Percentages

Key Vocabulary

per cent (%) = 'out of 100'

percentage

discount

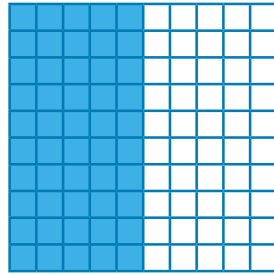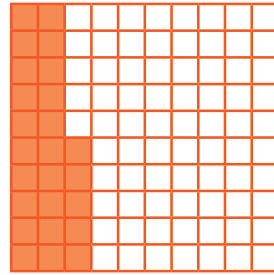equivalent fraction

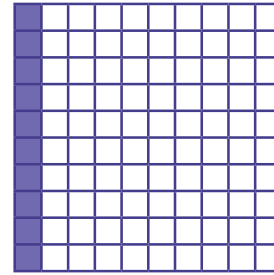equivalent decimal

convert

compare

order
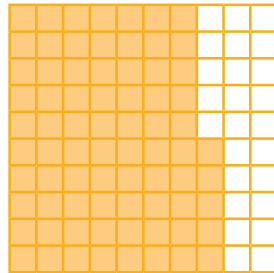
the whole

Equivalent Fractions, Decimals and Percentages
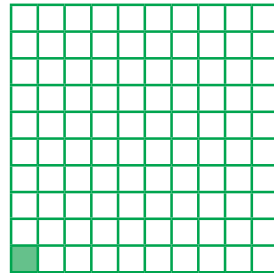
$\frac{50}{100} = \frac{1}{2} = 0.5 = 50\%$
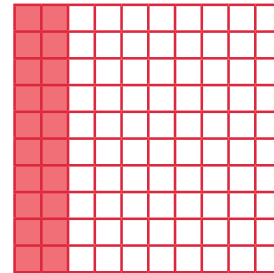
$\frac{25}{100} = \frac{1}{4} = 0.25 = 25\%$

$\frac{10}{100} = \frac{1}{10} = 0.1 = 10\%$

$\frac{75}{100} = \frac{3}{4} = 0.75 = 75\%$

$\frac{1}{100} = 0.01 = 1\%$

$\frac{20}{100} = \frac{2}{10} = 0.2 = 20\%$

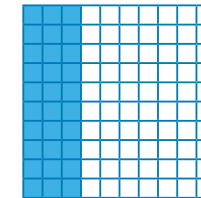### Fractions to Percentages

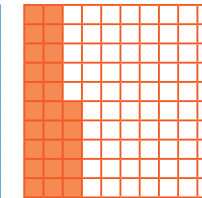$$\frac{15}{50} \xrightarrow{\times 2} \frac{30}{100} = 0.3 = 30\%$$
(×2)

$$\frac{60}{200} \xrightarrow{\div 2} \frac{30}{100} = 0.3 = 30\%$$
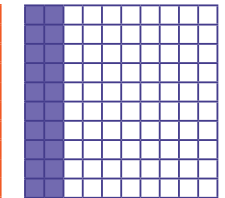(÷2)

Order Fractions, Decimals and Percentages
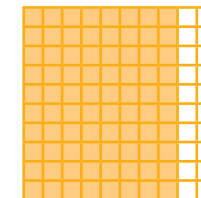
$\frac{3}{10}$ > 25% > 0.2

$\frac{30}{100} = 30\%$

$\frac{25}{100} = 25\%$
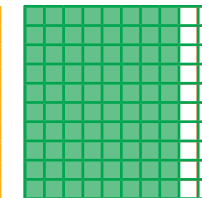
$\frac{20}{100} = 20\%$
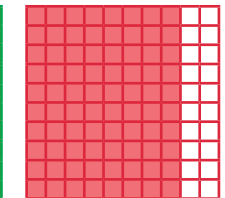
80% = 0.8 = $\frac{4}{5}$

