

# Multiplying and dividing decimals by 10, 100, 1000

## CURRICULUM ALIGNMENT

NUM.OPS.4

build upon, select and make use of a range of operation strategies.

NUM.PVT.4

investigate how decimals and percentages (and fractions) can be compared, ordered and expressed in related terms.

INTERACTIVES **Place Value Chart (Sliding Digits)** · challenge, display, explore

## WHAT THIS LESSON TEACHES

When you multiply a decimal by 10, 100 or 1000 every digit moves left one, two or three columns; when you divide, every digit moves the same number of columns right. The decimal point stays fixed.

$$\rightarrow 4 \times 10 = 34$$

$$\rightarrow 6 \times 100 = 60$$

## MODEL THIS ON THE BOARD

**MULTIPLY 0.3 BY 1000**

- 1 Write 0.3 on the place-value chart with 3 in the tenths column.
- 2 Move each digit three columns left: the 3 lands in the hundreds column.
- 3 A zero fills the units column so the answer is 300.

## ANSWER KEY

**Scaffold:** visual check on the page**Q1:** 24 cent**Q2:** 40 cent**Q3:** €0.45**Q4:** 500 cent**Q5:** 7 cent

- a) **Always** — Multiplying by 10 always moves every digit one column left.
- b) **Never** — The decimal point never moves; the digits move right instead.
- c) **Sometimes** — It depends on how many decimal places the number has.
- d) **Always** — Every digit moves exactly one column left.

## EXTENSION SHEET · STRETCH ANSWERS

**S1:** 1909.4**S2:** 761.73**S3:** 19422**S4:** 2428**S5:** 952.2