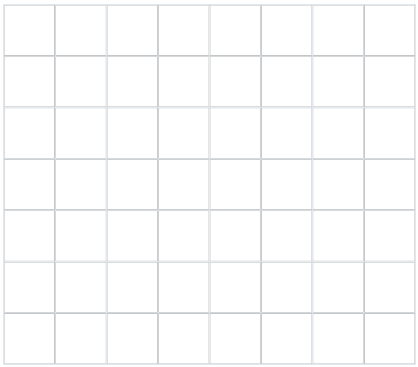
Year 3 - Expanded Column Multiplication — Lesson Guide

Step 1

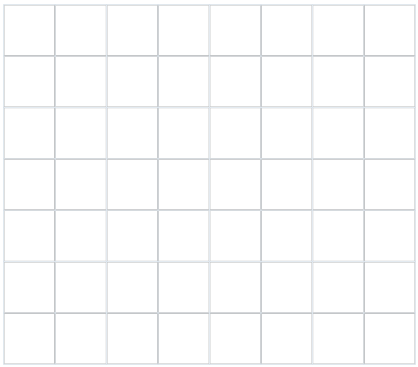
$35 \times 7 =$ ☐



First, we circle the multiplication sign so we know to multiply the two factors and find their product.

Step 2

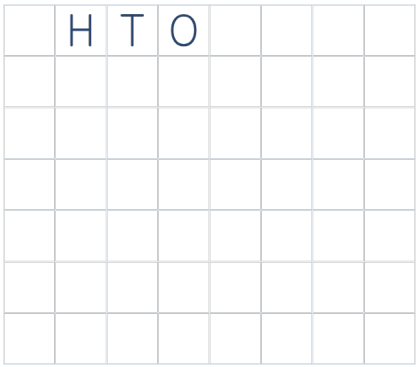
$35 \times 7 =$ ☐



First, check whether a mental method would be quicker. Expanded column multiplication gives us a row for each product. Split 35 into 30 and 5. Multiply each part by 7, then add the two products.

Step 3

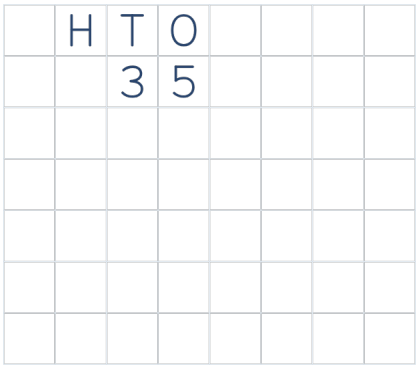
$35 \times 7 =$ ☐



Next, our largest number has 2 digits, so we neatly write the headings T and O below the question, with one heading in each box. Our answer needs another place-value column, so we also write H. These stand for hundreds, tens and ones.

Step 4

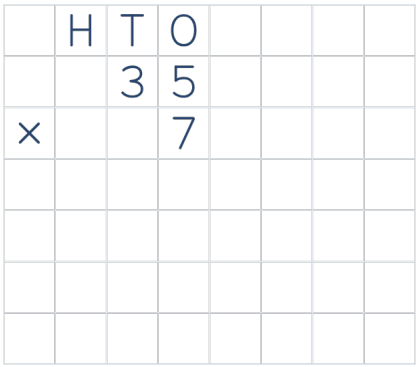
35 × 7 = ☐



The first digit of 35, 3, is in the tens column, so we start there. Now, we write 35 in the correct columns, with one digit in each box.

Step 5

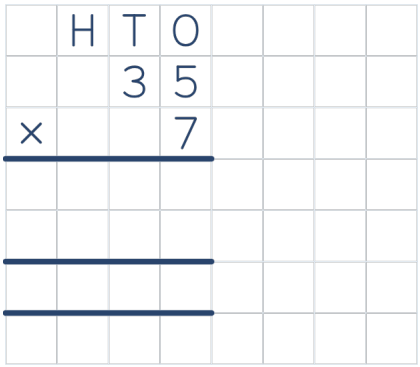
35 × 7 = ☐



Next, we write the multiplication sign to the left. 7 is a one-digit factor, so we write 7 in the ones column.

