

Multiplying by 10, 100, 1000

MODULE 2 · OPERATIONS AND COMPUTATIONAL FLUENCY NUMBER

When you multiply by 10, 100 or 1 000, every digit moves to a place that is 10, 100 or 1 000 times bigger. The **digits stay the same – they just move.**

- $1.9 \times 10 = 19$ (each digit moves one place to the left).
- $1.9 \times 100 = 190$ (two places).
- $1.9 \times 1\,000 = 1\,900$ (three places).

1.9 × 100

- 1 Multiplying by 100 means each digit moves two places to the **left**.
- 2 $1.9 \rightarrow 19$ (moved one place) → 190 (moved two places).
- 3 Check: $1.9 \times 10 = 19$, then $\times 10$ again = **190**. ✓

TRY IT ON THE LINE

For each starter, build the number in the top row. For each $\times 10$, slide every digit **ONE** column to the left in the row below. Draw a small arrow between rows showing the slide.

Th	H	T	U	.	t	h

- 1. Row 1: build 47. Row 2: $47 \times 10 = \underline{\hspace{2cm}}$ (slide left one column).
- 2. Row 3: build 47. Row 4: $47 \times 100 = \underline{\hspace{2cm}}$ (slide left two columns).
- 3. Row 5: build 4.7. Row 6: $4.7 \times 1000 = \underline{\hspace{2cm}}$ (slide left three columns).

PRACTICE

- 1 Ms Murphy's 5th class is making bunting for World Book Day. Each flag needs **74.76 cm** of ribbon, and the class is making **10** flags in total. How many centimetres of ribbon do they need altogether?
- 2 The class library charges **€24.28** to replace a lost hardback book. The librarian works out the cost of replacing **100** hardbacks if the whole set were lost. What is the total replacement cost?

SPOT THE MISTAKE

Sean works out 0.6×100 like this:

$0.6 \times 100 = 0.600$

Sean is wrong. What is the correct answer? Explain.