

Grade 4 - Adding and Subtracting Multi-Digit Numbers - Lesson

Common Core 4.NBT.B.4 · maths-pdf.fr/en/

To add or subtract multi-digit numbers, line up the digits by place value and work from the ones place to the left. Carry when a column adds to 10 or more. Regroup when a top digit is too small to subtract from. Check by using the opposite operation.

Grade 4 · Common Core State Standards: **4.NBT.B.4**

Key facts

- Always line up the digits by place value before you add or subtract.
- Start at the ones place and work to the left.
- Carry 1 to the next place when a column sum is 10 or more.
- Regroup 1 from the next place when the top digit is smaller; a 0 becomes 9 after regrouping across it.
- Check subtraction by adding, and check addition by subtracting.

How do you add multi-digit numbers?

The standard algorithm lines up the digits by place value and works one place at a time. It always starts at the ones.

Standard algorithm

The **standard algorithm** is a step-by-step way to add or subtract. Write the numbers in a column so ones line up with ones, tens with tens, and so on.

1. Line up the digits by place value.
2. Add the ones. If the sum is 10 or more, write the ones digit and carry the tens digit.
3. Move left one place at a time, adding the carried digit too.

$$\begin{array}{r}
 \textcolor{brown}{1} \text{ } \textcolor{brown}{1} \text{ } \textcolor{brown}{1} \text{ } \textcolor{brown}{1} \\
 28,745 \\
 + 36,589 \\
 \hline
 \textcolor{blue}{65,334}
 \end{array}$$

Add each place from the right. Carry 1 whenever a place has 10 or more.

In the example, $5+9=14$, so write 4 and carry 1. The carry shows up four times, and the final sum is 65,334.

How do you subtract with regrouping?

Subtract from the ones place first. When the top digit is smaller than the bottom digit, regroup: take 1 from the next place to the left and add 10 to the place you are working on.

$$\begin{array}{r}
 52,346 \\
 - 18,759 \\
 \hline
 \textcolor{blue}{33,587}
 \end{array}$$

Subtract each place from the right. Regroup when the top digit is too small.

What do you do when there are zeros?

Zeros cannot give anything away, so look left until you find a digit that can. Each zero in between becomes 9 and the ones place gets 10 more.

	1,000s	100s	10s	1s
Start	7	0	0	2
Regroup	6	9	9	12

Regrouping 7,002 gives 6 thousands, 9 hundreds, 9 tens, and 12 ones.

Example: $7,002-3,458$. After regrouping, subtract each place: $12-8=4$, $9-5=4$, $9-4=5$, and $6-3=3$. The answer is 3,544.

How can you check your answer?

Addition and subtraction undo each other. To check a subtraction, add the answer to the number you subtracted. You should get the starting number back. To check an addition, subtract one addend from the sum.

Total	52,346	
Parts	33,587	18,759

The two parts, 33,587 and 18,759, add back to the total, 52,346.

Here, $33,587 + 18,759 = 52,346$, so the subtraction $52,346 - 18,759 = 33,587$ is correct.

Questions about adding and subtracting multi-digit numbers

What is the standard algorithm for addition?

Write the numbers in a column with the places lined up. Add the ones first, carry when a column is 10 or more, and move left one place at a time.

How do you subtract when there are zeros in the top number?

Look to the left for the first digit that is not zero and take 1 from it. Each zero in between becomes 9, and the ones place gets 10 more. For 7,002 you get 6 thousands, 9 hundreds, 9 tens, and 12 ones.

What does regrouping mean?

Regrouping means trading 1 from a place for 10 in the place to its right. For example, 1 thousand becomes 10 hundreds, so 5,000 can be thought of as 4 thousands and 10 hundreds.

How do you check a subtraction answer?

Add the difference to the number you subtracted. If you get the starting number, the answer is correct. For $9,106 - 4,879 = 4,227$, add $4,227 + 4,879 = 9,106$.

Can you add numbers with different numbers of digits?

Yes. Line up the ones place, not the left edge. Write 0 or leave a blank in the empty places, and add column by column from the right.