u>Vocabulary</u> group in pairs, 3s ... 10s etc equal groups of divide, ÷, divided by, divided into, remainder</p> <p><u>Generalisations</u> Noticing how counting in multiples of 2, 5 and 10 relates to the number of groups you have counted (introducing times tables)</p> <p>An understanding of the more you share between, the less each person will get (e.g. would you prefer to share these grapes between 2 people or 3 people? Why?)</p> <p>Secure understanding of grouping means you count the number of groups you have made. Whereas sharing means you count the number of objects in each group.</p> <p><u>Some Key Questions</u> How many 10s can you subtract from 60? I think of a number and double it. My answer is 8. What was my number? If $12 \times 2 = 24$, what is $24 \div 2$? Questions in the context of money and measures (e.g. how many 10p coins do I need to have 60p? How many 100ml cups will I need to reach 600ml?)</p>	<p><u>Some Key Questions</u> Questions in the context of money and measures that involve remainders (e.g. How many lengths of 10cm can I cut from 81cm of string? You have £54. How many £10 teddies can you buy?) What is the missing number? $17 = 5 \times 3 + \underline{\quad}$ $\underline{\quad} = 2 \times 8 + 1$</p>
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