

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:** 900 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 :** True for $0.25 \times 1000 = 250$; false for $0.0005 \times 1000 = 0.5$.**d) Always :** Multiplying by 10 shifts every digit one column to the left.

EXTENSION SHEET · STRETCH ANSWERS

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