



Year 6 Calculation Policy

<p>Year 6</p>	<p>Your child will already be familiar with written methods of column addition and subtraction. Here are some examples of what these look like and the kind of real life problems they are asked to solve using these methods. In year 6, many of the problems the children are asked to solve involve a 2 step process (i.e. they involve addition and subtraction steps).</p>	
	<p>Addition</p>	<p>Subtraction</p>
	<p>Column addition</p> <p style="text-align: center;">Use the column method for addition</p> <p style="text-align: center;">$3239 + 5882 = \square$</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p>Write the numbers one above the other. Make sure you line them up using place value</p> </div> <div style="text-align: center;"> $\begin{array}{r} 5882 \\ + 3239 \\ \hline 9121 \\ \hline \end{array}$ <p style="font-size: small; color: green;">1 1 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p>Start with the units (or smallest). $2 + 9 = 11$ Write the 1 in the units column and the 10 goes underneath to add later</p> </div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; text-align: center;"> <p>Any 10s, 100s or 1000s made from adding need to be added to the right column underneath.</p> </div> <p>Examples of real life problems</p> <p>17,515 Manchester City fans and 9048 Chelsea fans went to a football match. 4506 fans left at half time. How many fans were left?</p> <p>Rosie saved £6,314. Tom saved £5,866. How much did they save altogether?</p>	<p>Column subtraction</p> <p style="text-align: center;">Use the column method for subtraction</p> <p style="text-align: center;">$2416 - 387 = \square$</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p>Write the numbers one above the other. Make sure you line them up using place value</p> </div> <div style="text-align: center;"> $\begin{array}{r} 2416 \\ - 387 \\ \hline 2029 \\ \hline \end{array}$ </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p>Start with the units (or smallest). $6 - 7 = \text{can't do!}$ So take a 10 from the tens column to turn 6 into 16, then take 7 away.</p> </div> </div> <p>Examples of real life problems</p> <p>Helen makes up a 1.5kg bag of muesli. She has 125g of raisins and 348g of banana chips. How many oats does she need to make the weight up to 1.5kg?</p> <p>The bag of potatoes weighs 2823g. I use 297g of potatoes. How much do the potatoes I have left weigh?</p>



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Adding decimals with up to 3 decimal places.
Use the column method again but be careful and line up the decimal points before you start to add!

For example: $56.39 + 18.61$

Line up the
decimals like this:

$$\begin{array}{r} 56.39 \\ + 18.61 \\ \hline \end{array}$$

Then just add the
numbers as normal!

Then just add the
numbers like normal:

$$\begin{array}{r} 56.39 \\ + 18.61 \\ \hline 75.00 \end{array}$$

Examples of real life problems

I buy presents costing £9.63, £5.27 and £3.72. How much change will I get from £20?

A roll contains 10 metres of tape. Four people use the tape to wrap presents. They use 1.27m, 2.45m, half a metre and 96cm. How much tape is left?

The temperature in Bingley was 73.6° yesterday. Today it is 9.5° warmer. How hot is it today in Bingley?

Subtracting decimals with 2 decimal places.
Use the column method again but be careful and line up the decimal points before you start to subtract!

Example $76.3 - 34.1$

Example $4.321 - 4.1$

Line up the
decimal points

$$\begin{array}{r} 76.3 \\ - 34.1 \\ \hline 42.2 \end{array}$$

Line up the
decimal points

$$\begin{array}{r} 4.321 \\ - 4.1 \\ \hline 0.221 \end{array}$$

Examples of real life problems

How much change will I get from £10 if I buy groceries costing £2.29, £1.42 and 76p?

Chen puts his cat on the scales. He weighs 3.52kg. Chen also steps on the scales and the new total is 51.5kg. How much does Chen weigh?

Sam ran the race 48.8 seconds. Josh ran 3.46 seconds faster. How long did it take Josh to run the race?

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Your child will already be familiar with written methods of short multiplication and short division. They will now start to use formal written methods of long division.

Multiplication

Multiply numbers (including decimals) up to 4 digits by a one or two-digit number using a formal written method (long multiplication for two-digit numbers).

Short multiplication **246 x 3**

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{U} \\
 2 \quad 4 \quad 6 \\
 \underline{\quad\quad 3 \times} \\
 \quad\quad 8 \\
 \hline
 \quad\quad 1
 \end{array}$$

Start by multiplying the 3 by the 6 to give 18.

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{U} \\
 2 \quad 4 \quad 6 \\
 \underline{\quad\quad 3 \times} \\
 \quad 3 \quad 8 \\
 \hline
 1 \quad 1
 \end{array}$$

Then multiply the 3 by the 4 to give 12. Add the 1 carried over to give 13.

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{U} \\
 2 \quad 4 \quad 6 \\
 \underline{\quad\quad 3 \times} \\
 7 \quad 3 \quad 8 \\
 \hline
 1
 \end{array}$$

Then multiply the 3 by the 2 to give 6. Add the 1 carried over to give 7.

So the answer to 246×3 is **738**

Example of a real life problem

Mike and Asim both buy 12 cans of lemonade. Asim buys 3 packs of 4 cans (each pack costs £1.20). Mike buys 2 packs of 6 cans (each pack costs £1.70). Who pays the most?

Division

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division.
*Interpret remainders appropriately for the context.

Short division **362 ÷ 7**

$$362 \div 7 =$$

$$5 \quad 1 \quad r5$$

$$7 \overline{) 362}$$

$$362 \div 7 = 51 \text{ r}5$$

- Does 7 go into 3? No
- Does 7 go into 36? Yes - it goes 5 times (35). I put the 5 over the 6.
- There is a remainder of 1, so this 1 goes next to the 2 to make 12.
- I know that 7 goes into 12 once and there is a remainder of 5, so I write 1 over the 2 and put 'r 5' at the end.

Examples of real life problems

Brian needs 1567 balloons for his party. Balloons come in packs of five. How many packs does Brian need?

Aisha buys six pizzas for her birthday party. They cost £27. How much does each pizza cost?

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