

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

As outcomes, Year 7 pupils should, for example:

Use, read and write, spelling correctly: place value, zero place holder, tenth, hundredth, thousandth... equivalent, equivalence...

Understand and use decimal notation and place value. Read and write any number from 0.001 to 1 000 000, knowing what each digit represents. For example, know that:

- In 5.239 the digit 9 represents nine thousandths, which is written as 0.009.
- The number 5.239 in words is 'five point two three nine', not 'five point two hundred and thirty-nine'.
- The fraction $5^{239}/_{1000}$ is read as 'five and two hundred and thirty-nine thousandths'.

Know the significance of 0 in 0.35, 3.05, 3.50, and so on.

Know that decimals used in context may be spoken in different ways. For example:

- 1.56 is spoken in mathematics as 'one point five six'.
- £1.56 is spoken as 'one pound fifty-six'.
- £1.06 is spoken as 'one pound and six pence'.
- £0.50 is spoken as 'fifty pence'.
- 1.56 km is sometimes spoken as 'one kilometre, five hundred and sixty metres'.
- 3.5 hours can be spoken as 'three and a half hours' or 'three hours and thirty minutes'.

Answer questions such as:

- Write in figures:
four hundred and three thousand, and seventeen.
- Write in words: 4.236, 0.5, 35.08, ...
- Write as a decimal the fraction
six, and two hundred and forty-three thousandths.
- Make the largest and smallest number you can using:
the digits 2, 0, 3, 4;
the digits 2, 0, 3, 4, and a decimal point.

Add or subtract 0.1 and 0.01 to or from any number.

Count forwards or backwards from any number. For example:

- Count on in 0.1s from 4.5.
- Count back from 23.5 in 0.1s.
- Count on in 0.01s from 4.05.

Answer questions such as:

- What is 0.1 less than 2.0? What is 0.01 more than 2.09?
- What needs to be added or subtracted to change:
27.48 to 37.48, 27.48 to 27.38, 27.48 to 26.38?
5.032 to 5.037, 5.032 to 5.302?

See Y456 examples (pages 2–5, 28–9).