

Learner workbook: Frequency trees and probability models

Objective: Interpret frequency trees and compare model predictions with observed data.

Calculator condition: Non-calculator core; calculator optional only for checking where labelled.

L075 Frequency trees and probability models

Collect

Represent

Analyse

Conclude

Is the sample fair?

What does the diagram show?

What conclusion is valid?

Objective: Interpret frequency trees and compare model predictions with observed data.

Connect & Check

- State the objective and timeline. Retrieve dependent events and assumptions or a prerequisite. Diagnose a common error before modelling.
- Write one starting question you want answered today.

Choose your route

Route A: Visual Use a diagram, graph, table or annotation first.	Route B: Method Use a worked method, formula or calculation chain first.	Route C: Explain Start with words: what is known, what is changing, and why.
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Share

- Pairs compare methods or predict a result for frequency trees and probability models. Ask for a reason, not only an answer.

Present

- Move between counts and probabilities; distinguish experimental from theoretical probability

Apply: supported to independent

Recall: Retrieve the key fact or method needed for frequency trees and probability models.

Working: _____

Check/explanation: _____

Core practice: Of 80 people, 45 cycle. Of those who cycle, 27 are adults. Find the conditional proportion of adults among cyclists.

Working: _____

Check/explanation: _____

Reasoning: A frequency tree has root 60 and first branches 28 and 31. Diagnose the issue and state a possible repair.

Working: _____

Check/explanation: _____

Exam-style: A probability problem is presented with two stages. Complete the representation, calculate the probability and explain any assumption.

Working: _____

Check/explanation: _____

Recall & Review

- Revisit the objective. Learners solve a fresh item without prompts, explain a check, correct one error and record the next practice.

WWW: _____ EBI: _____

Recall & Review: feedback and extension integration

Lesson L075: Frequency trees and probability models

Objective: Interpret frequency trees and compare model predictions with observed data.

Timing for a 60-minute lesson

0-7 Connect & Check; 7-14 Share; 14-25 Present/model; 25-44 Apply route choice/practice; 44-52 independent exam-style check; 52-60 Recall & Review, WWW/EBI and next step.

Recall & Review evidence

At the end of the lesson, solve a fresh question without prompts, explain one check, correct one error and record the next practice step.

What Went Well (WWW)

I represented the outcomes systematically, used the correct probability rule and checked that the probabilities or frequencies were consistent.

Even Better If (EBI)

I will show the sample space, branch or set reasoning explicitly, state any dependence or condition and check totals before giving the final probability.

Integrated stretch and deep challenge

Stretch: Of 80 people, 45 cycle. Of those who cycle, 27 are adults. Find the conditional proportion of adults among cyclists.

Deep challenge: A frequency tree has root 60 and first branches 28 and 31. Diagnose the issue and state a possible repair.

My next-step response
