Planning fair statistical investigations

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• Plan an ethical sample-based investigation and report uncertainty.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

A statistical question anticipates variation. Define the target population, variables, units and a fair sampling method before collecting information.

Collect only needed information, avoid identifying classmates, and obtain appropriate permission. Summarise the sample, explain limitations and avoid presenting an estimate as a certainty.

Worked example

Plan a school investigation of time spent reading for enjoyment.

Ask minutes on a defined day or week; use a random sample across year levels.

Record anonymous values, summarise centre/spread, and note recall and non-response limitations.

Answer: A defined, representative and privacy-conscious plan

Try it yourself

Name: _____ Date: _____

1. Improve: Do you agree our excellent library should open longer?

2. Identify a numerical variable for a canteen investigation.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. For example: How many additional opening hours, if any, would you use each week?

Remove praise and an assumed preferred response.

2. For example waiting time in minutes

State how and when it is measured.

Curriculum reference: VC2M8ST04

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