Day 148 **C Tier 10-a-day: Model Solutions**

1 Scaling a recipe

A recipe for a vegetable soup for 10 people uses 50 g of sugar.
Work out how much sugar is needed for 5 people.

5 people is 2 times fewer than 10 people
50 ÷ 2 = 25
Answer: 25 g

2 Mass and capacity conversions

Change
(a) 900 cl into litres
(b) 500 cl into litres

(a) 100 cl = 1 litres, so divide by 100: 900 ÷ 100 = 9
(b) 100 cl = 1 litres, so divide by 100: 500 ÷ 100 = 5
Answer: (a) 9 litres (b) 5 litres

3 Which expression

Which of these means 6 added to n?

$\frac{n}{6}$, 6n, n^2, n + 6

6 added to n is written n + 6
Answer: n + 6

4 Fractions of amounts

Work out $\frac{1}{10}$ of 30 metres.

Divide by 10
30 ÷ 10 = 3
Answer: 3 metres

5 Substitution

Work out the value of 7k + 1 when k = 7.

7k = 7 × 7 = 49
49 + 1 = 50
Answer: 50

6 Map scales

On a map, 1 cm represents 200 m.
On the map, two towns are 5 cm apart.
Work out the real distance between the towns.

1 cm represents 200 m
5 × 200 = 1000
Answer: 1000 m

7 Simplifying fractions

Write $\frac{5}{40}$ in its simplest form.

Divide the top and bottom by 5
$\frac{5}{40} = \frac{1}{8}$
Answer: $\frac{1}{8}$

Day 148 **C Tier 10-a-day: Model Solutions**

8 Currency conversion

£1 = €1.20
Change £100 into euros.

£100 × 1.20 = €120
Answer: €120

9 Perimeter of a square from its area

A square patio has an area of 16 m^2.
Work out the perimeter of the patio.

Side × side = 16, so the side is 4 m (because 4 × 4 = 16)
Perimeter = 4 × 4 = 16
Answer: 16 m

10 Two-way tables

The two-way table shows some information.
Work out the missing number, shown by ?

Football column: 7 + 14 = 21
Answer: 21