

Lesson 17 **NUMBER****Multiplying decimals by whole numbers**

## 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

Area Model · display, explore

Target Number · challenge

## WHAT THIS LESSON TEACHES

When multiplying a decimal by a whole number, ignore the decimal point and multiply as whole numbers, then put the decimal point back counting the places from the original decimal.

→ For  $0.6 \times 4$ , whole-number core is  $6 \times 4 = 24$ , then 24 becomes 2.4.

→ For  $1.25 \times 3$ , whole-number core is  $125 \times 3 = 375$ , then 375 becomes 3.75.

## MODEL THIS ON THE BOARD

**WORK OUT  $0.6 \times 4$** 

- 1 Multiply the whole-number core:  $6 \times 4 = 24$ .
- 2 Count the decimal places in 0.6 (one place).
- 3 Move the point one place left in 24 to get **2.4**.

## ANSWER KEY

**Scaffold:** visual check on the page

**Q1:** €0.75

**Q2:** €4.80

**Q3:** €5.60

**Q4:** €3.75

**a) Always :** Scaling a positive amount by more than one increases it.

**b) Sometimes :** True for  $1.2 \times 3 = 3.6$ ; false for  $2.5 \times 2 = 5$ , where the decimal part disappears.

**c) Sometimes :** It depends if there are trailing zeros after moving the point.

**d) Never :** 16 is the estimate; the exact answer is 15.6.

## EXTENSION SHEET · STRETCH ANSWERS

**S1:** 2975

**S2:** 2813

**S3:** 2001

**S4:** 352.5

**S5:** 182.7