Name _____ Date _____

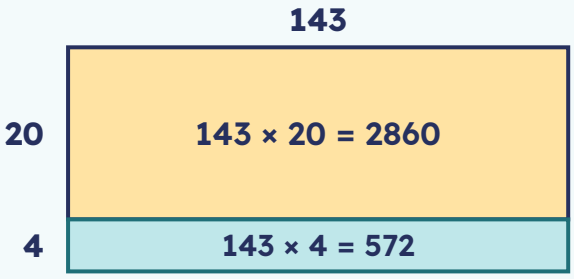
Two rows, then add

Long multiplication by a two-digit number: the ones row and the tens row.

1 Learn



To multiply by **24**, split 24 into **20 and 4**. Multiply by 4 (the ones row), then by 20 (the tens row), then **add the two rows**.



143 × 24 is the whole rectangle.
The big part is 143 × 20 = 2860.
The thin part is 143 × 4 = 572.
2860 + 572 = **3432**

		1	4	3	
×			2	4	
		$^{1}5$	$^{1}7$	2	× 4
	2	8	6	0	× 20
	3	4	3	2	add

1. **Ones row:** 143 × 4 = 572. The small teal digits are the exchanges (carries): add them on.
2. **Tens row:** we are really multiplying by 20, so write a **placeholder 0** in the ones column first. Then 143 × 2 = 286, giving 2860.
3. **Add the rows:** 572 + 2860 = **3432**.

Flip's tip: the placeholder 0 isn't extra decoration. Without it, the tens row is **ten times too small**.

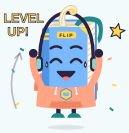
Warm up: multiply by a multiple of 10.

34 × 20 = ☐ **125 × 30 =** ☐ **48 × 50 =** ☐

Grown-ups: ask your child to say each row in words: "143 times 4", then "143 times 20". If they say "143 times 2" for the tens row, ask what the 2 in 24 is really worth.

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2 Try it together a child and a grown-up, about 10 minutes



Words on a page

You need: two or three books from home, a pencil.

1. Open a book at a full page. Count the **words in one line** and the **lines on the page**.
2. Make a quick guess first: round both numbers to the nearest ten and multiply.
3. Work out words in a line × lines on the page with **long multiplication** in the space below.
4. Is your answer close to your guess? Try another book: which has the most words on a page?

Book	Words in a line	Lines on a page	Quick guess	Long multiplication

Grown-ups: lines vary, so this is an estimate of the whole page: talk about why. Ask which number goes on top (either works, but the bigger one on top is usually easier).

3 Practise

A. Finish each long multiplication. Write the missing rows.

		3	6	
×		2	4	
	1	4	4	× 4
				× 20
				add

			5	7
×			3	2
				× 2
	1	7	1	0 × 30
				add

Name _____ Date _____

B. Make a quick estimate, then use long multiplication. Is your answer close?

1. 47 × 23

			4	7
×			2	3

Estimate: ____

2. 65 × 34

			6	5
×			3	4

Estimate: ____

3. 128 × 15

		1	2	8
×			1	5

Estimate: ____

4. 236 × 42

		2	3	6
×			4	2

Estimate: ____

C. In **312 × 23**, which number is the **tens row**? Ring it.

936 **624** **6240** **62400**

D. Fill the gaps.

52 × 37 = 52 × 7 + 52 × ☐ **81 × 46 = 81 ×** ☐ **+ 81 × 6**

E. A hall has **24** rows of chairs with **36** chairs in each row. How many chairs are there?

Answer: _____ chairs

Challenge

Leo works out **53 × 26**. His ones row is 318 and his tens row is 106, so he writes 318 + 106 = **424**. Is he right? What did he forget? Find the right answer.

I can… Tick when you can.

- ☐ multiply by the ones digit, then the tens digit
- ☐ write the placeholder 0 in the tens row
- ☐ add the two rows to get the answer