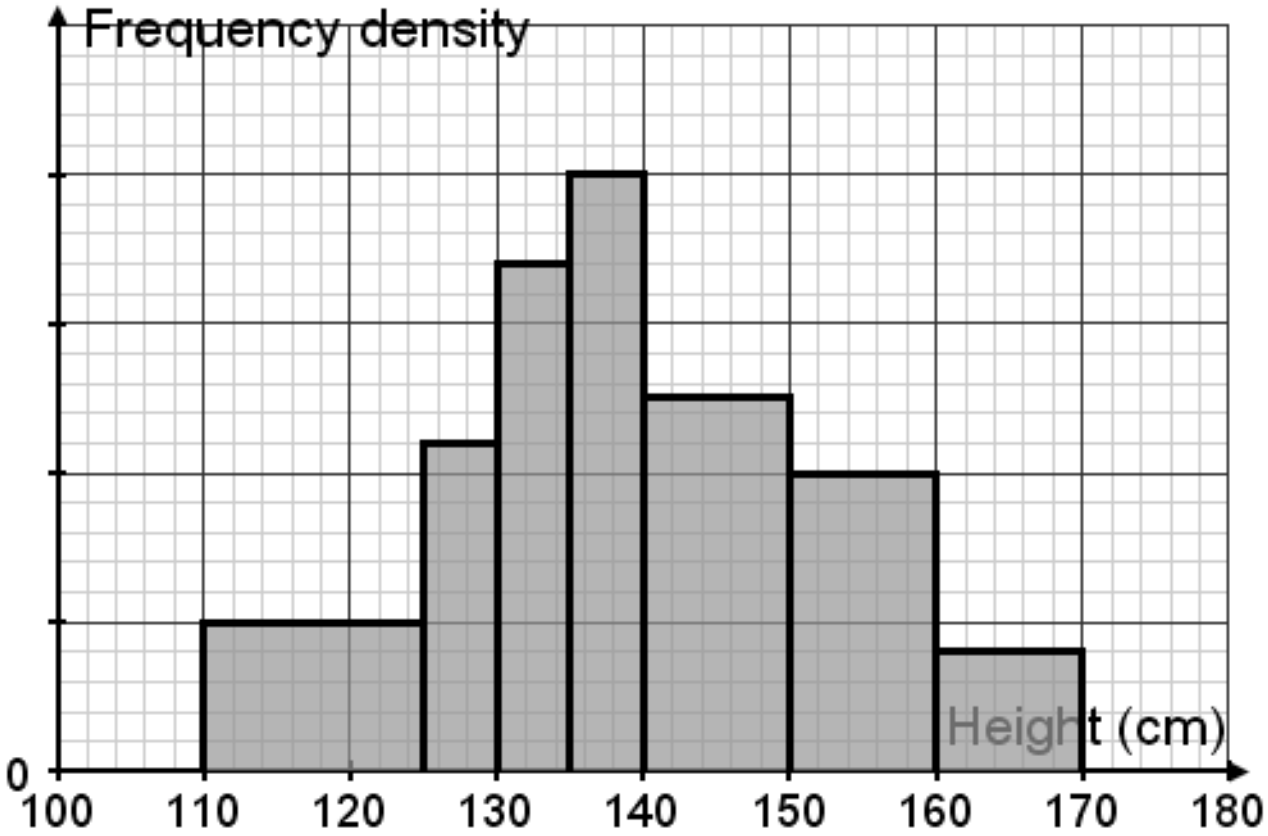
Calculating Frequency Density from a Histogram

Notes

Worksheet: 'Finding the frequency density of a histogram'

E.g. 1 The histogram below shows children's heights. If there were 20 children between 135 cm and 140 cm, how many children were between 150 cm and 170 cm?