Step 6

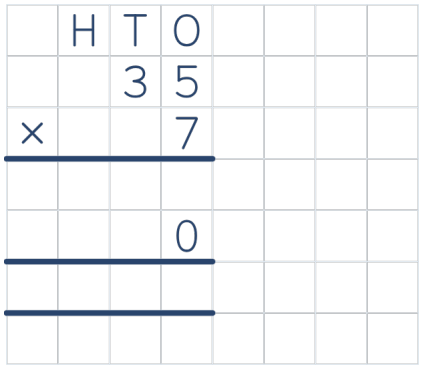
35 × 7 = ☐



Draw a line below the factors. Leave the first row for 5 × 7 and the second row for 30 × 7. Draw a line below those two rows. Leave one row for the sum, then draw the second answer line below that row. Write exchanges below the second answer line.

Step 7

35 × 7 = ☐

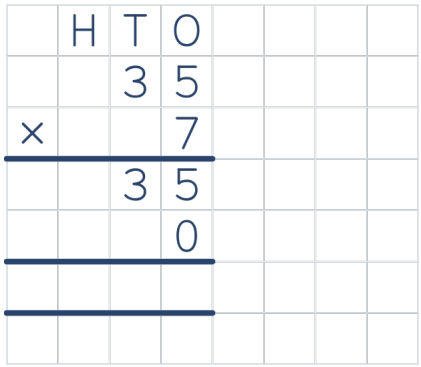


Remember: The zero holds the ones place in the tens product row.

Write 0 in the ones square of the tens product row. Multiplying tens by 7 gives a multiple of 10, so the tens product has no ones.

Step 8

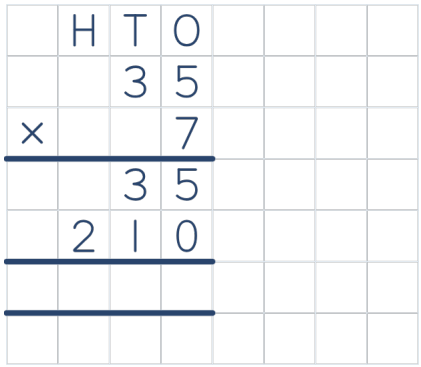
35 × 7 = ☐



First, we multiply the ones. 5 ones × 7 = 35 ones. That is 3 tens and 5 ones. Write 5 in the ones square of the first product row. Write 3 in the tens square of the first product row.

Step 9

35 × 7 = ☐



Next, we multiply the tens. 3 tens × 7 = 21 tens, which is 210. That is 2 hundreds and 1 ten. Keep the 0 in the ones square. Write 1 in the tens square of the second product row. Write 2 in the hundreds square of the second product row.

Step 10

35 × 7 = ☐

	H	T	O				
		3	5				
×			7				
		3	5				
	2	1	0				
			5				

Now, we add the two products, starting with the ones, the smallest place-value column. 5 ones + 0 ones = 5 ones. We write 5 in the ones answer box. No exchange is needed this time.

Step 11

35 × 7 = ☐

	H	T	O				
		3	5				
×			7				
		3	5				
	2	1	0				
		4	5				

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

Next, we add the tens. 3 tens + 1 ten = 4 tens. We write 4 in the tens answer box. No exchange is needed this time.

Step 12

35 × 7 = ☐

	H	T	O				
		3	5				
×			7				
		3	5				
	2	1	0				
	2	4	5				

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

Next, we add the hundreds. 0 hundreds + 2 hundreds = 2 hundreds. We write 2 in the hundreds answer box. No exchange is needed this time.

Step 13

35 × 7 = ☐

	H	T	O				
		3	5				
×			7				
		3	5				
	2	1	0				
	2	4	5				

Now, we check the whole method. 5 × 7 = 35. 30 × 7 = 210. The second product has a 0 in the ones column because we multiplied tens. 35 + 210 = 245. We check that the digits are in the correct columns.

Step 14

35 × 7 = **245**

	H	T	O				
		3	5				
×			7				
		3	5				
	2	1	0				
	2	4	5				

The product is 245. Copy 245 into the answer box. Make sure you copy the answer correctly.