

Year 8 Summer 2

KEYWORDS:

Hypothesis	An idea or question you want to test	Total	All the data added together
Sample	The group of things you want to use to check your hypothesis	Frequency	The number of times the data values occur
Primary data	Data you collect yourself	Outlier	A value that stands apart from the data set
Secondary data	Data you source from elsewhere e.g. internet	Proportion	Numerical relationship that compares two

Questionnaires

Video 399

A set of questions with a choice of answers to find out information in a statistical enquiry.

Which is the better question?

Our school uniform is really old-fashioned.
Do you agree?
Yes No

The first question is a very leading question. It might lead to biased responses.

Do you think our school uniform is old-fashioned?
Yes No Don't know

What's wrong with this question?

How old are you?
10 - 20 21 - 30 31 - 40

Answer: not all possible ages are covered

Choosing the appropriate average

Video 413

The average should be representative of the data set.

Here are the weekly wages of a small firm

£240 £240 £240 £240 £240
£260 £260 £300 £350 £700

The Mean = £307

The Median = £250

The Mode = £240

Mode is the best average to use. The mean and median are too high, most of this company earn £240.

It is likely that the wages above £240 are the more senior staff members— their wage doesn't represent the average wage of the majority of employers.

Mean, Median and Mode

Mean: sum of the numbers divided by amount of numbers

24, 8, 4, 11, 8

Find the sum of the data (add the values) 55

Divide the overall total by how many pieces of data you have $55 \div 5$

Mean = 11

Median: middle

24, 8, 4, 11, 8

Put the data in order 4, 8, 8, 11, 24

Find the value in the middle 4, 8, 8, 11, 24

Median = 8

NOTE: If there is no single middle value find the mean of the two numbers left

Mode: most common

24, 8, 4, 11, 8

This can still be easier if the data is ordered first

Mode = 8

4, 8, 8, 11, 24

Videos 404, 405, 409

Pictograms, bar and line charts

Pictogram

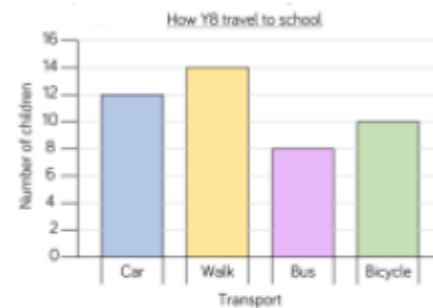
Language	
French	●●●●
Spanish	●●●●
German	●

● = 4 people

- Need to remember a key
- Visually able to identify mode

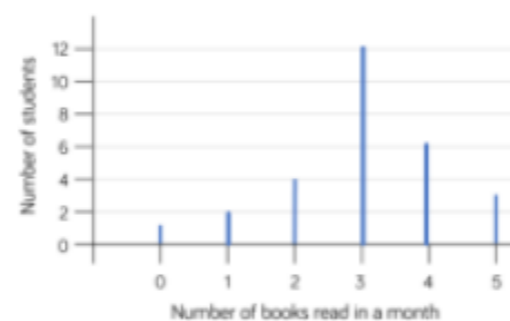
Videos 425, 426

Bar Chart



- Gaps between the bars
- Clearly labelled axes
- Scale for the axes
- Title for the bar chart
- Discrete Data

Line Chart



- Gaps between the lines
- Clearly labelled axes
- Scale for the axes
- Discrete Data

The Range

Largest value—smallest value

The range is a measure of spread.

A smaller range means there is less variation in the results — it is more consistent data

A range of 0 means all the data is the same value

Video 410