Working:

$$\text{Frequency density} = \frac{\text{Frequency}}{\text{Class width}}$$

For 135—140 cm: $\text{Frequency density} = \frac{20}{5} = 4$

So vertical scale is 1 big square = 1 unit (or 5 small squares = 1 unit)

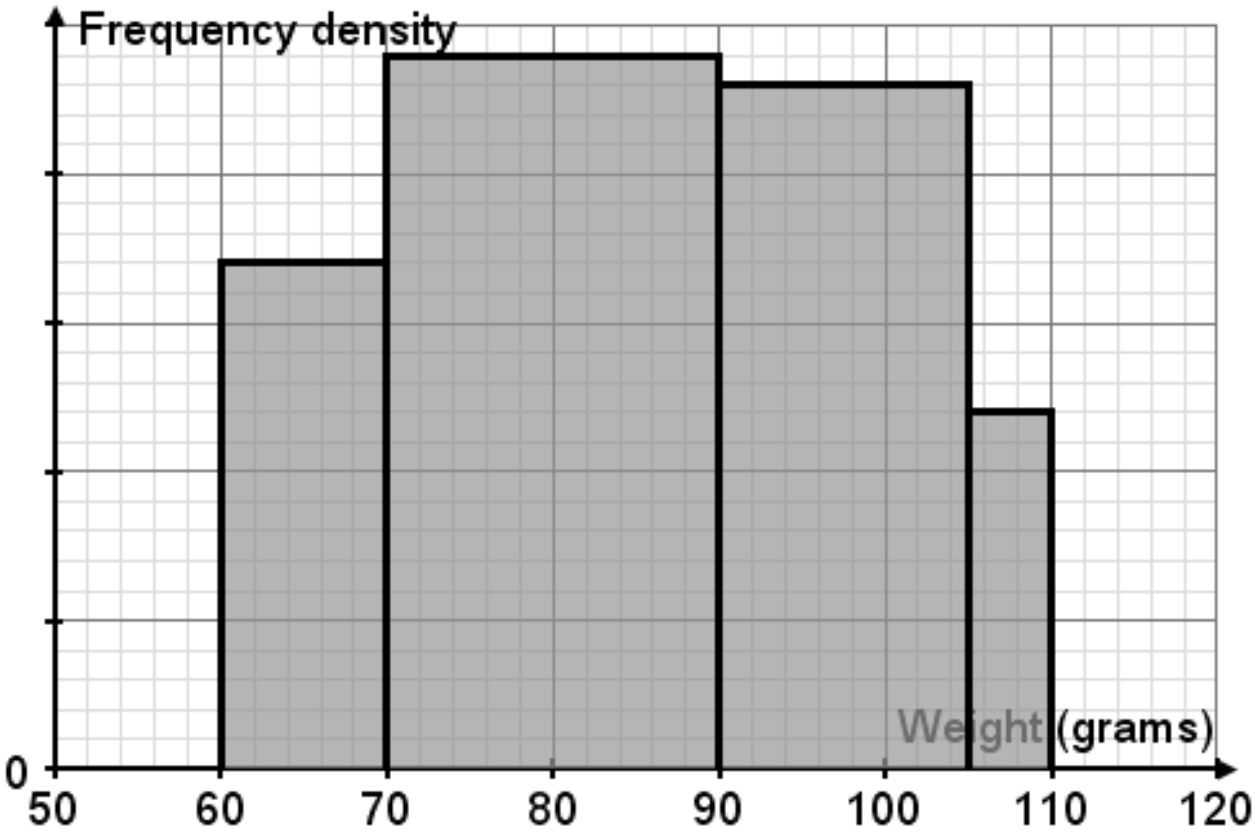
Frequency = Frequency density × Class width

For 150—160 cm: Frequency = 2 × 10 = 20

For 160—170 cm: Frequency = 0.8 × 10 = 8

Total = 20 + 8 = 28 children

E.g. 2 The histogram shows the weights of a group of eggs. 60 eggs were over 105g. Calculate the number of eggs that weighed less than 80g.



Video: Finding frequencies from histograms

Solutions to Starter and E.g.s

Exercise

9-1 class textbook:	p489 E14.5 Qu 4-7
A*-G class textbook:	p445 E14.2 Qu 4-7
9-1 homework book:	p168 E14.5 Qu 2-4
A*-G homework book:	p126 E14.2 Qu 2-4

Summary

Area of the bar equals the frequency of the group.

$$\text{Frequency density} = \frac{\text{Frequency}}{\text{Class width}}$$

Homework book answers (only available during a lockdown)