
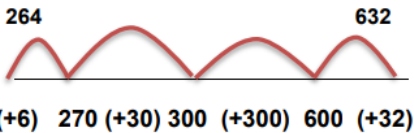


This is the section of our school's computation policy which is specifically related to the learning in Year 3. These methods are taught for children to use as strategies when working out maths equations independently.

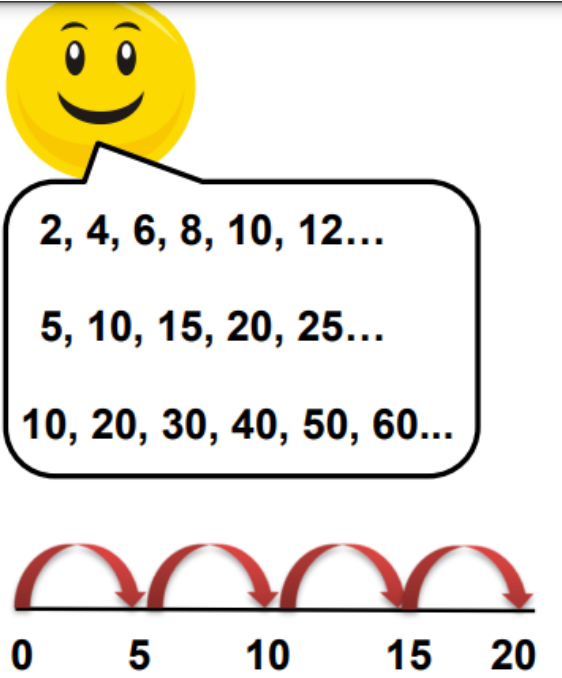
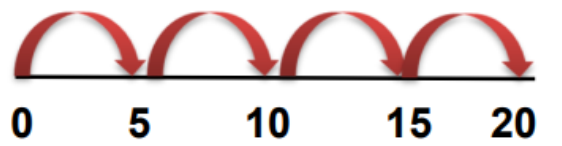
Addition Methods:

<p>Year 2 and Year 3</p>	$36 + 53$ $30 + 6 + 50 + 3$ $30 + 50 + 6 + 3$ $80 + 9 = 89$ <p>Place value cards (may be useful)</p> 	<p>Partition both numbers into 10s and 1s and then recombine the 10s to add them. Then recombine the 1s to add. Finally add all totals together.</p>
<p>Year 3 and Year 4</p>	$327 + 246 = 573$ $300 + 20 + 7$ $+ \underline{200 + 40 + 6}$ $500 + 60 + 13 = 573$	<p>Partition numbers and add ones first.</p>

Subtraction Methods:

<p>Year 3</p>	$327 - 246 = 81$ $\begin{array}{r} 200 \\ 300 + 120 + 7 \\ - 200 + 40 + 6 \\ \hline 000 + 80 + 1 = 81 \end{array}$	<p>Partition into hundreds, tens and ones. Start with the ones, then subtract tens, then hundreds. Write the answer underneath and recombine to find the answer. If there is not enough to subtract, decompose from the left column eg exchange one ten for ten ones or one hundred for ten tens. Cross out and write the new values above. Then subtract and continue.</p>
<p>Year 3 & Year 4</p>	<p><u>Frog Method</u></p> $632 - 264 = 368$ 	<p>Find the difference between the numbers.</p>

Multiplication Methods:

Year 3		T0 x 0 using a grid method. Times Table + counting in multiples but <u>not</u> expanded multiplication.
Year 3	 <p>2, 4, 6, 8, 10, 12...</p> <p>5, 10, 15, 20, 25...</p> <p>10, 20, 30, 40, 50, 60...</p>  <p>0 5 10 15 20</p> <div data-bbox="359 1473 641 1704">$5 \times 1 = 5$ $5 \times 2 = 10$ $5 \times 3 = 15$ $5 \times 4 = 20$</div> <div data-bbox="359 1753 641 1984">$1 \times 5 = 5$ $2 \times 5 = 10$ $3 \times 5 = 15$ $4 \times 5 = 20$</div>	<p>Continue counting in 2s, 5s and 10s and understand these as table facts.</p> <p>Begin counting in 3s, 4s and 8s and understanding table facts for 3, 4 and 8.</p> <p>These can be written as table facts this way, with the focus number first: “Five times one equals five Five times two equals ten Five times three equals fifteen...”</p> <p>Or they can be written as table facts this way, as ‘lots of’ the focus number: “One lot of five equals five Two lots of five equals ten Three lots of five equals fifteen...”</p>

**Year 2
and Year
3**

Double 10
and
double 8

$$\begin{array}{r}
 18 \\
 \swarrow \quad \searrow \\
 10 \quad + \quad 8 \\
 \downarrow \quad \downarrow \\
 20 \quad + \quad 16 = 36
 \end{array}$$

The children are also taught to chant:
"1 five is 5
2 fives are 10
3 fives are 15" etc.

