

L045 · GCSE Mathematics 1MA1 · 60 minutes

The goal

Recognise populations, samples, bias and limits of conclusions.

Connect & Check

Complete the starter in your workbook. Retrieve the prior skill, then identify one likely error before you use today's method.

L045 Sampling and data quality

Collect

Represent

Analyse

Conclude

Is the sample fair?

What does the diagram show?

What conclusion is valid?

Objective: Recognise populations, samples, bias and limits of conclusions.

Compare your method with a partner. Agree on one reliable step and one check. Be ready to explain your reasoning, not just your answer.

Build the method

Use the worked model to compare survey designs and identify which groups may be excluded. Record the key step and one check that proves the answer.

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Choose your route

Choose your route: A - visual model, B - method first, or C - explain first.
Whichever route you choose, your final answer must prove the lesson objective.

Guided practice

A school has 800 learners, 200 in Year 11. How many Year 11 learners belong in a proportional sample of 64?

Apply

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7/11

Independent practice

A survey about canteen food is sent only to the school's sports team. Give two distinct sources of bias and improve selection.

Apply

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8/11

Exam-style practice

Evaluate a data collection method. Identify one source of bias, improve the method and state one remaining limitation.

Recall & Review

Complete a fresh question without notes. Check your answer, correct one error if needed, and record the next practice step.

Before next lesson

Correct one error, record one target and complete the flipped learning task.

L045 Recall & Review

Sampling and data quality



Fresh evidence: prove the objective

Solve a new question without prompts. Explain one check, then correct one error in your working.

Objective: Recognise populations, samples, bias and limits of conclusions.

Write the next practice step before you leave. It must test the method again, not simply copy today's example.

Feedback language

Use the full phrases before the abbreviations.

What Went Well (WWW)

I selected an appropriate statistic or representation and supported my comparison or interpretation with specific evidence from the data.

Identify the mathematical method, representation, reasoning or check that improved.

Even Better If (EBI)

I will quote the relevant values or features, compare like with like and explain what the evidence shows without making an unsupported claim.

Set one precise next-step action and test it on a fresh question.

Extension route

Choose this route only after the core evidence is secure.

Stretch

A school has 800 learners, 200 in Year 11. How many Year 11 learners belong in a proportional sample of 64?

Deep challenge

A survey about canteen food is sent only to the school's sports team. Give two distinct sources of bias and improve selection.

Explain your reasoning clearly enough that another learner could check it.