

Long multiplication strategies and estimation

MODULE 2 · OPERATIONS AND COMPUTATIONAL FLUENCY NUMBER

For two-digit multipliers, multiply by the **units** and the **tens** separately, then add. **Estimate first** to catch slips.

→ $34 \times 26 = (34 \times 6) + (34 \times 20) = 204 + 680 = 884$.

→ Check: $34 \times 26 \approx 35 \times 25 \approx 875$.

MULTIPLY 23×14 WITH THE AREA MODEL

	$\times 20$	$\times 3$
10	200	30
4	80	12

Total: $200 + 30 +$

- Split each number: $23 = 20 + 3$, $14 = 10 + 4$.
- Four partial products: 200, 80, 30, 12.
- Add them: $200 + 80 + 30 + 12 = 322$. (Estimate $20 \times 14 = 280$ — close.)

WARM-UP

a. $12 \times 5 =$

b. $28 \times 9 =$

c. $28 \times 7 =$

d. $68 \times 5 =$

PRACTICE

- 5th class are running a sponsored cycle for Cumann na mBunscol funds. Each of the **9** cyclists covers **831 metres** on the school pitch loop. How many metres do they cycle in total?
- On sports day, 5th class set up **5** long jump lanes along the school field. Each lane is marked out with **695 cm** of measuring tape. How many centimetres of tape are used in total?

CHALLENGE

- On the school nature walk through the local park, 5th class count **3427** steps along one loop of the trail. The teacher tells them they will walk the same loop **7** times across the term. How many steps will they take in total?
- The school library has **4190** books on its shelves. The principal orders the same number of books for each of the **7** primary schools in the parish. How many books are needed in total?