

Sample enquiry 1

Specifying the problem and planning

In the 800m track event at the Olympic Games, is the total improvement from the first performance to the most recent performance, measured in seconds, greatest for men or women?

The answer will come from statistical data from the first Olympic games for men (1896) and women (1928). It will then compare the data from the 2008 Olympic games.

Collecting data

	Winning performance in first Olympic Games	Winning performance in 2008 Olympic Games
Men	131.0sec (1896)	104.65sec
Women	136.8sec (1928)	114.87sec

Processing and representing data

Absolute improvement in men's performance $\rightarrow 131.0 \rightarrow 104.65 = 26.35\text{sec}$

Absolute improvement in women's performance $\rightarrow 136.8 \rightarrow 114.87 = 21.93\text{sec}$

Interpreting and discussing results

This shows that over time men's performance at Olympic games has improved more than women's.

This data may be wrong due to 2 errors.

1. The times aren't equal as men have improved over 112 years, while women have improved over only 80 years.
2. Women didn't compete again till 1960, so men have competed over 26 performances and women over 14 performances.

A better approach would be to ask who has improved the fastest. And a fair comparison would look at improvements via percentage of men's and women's times.

Sample inquiry 2

Specifying the problem and planning

Are men or women better?

Collecting data

2 minutes and 11 seconds

104.65 seconds

2 minutes and 16.8 seconds

114.87 seconds

Processing and representing data

26.35s

21.93

Interpreting and discussing results

Men have improved by more

Sample inquiry 3

Specifying the problem and planning

In the 800m track event at the Olympic Games, is the total improvement greatest for men or women?

This question will be answered using statistical data from table of results from Olympic Games.

Collecting data

	First	Last
Men	131.0	104.65
Women	136.8	114.87

Processing and representing data

Total improvement in men's performance –

$$131.0 - 104.65 = 26.35$$

Total improvement in women's performance –

$$136.8 - 114.87 = 21.93$$

Interpreting and discussing results

These results show that men's times have improved more than women.

We could also look at how fast each are improving because men have been running for longer than women. Also, it is important to think about the starting point for men and women and work out what percentage they have improved.