$\frac{80}{100} = 80\%$

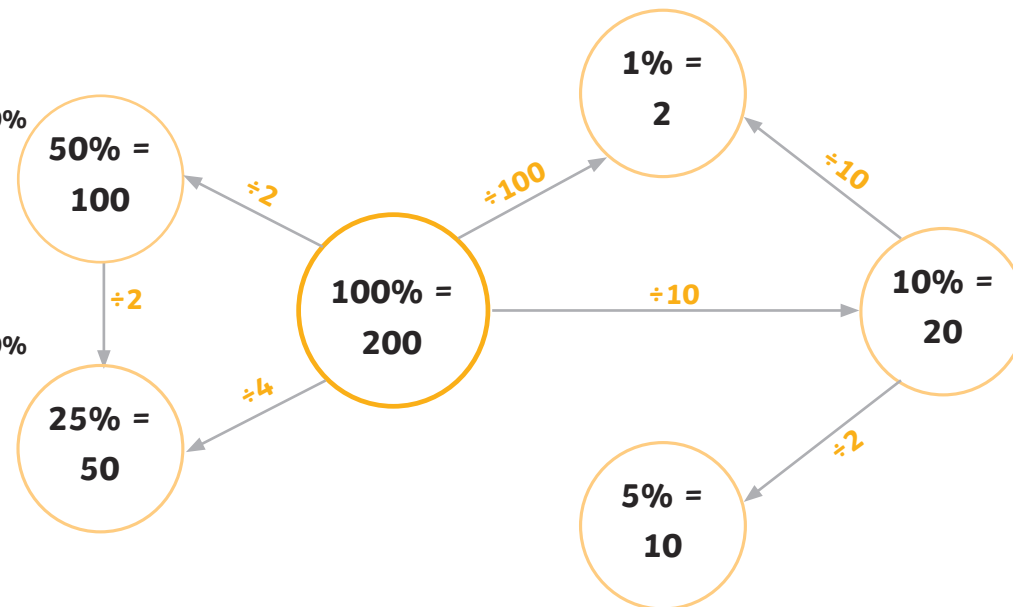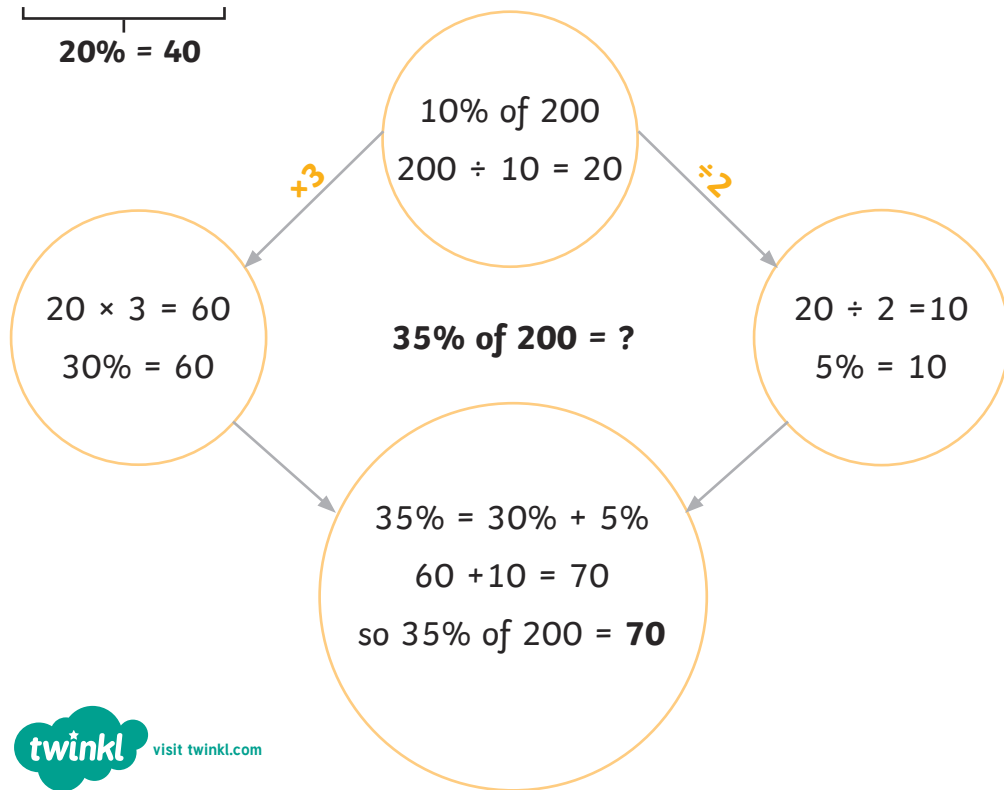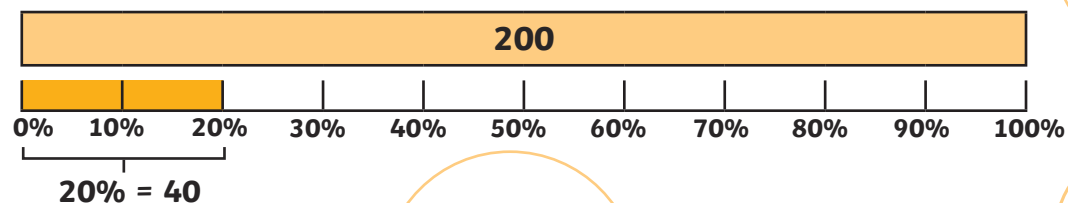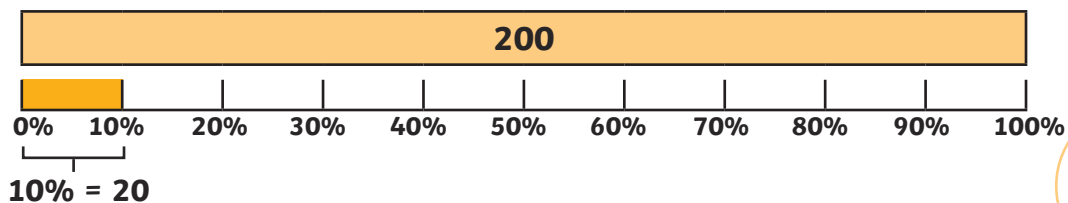$\frac{80}{100} = 80\%$

