

# Year 4 Maths - calculation

*Week beginning 22.06.20*

Lesson 1: Compact method for subtraction

Lesson 2: Addition and subtraction word problems

Lesson 3: Investigation

# We are going to recap compact or column method for subtracting numbers:

- Have a look here to start: <https://www.bbc.co.uk/bitesize/articles/zrtsy9q>

2. Next I looked at the tens column. 4 is smaller than 8 so I stole a hundred from the 700 (which now turns into 600) and did 14 tens – 8 tens, which equals 6 tens.

$$\begin{array}{r} 2753 \\ - 1484 \\ \hline 1269 \end{array}$$

1. Make sure your numbers are lined up clearly. Always start from the ones column. 3 is smaller than 4 so I had to steal a ten from the fifty to make it 13 take away 4, which equals 9. My fifty turned into forty because I took a ten away.

4. Finally looked at the last column and I did 2 thousand – 1 thousand, which equals 1 thousand. My total is now written underneath my calculation.

3. Then I looked at the hundred column and did 6 hundred – 4 hundred, which equals 2 hundred.

Activity 1 - try some subtraction questions, using compact method to find the answers. Choose either mild, spicy or hot to do:

Mild

$3623 - 2442$

$5763 - 2192$

$4842 - 1271$

$6428 - 3246$

$5563 - 2327$

$6453 - 1262$

$7629 - 4237$

$8568 - 5324$

Spicy

$4521 - 2350$

$5098 - 3426$

$7546 - 4671$

$5465 - 1694$

$5961 - 2472$

$6543 - 3219$

$3232 - 1981$

$5326 - 3425$

Hot

$6236 - 3542$

$7652 - 4871$

$5575 - 2456$

$6584 - 2395$

$7865 - 4476$

$8564 - 5658$

$9732 - 4564$

$9235 - 6298$

# Now we're going to try some addition and subtraction word problems...

- Recap for compact method for addition:

3. Next I looked at the hundred column. I had to add 6 hundreds and 8 hundreds, plus the 1 hundred I moved over. I equals 15 hundreds. I put the 5 at the bottom and moved the 1 to the next column.

4. Finally I've got the thousands column to do. I added 4 thousands and 2 thousands, plus the extra one. It equals 7. Now my total is at the bottom.

		1	1		
	4	6	2	4	
+	2	8	9	2	
<hr/>					
	7	5	1	6	

1. Make sure your numbers are lined up clearly. Again, always start from the ones column. First I added 4 and 2, it equals 6.

2. Now move to the tens column. I added 2 tens and 9 tens, it equals 11 tens. As it's gone over 100, I moved one ten to the next column.

## Activity 2: Try these word problems. You can work them out using compact addition or subtraction.

<p>1. Jess has scored 4678 points on a computer game. She's trying to get 5000 points! How many more points does she need?</p>	<p>4. 246 people come to see the school production. 89 of them are children, how many are adults?</p>
<p>2. Nelson Mandela was born in 1918. He spent 27 years in prison, which affected his health but he lived until he was 95. What year did he die?</p>	<p>5. 3473 people pass through the ticket barriers before midday at a tube station, and 5632 after midday. How many people passed through the ticket barrier during the whole day?</p>
<p>3. Could you buy one DVD for £4.68 and one for £5.79 for a total of less than £10?</p>	<p>6. A plane is flying at 2156 metres. It descends 203 metres. What height is it now?</p>

# Challenge questions (don't forget to show your working out):



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There are 437 fiction and 255 non-fiction books in the library. At the moment 103 have been taken out.

How many books are left in the library?



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There are 1346 people on a London bound train. 149 people get on and 32 get off. How many are on the train now?

246 people go to see a film at the cinema. 89 of them are children. Adult tickets are £5 and children go free as a special offer! How much does the cinema take in ticket sales?



# Wonderful 1089!

1. Write a three-digit number.
2. Reverse the digits.
3. Subtract the smaller number from the larger using column subtraction.
4. Reverse the digits.
5. Add the two numbers using column addition.
6. Repeat this using seven different starting numbers, all three-digit numbers.

Can you find starting numbers that do not give you 1089 as an answer? (There are some.)

Can you explain what is happening...?

The notepad shows the following work:

275 572

$$\begin{array}{r} 4 \ 16 \ 12 \\ \cancel{5}7\cancel{2} \\ - 275 \\ \hline 297 \end{array}$$

$$\begin{array}{r} 792 \\ + 297 \\ \hline \hline \end{array}$$

Activity 3: Try this investigation using addition and subtraction. Let us know what you find out.