

10b Place value and measures

Let's learn



£12 and 5 pence is equivalent to 125p.

You need:

- coins and notes
- place-value grids
- digit cards

125p is equivalent to £1.25. £12 and 5 pence is £12.05. The 5 pence are 5 hundredths of a pound. You need to put a zero in the tenths position.

1000s and measures



| | | | | |
|---|---|------|-------|--------|
| 1 | . | 10th | 100th | 1000th |
| 1 | . | 7 | 5 | (0) |

| | | | |
|------|-----|----|---|
| 1000 | 100 | 10 | 1 |
| 1 | 7 | 5 | 0 |

The jug contains 1.75 litres. There are 1000 millilitres in a litre. 0.75l is 750 ml. So 1.75l is equivalent to 1750 ml.



| | | | | |
|----|---|---|------|-------|
| 10 | 1 | . | 10th | 100th |
| 3 | 1 | . | 5 | 6 |

| | | | |
|------|-----|----|---|
| 1000 | 100 | 10 | 1 |
| 3 | 1 | 5 | 6 |

There are 100 pence in a pound. So £31.56 is equivalent to 3156p. 1000p is equivalent to £10.00.

Place value and time



Our system of telling the time is not Base 10. It is Base 60. There are 60 minutes in an hour. On the number line there are 4 divisions every hour. So each represents $60 \div 4 = 15$ minutes.

Let's practise

1

Convert.

Convert these amounts to pounds and pence. Record your answers in place-value grids.

| | | | | |
|----|---|---|------|-------|
| 10 | 1 | . | 10th | 100th |
| | | . | | |

- a 245p b 789p c 1675p d 5354p e 9063p

Convert these litres to millilitres.

- f 6l g 7.5l h 9.5l i 3.25l j 4.75l

Convert these grams to kilograms.

- k 3000g l 4500g m 8500g n 7250g o 9750g

Describe the place value of each amount to your partner.



2

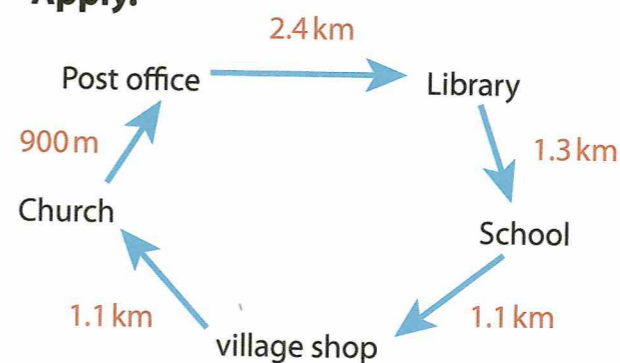
Draw.

Draw time number lines to find the differences between these times.

- a 03:55 and 05:45 c 10:50 and 13:10 e 13:51 and 16:06 g 16:08 and 21:25
b 04:35 and 06:20 d 12:25 and 15:50 f 14:54 and 17:32

3

Apply.



Ollie walks from the post office to the library, then to the school, village shop and church and then back to the post office. How far has he walked? Write your answer in 3 different ways; kilometres and metres, metres, kilometres.

4

Think.

What would our number system look like if we worked in Base 5? Our place-value grids might look like this:

| | | | |
|-----|----|---|---|
| 125 | 25 | 5 | 1 |
| 1 | 2 | 3 | 1 |

The digits in the grid represent $125 + 50 + 15 + 1 = 191$.

Draw your own place-value grid for Base 5 like this. Write a digit in each position. You can only use the digits 0–4. What number do you have?

Do this again... and again... and again.