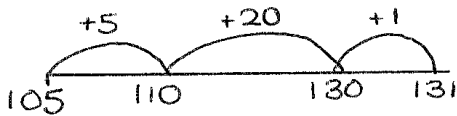


Year 5 Maths Strategies

Addition:

1. Addition using a number line:

$$105 + 26 = 131$$



This method is used for children who are struggling. When they are confident they are moved onto more efficient methods.

2. Addition using the expanded method:

Children start with 3 digit numbers and progress to 4 digit numbers and beyond.

$$365 + 291 = 656$$

300	60	5	numbers are partitioned into H, T and 1's ← save it space
+ 200	90	1	
100			
<hr/>			
600	50	6	

3. Addition using the compact method:

Children move from the expanded method to the compact method when they are confident.

$$4761 + 2199 = 6960$$

$$\begin{array}{r} 4761 \\ + 2199 \\ \hline 6960 \end{array}$$

4. Adding near multiples:

For adding near multiples, children are encouraged to use their mental maths strategies and apply their place value knowledge.

$$7450 + 3999 = 11,449$$

$$7450 + 4000 - 1$$

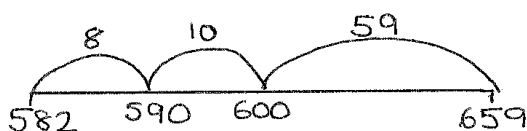
* All of these methods are applied to adding decimals and money.

Subtraction:

1. Subtraction using a number line by counting forwards:

Link subtraction to the difference between 2 numbers, which can be calculated by counting forwards.

$$659 - 582 = 77$$



Children find it easier to count forwards and are less likely to make mistakes. Children are encouraged to use the inverse (addition) to check their calculation.

2. Subtraction using the expanded method:

$$8836 - 1592 = 7244$$

	8000	700	130	6
		800	30	
-	1000	500	90	2
	<hr/>	<hr/>	<hr/>	<hr/>
	7000	200	40	4

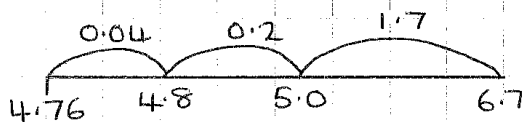
3. Subtraction using the compact column subtraction method:

$$\begin{array}{r} 8 \overset{7}{\cancel{8}} \overset{13}{\cancel{3}} 6 \\ - 1592 \\ \hline 7244 \end{array}$$

4. Subtracting decimals using a number line:

The same process is used for decimals. Children may start with a number line before progressing onto the more efficient methods.

$$6.7 - 4.76 = 1.94$$



This counting up use of the number line is also used for calculations involving money.

Multiplication:

1. Ladder method

This is used for multiplying a 3 or 4 digit number by a 1 digit number.

$$353 \times 4 = 1412$$

353	
<u>× 4</u>	
1200	4 × 300
200	4 × 50
<u>12</u>	4 × 3
<u>1412</u>	

This method helps the children to understand which part of the number they are multiplying.

$$2574 \times 3 =$$

2574	
<u>× 3</u>	
6000	3 × 2000
1500	3 × 500
210	3 × 70
<u>12</u>	3 × 4
<u>7722</u>	

2. Grid method:

This is used for multiplying a 2 digit number by a 2 digit number or a 3 digit number by a 3 digit number.

$$342 \times 24 = 8,208$$

x	300	40	2	
20	6000	800	40	7200
4	1200	160	8	960
	7200	960	48	48
				11
				<u>8208</u>

Division:

1. Using a number line:

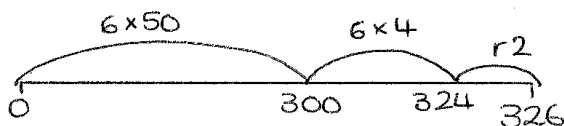
Children use their multiplication knowledge to solve the calculations

$$326 \div 6$$

Children think how many 6's might go into 326. Children use what they know about multiplying by multiples of 10.

$$6 \times 50 = 300 \quad \text{so, it must be}$$
$$6 \times 60 = 360 \quad \text{between these}$$

numbers.



$$= 54 \text{ r } 2.$$

2. Using a multiplication table (inverse):

$\begin{array}{r} \square \times 6 = 326 \\ \hline 50 \times 6 = 300 \\ \hline 26 \\ \hline 4 \times 6 = 24 \\ \hline 2 \\ \hline 54 \end{array}$	$326 \div 6 = 54 \text{ r } 2$ <p>* Children use the inverse eg $326 \div 6$ means $6 \times ? = 326$</p>
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3. 'Goes into' method:

$$326 \div 6 = 54 \text{ r } 2$$

$$\begin{array}{r} 54 \text{ r } 2 \\ 6 \overline{) 326} \end{array}$$

This method is used for dividing a 3 or 4 digit number by a 1 digit number.

The inverse or multiplication table method works well for dividing by 2 digit numbers.

$$420 \div 21 = 20$$

$$\square \times 21 = 420$$

$$\begin{array}{r} 20 \times 21 = 420 \\ \hline 0 \end{array}$$