Use partitioning to double numbers using known facts.

To find double 18, first partition 18 into 10 and 8.

Year 3

1	2	3	4	5	6
10	20	30	40	50	60
100	200	300	400	500	600

$$\begin{array}{ccc}
 1 & \times & 10 & 10 \\
 10 & \times & 10 & 100
 \end{array}$$

Extend times tables

Know that when a number is multiplied by 10 it is made 10 times bigger and so:

**A one becomes a ten
A ten becomes a hundred and so on.**

(This is much better than talking about adding a zero!)

$$10 \times 10 = 100$$

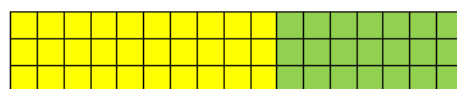
Extend times tables

(This is much better than talking about adding a zero!)

Year 3

$$17 \times 3$$

$$10 \times 3 \quad \text{and} \quad 7 \times 3$$



$$\begin{array}{r}
 30 \quad + \quad 21 \\
 = 51
 \end{array}$$

Partition numbers into 10s and 1s to make it easier to multiply.

Show how this works on an array of squares.

30 + 21 = 51

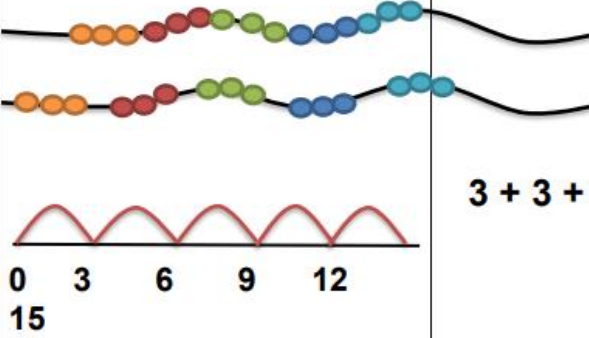
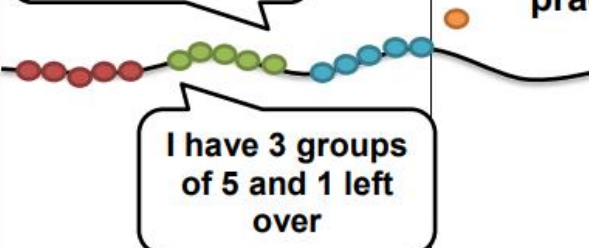
$$\begin{array}{r|l|l} X & 10 & 7 \\ \hline 3 & 30 & 21 \end{array} = 51$$

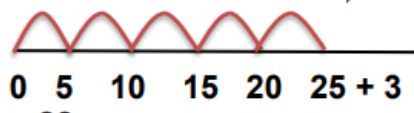
Partition into 10s (Tens) and 1s (ones) and write this in a grid.

This is known as the **GRID METHOD**.

1. Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
2. Start counting in 6s, 7s, 8s and 9s and learn tables in any order.

Division Methods:

Year 3		Grouping on a numberline. Division with remainders.
Year 3	<p style="text-align: center;">$15 \div 3$</p> <p style="text-align: center;">How many 3s in 15?</p>  <p style="text-align: center;">How many 5s in 16?</p>  <p style="text-align: center;">I have 3 groups of 5 and 1 left over</p>	<p style="text-align: center;">Grouping.</p> <p>How many groups of 3 can you get from 15?</p> <p style="text-align: center;">$3 + 3 + 3 + 3 + 3 = 15$</p> <p style="text-align: center;">Dealing with remainders in a practical way</p>

Year 3	<p style="text-align: center;">$28 \div 5 = 5 \text{ r } 3$</p> <p style="text-align: center;">$1 \times 5 \quad 1 \times 5 \quad 1 \times 5 \quad 1 \times 5 \quad 1 \times 5 + 3$</p>  <p style="text-align: center;">0 5 10 15 20 25 + 3 = 28</p>	Use a number line to record the number of groups you can get from the number.
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Year 3	<p style="text-align: center;">$28 \div 4 = 7$</p> <table border="1" style="margin: auto;"> <tr> <td colspan="4" style="text-align: center;">28</td> </tr> <tr> <td style="text-align: center;">xxxxxxx</td> <td style="text-align: center;">xxxxxxx</td> <td style="text-align: center;">xxxxxxx</td> <td style="text-align: center;">xxxxxxx</td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">7</td> <td style="text-align: center;">7</td> <td style="text-align: center;">7</td> </tr> <tr> <td colspan="4" style="text-align: center;">$7 \times 4 = 28$</td> </tr> </table>	28				xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	7	7	7	7	$7 \times 4 = 28$				Use Bar Model and share out or use multiples
28																		
xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx															
7	7	7	7															
$7 \times 4 = 28$																		