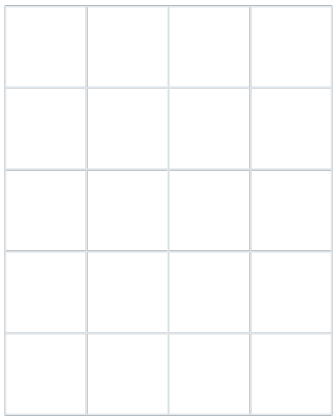
Year 3 - Column Addition — Lesson Guide

Step 1

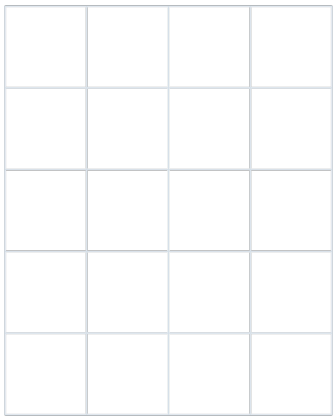
225 + 17 = ☐



First, we circle the plus sign so we know to add the two parts and find their sum.

Step 2

225 + 17 = ☐



First, check whether a mental method would be quicker. Look at the ones. 5 ones and 7 ones make 12 ones. We can exchange 10 ones for 1 ten. Column addition keeps the place values lined up.

Step 3

225 + 17 = ☐



Next, our largest number has 3 digits, so we neatly write the headings H, T and O below the question, with one heading in each box. These stand for hundreds, tens and ones.

Step 4

225 + 17 = ☐

	H	T	O
	2	2	5

The first digit of 225, 2, is in the hundreds column, so we start there. Now, we write 225 in the correct columns, with one digit in each box.

Step 5

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7

Remember: There must always be a digit in the ones column, even if it is a 0.

Then, we write a plus sign on the left of the calculation. 17 has two digits, so we start with 1 in the tens column. We write 17 in the correct columns, with one digit in each box.

Step 6

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7

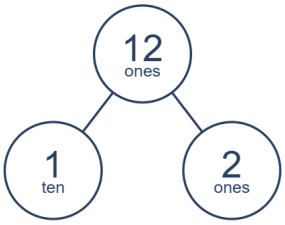
Draw a line under 17. Leave one row for the sum, then draw the second line below that row. Write exchanges below the second line.

Step 7

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7

First, we add the ones, the smallest place-value column. 5 ones + 7 ones = 12 ones. As we can only write one digit per box, we partition 12 ones into 1 ten and 2 ones.



Step 8

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
			2
		1	

We write the 1 ten in the tens column underneath the answer, ready for the next step. Then we write the remaining 2 ones in the ones answer box.

Step 9

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
			2
		1	

Remember: Check both places. Keep the small 1 below the tens column and the 2 in the ones answer square.

The small 1 below the tens column stands for 1 ten. The 2 in the ones answer square stands for 2 ones. Together, they make 12 ones.

Step 10

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
		4	2
		1	

Remember: Look below the column you are working on. Add the exchanged amount written there.

Next, we add the tens. 2 tens + 1 ten = 3 tens. Add the 1 exchanged ten shown by the small 1 below the tens column. 3 tens + 1 exchanged ten = 4 tens. We write 4 in the tens column. No exchange is needed this time.

Step 11

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
	2	4	2
		1	

Remember: Check whether there is an exchange to add from the previous column. Include it before writing this answer.

Look at the hundreds column. The lower square is empty because 17 has no hundreds. Use 0 hundreds for 17. 2 hundreds + 0 hundreds = 2 hundreds. We write 2 in the hundreds column. No exchange is needed this time.

Step 12

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
	2	4	2
		1	

Our sum is 242. Before we copy our answer into the answer box, let's check each column, including the exchanges. First, we check the ones: 5 + 7 = 12. We have correctly recorded 1 ten underneath the answer and 2 ones in the ones answer box.

Step 13

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
	2	4	2
		1	

Next, we check the tens, including the exchanged ten: 2 + 1 + 1 = 4. We have correctly included the exchanged ten and written 4 in the tens answer box.

Step 14

225 + 17 = ☐

	H	T	O
	2	2	5
+		1	7
	2	4	2
		1	

Finally, we check the hundreds: 2 + 0 = 2. We have correctly written 2 in the hundreds answer box.

Step 15

225 + 17 = 242

	H	T	O
	2	2	5
+		1	7
	2	4	2
		1	

The sum is 242. Copy 242 into the answer box. Make sure you copy the answer correctly.