



Sampling

Who you ask matters more than how many

- Today: decide whether a sample can tell you about a population.

Two surveys about homework

- A: 20 names drawn from a hat of every student.
- B: 200 students in the library at lunchtime.

Turn & talk: which gives the better estimate?

Representative means a fair chance for everyone

- Random selection gives every member an equal chance.
- BIAS = some group systematically over- or under-represented.

The library sample is biased

- Students in the library at lunch probably do MORE homework.
- Asking 200 of them asks more of the same skewed group.

Bias is a problem of METHOD. Data cannot fix it.

So what DOES size do?

- A bigger sample reduces random variation → more PRECISE.
- Only the method decides whether it is ACCURATE.

A big biased sample is precisely wrong.

Your turn

- A poster invites students to answer an online poll. Representative?
- Thumbs up when you decide.

Self-selection

- Only people who notice AND choose to reply take part.
- Strong opinions volunteer; indifference stays silent.

“Anyone could respond” is not the same as “anyone was chosen”.

Now you

- → In-class practice sheet