
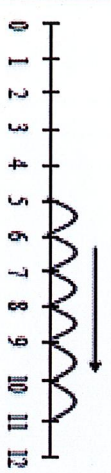

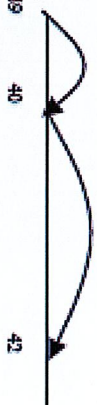
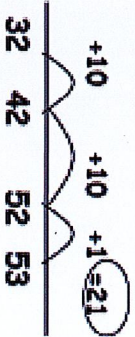
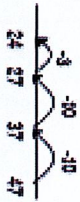


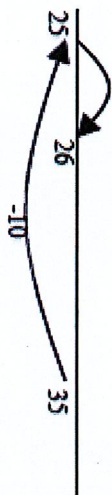
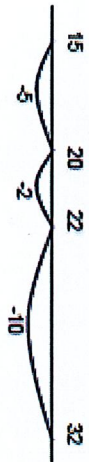


Subtraction Guidelines—how is this method taught?

Year One	Year Two	
<p>- signs and missing numbers</p> <p> $7 - 3 = \square$ $\square = 7 - 3$ $7 - \square = 4$ $4 = \square - 3$ $\square - 3 = 4$ $4 = 7 - \square$ $\square - 7 = 4$ $4 = \square - 7$ </p> <p>Understand subtraction as 'take away'</p> <p>E.g. 5-2. I had five balloons. Two burst. How many did I have left?</p>  <p>take away = 3 left</p> <p>Understand how to 'find the difference' by counting on/up</p> <p>I have saved 5p. The socks that I want to buy cost 11p. How much more do I need in order to buy the socks?</p> <p>+5</p>  <p>0 1 2 3 4 5 6 7 8 9 10 11 12</p> <p>E.g. A teddy bear costs £5 and a doll costs £2. How much more does the bear cost? (Count on/up from the £2 to £5)</p> <p>Find a 'difference' by counting back</p> <p>I have 11 toy cars. There are 5 cars too many to fit in the garage. How many cars fit in the garage?</p> <p>-5</p>  <p>11</p> <p>Extend to subtracting one-digit and two-digit numbers to 20 using the number line. E.g. 13 - 6; 19 - 8; 17-11; 19-14 etc.</p>	<p>- signs and missing numbers</p> <p>Continue using a range of equations as in year 1 but with appropriate numbers. Extend to $14 + 5 = 20 - \square$</p> <p>Find a small difference by counting on in units. E.g. 42 - 39 = 3</p> <p>+1 +2</p>  <p>39 40 42</p> <p>Find a difference by counting on</p> <p>53 - 32 =</p> <p>+10 +10 +1 (=21)</p>  <p>32 42 52 53</p> <p>Find a difference by subtracting the units in one jump.</p> <p>47 - 23 = 24</p> <p>Counting back method</p>  <p>24 27 37 47</p> <p>Extension methods:</p> <p>Subtracting the tens in one jump and the units in one jump.</p> <p>47 - 23 = 24</p> <p>Counting back method</p>  <p>24 27 47</p>	<p>Use known number facts and place value to subtract (partition second number only)</p> <p> $37 - 12 = 37 - 10 - 2$ $= 27 - 2$ $= 25$ </p>  <p>25 27 37</p> <p>Subtract 9 or 11. Begin to add/subtract 19 or 21</p> <p> $35 - 9 = 26$ $+1$ </p>  <p>25 26 35</p> <p>Bridge through 10 where necessary 32 - 17</p>  <p>15 20 22 32</p>

Multiplication Guidelines

Year One

Multiplication is related to doubling, counting groups of the same size and repeated 'addition'.

Looking at columns

$$2 + 2 + 2$$

3 groups of 2

Looking at rows

$$3 + 3$$

2 groups of 3

$$5 \times 3 = 5 + 5 + 5$$

Counting using a variety of practical resources

Counting in 2s e.g. counting socks, shoes, animal's legs...

Counting in 5s e.g. counting fingers, fingers in gloves, toes...

Counting in 10s e.g. fingers, toes...

Pictures / marks

$$5 \times 3 =$$

There are 5 cakes in a pack. How many cakes in 3 packs?

$$5 + 5 + 5$$

There are 3 sweets in a bag. How many sweets are there in 5 bags?

Introduce arrays and repeated addition

$$4 \times 2 \text{ or } 4 + 4$$

$$2 \times 4 \text{ or } 2 + 2 + 2 + 2$$

Year Two

x = signs and missing numbers

$$7 \times 2 = \square$$

$$\square = 2 \times 7$$

$$7 \times \square = 14$$

$$14 = \square \times 7$$

$$\square \times 2 = 14$$

$$14 = 2 \times \square$$

$$\square \times \nabla = 14$$

$$14 = \square \times \nabla$$

Arrays

$$4 \times 2 \text{ or } 4 + 4$$

$$2 \times 4 \text{ or } 2 + 2 + 2 + 2$$

Repeated addition

$$6 \times 4 =$$

There are 4 cats. Each cat has 6 kittens. How many kittens are there altogether?

Doubling multiples of 5 up to 50 using partitioning

$$15 \times 2 = 30$$

Children need to be secure with partitioning numbers into 10s and 1s and partitioning in different ways: $6 = 5 + 1$ so e.g. Double 6 is the same as double five add double one.

AND double 15







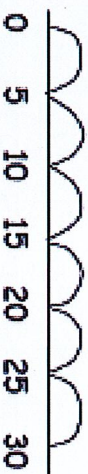
$$10 + 5$$

$$20 + 10 = 30$$

OR

x	10	5
2	20	10
		= 30

Division Guidelines

Year One	Year Two
<p>Sharing - Requires secure counting skills. Develop importance of one-to-one correspondence.</p> <p>Sharing – 6 sweets are <u>shared</u> between 2 people. How many do they have each?</p>  <p>Grouping - Sorting objects into 2s / 3s/ 4s etc. How many pairs of socks are there?</p>  <p>Grouping in 4s:</p> <p>4 apples are packed in a basket. How many baskets can you fill with 12 apples?</p>  <p>Grouping in 3s: There are 12 crocus bulbs. Plant 3 in each pot. How many pots are there?</p> <p>Grouping - How many 3's make 18? (Draw jumps of 3 along a number line. This shows that you need 6 jumps of 3 to reach 18).</p>  <p>We do not use repeated subtraction.</p>	<p>÷ = signs and missing numbers</p> <p>$6 \div 2 = \square$ $\square = 6 \div 2$ $6 \div \square = 3$ $3 = 6 \div \square$ $\square \div 2 = 3$ $3 = \square \div 2$ $\square \div \nabla = 3$ $3 = \square \div \nabla$</p> <p>Understand division as sharing and grouping</p> <p>$6 \div 2$ can be modelled as: There are 6 strawberries. How many people can have 2 each? How many 2s make 6?</p> <p>$6 \div 2$ can be modelled as: </p> <p>$18 \div 3$ can be modelled as: 0 1 2 3 4 5 6</p> <p>Sharing – 18 shared between 3 (see Year 1 diagram)</p> <p>Grouping - How many 3's make 18?</p>  <p>30 ÷ 5 extended to a word problem =</p> <p>A chew bar costs 5p. How many can I buy with 30p?</p>  <p>Fractions - Link to counting, understanding number and simple fractions e.g. Find $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ of shapes and sets of objects. E.g. $\frac{1}{5}$ of 20 = $20 \div 5 = 4$</p> <p>In the context of money count forwards and backwards using 2p, 5p and 10p coins</p> <p>We do not use repeated subtraction.</p>