

NUMBERS AND THE NUMBER SYSTEM

Pupils should be taught to:

Understand and use decimal notation and place value; multiply and divide integers and decimals by powers of 10 (continued)

As outcomes, Year 7 pupils should, for example:

Multiply and divide numbers by 10, 100 and 1000.

Investigate, describe the effects of, and explain multiplying and dividing a number by 10, 100, 1000, e.g. using a place value board, **calculator** or **spreadsheet**.

In particular, recognise that:

- Multiplying a positive number by 10, 100, 1000... has the effect of increasing the value of that number.
- Dividing a positive number by 10, 100, 1000... has the effect of decreasing the value of that number.
- When a number is multiplied by 10, the digits move one place to the left:

$$\begin{array}{r} 34.12 \\ \times 10 \\ \hline 341.2 \end{array} \quad 34.12 \text{ multiplied by } 10 = 341.2$$

- When a number is divided by 10, the digits move one place to the right:

$$\begin{array}{r} 34.1 \\ \div 10 \\ \hline 3.41 \end{array} \quad 34.1 \text{ divided by } 10 = 3.41$$

Complete statements such as:

$$\begin{array}{ll} 4 \times 10 = \square & 4 \times \square = 400 \\ 4 \div 10 = \square & 4 \div \square = 0.04 \\ 0.4 \times 10 = \square & 0.4 \times \square = 400 \\ 0.4 \div 10 = \square & 0.4 \div \square = 0.004 \\ \square \div 100 = 0.04 & \square \div 10 = 40 \\ \square \times 1000 = 40\,000 & \square \times 10 = 400 \end{array}$$

See Y456 examples (pages 6–7).

[Link to converting mm to cm and m, cm to m, m to km...](#)
(pages 228–9).