Designing and checking a coin simulation

Key skills | Free preview

Learning target: Design probability simulations and explain how randomness creates variation in observed events.

A simulation must reproduce the experiment’s elementary outcomes and their probabilities. Three independent fair tosses are not the same as choosing a head count uniformly from zero to three. Repetition makes relative frequencies useful estimates, but two runs can differ. Record the number of trials as well as the number of successes.

Try the mathematics

Task 1. Design a simulation for exactly two heads in three independent fair tosses. Specify a random-number rule, what counts as success and the estimate after N trials.

Continue with the full worksheet

The complete resource has 2 focused task sets and substantive worked solutions. Use an exercise book or print the A4 worksheet. This preview shows the first task without its full solution.

Find this resource: https://resources.aspiretopowerlearning.com.au/vce/skills/aspire-mm-u1-o1-ks-16/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Unit 1; Outcome 1; Key skills; bullet 16; p. 47.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u1-o1-ks-16. This is an internal identifier, not an official VCAA code.

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