

Learning Objective 1: To be able to explain why a particular sampling method may produce bias

Learning Objective 2: To be able to find a stratified sample of a given population and to be able to articulate why it reduces bias

Part 1:

- 1) Jack wants to find out the music tastes of people in his school
 - a) Explain why he wants to take a sample
 - b) He decides to ask all his friends. Why might this produce bias?
 - c) Another option is to ask the first 30 people who arrive at school. Why might this produce bias?
 - d) Describe carefully how he could take a simple random sample

- 2) Quality control want to check that a machine is producing batteries which last for longer than 20 hours
 - a) Why must a sample be taken?
 - b) Why not just test the first batch of batteries produced?
 - c) Describe why a systematic sample might be appropriate.
 - d) Explain a possible pitfall with taking a systematic sample.

Part 2: Stratified Sampling

- 1) Find a stratified sample of 50 for the following groups

Yr7 boys	Yr7 Girls	Yr8 boys	Yr8 Girls
62	75	48	62

- 2) Find a stratified sample of 30 for the following groups

Doctors	Teachers	Accountants
28	103	78

- 3)

	Swimmers	Runners
Boys	85	78
Girls	103	45

A stratified sample of 40 is required

- a) How many girls should be asked?
- b) How many swimmers should be asked?