$\frac{80}{100} = 80\%$

Finding a Percentage of an Amount
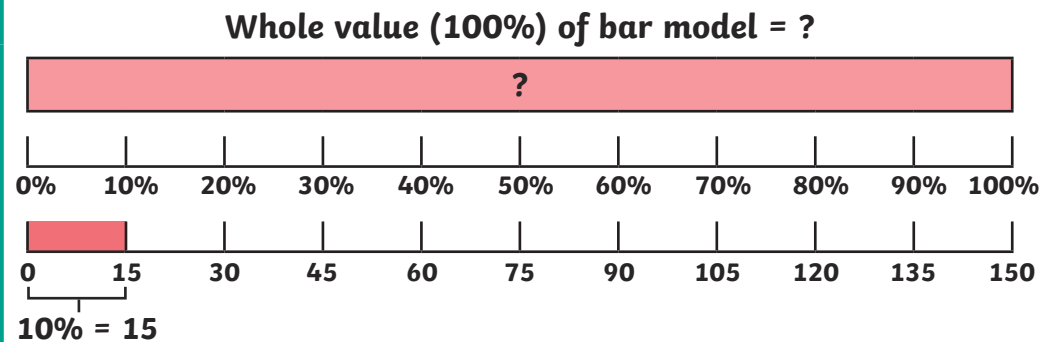
| $50\% = \frac{1}{2}$ so we can divide by 2 | $10\% = \frac{1}{10}$ so we can divide by 10 | $25\% = \frac{1}{4}$ so we can divide by 4 | $1\% = \frac{1}{100}$ so we can divide by 100 |

200

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

10% = 20

200

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

20% = 40

50% =
100

$\div 2$

1% =
2

$\div 100$

$\div 10$

100% =
200

$\div 2$

$\div 10$

10% =
20

25% =
50

$\div 4$

$\div 2$

5% =
10

10% of 200

200 ÷ 10 = 20

+3   **÷2**

20 × 3 = 60

30% = 60

35% of 200 = ?

20 ÷ 2 =10

5% = 10

35% = 30% + 5%

60 +10 = 70

so 35% of 200 = **70**

Percentages – Missing Values

Whole value (100%) of bar model = ?

?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

0   15   30   45   60   75   90   105 120 135 150

10% = 15

We know 10% = 15   10% × 10 = 100% (the whole)   so 15 × 10 = 150