Recognise mathematical content from one or more areas suited to a context

Key knowledge | Free preview

Learning target: Recognise mathematical content from one or more areas suited to a context.

An illustrative population is modelled by $P' = 0.2P(1-P/1000)$, with $P(0)=100$ and time measured in weeks. The population observations supplied here are invented for mathematical practice. Compare model behaviour, numerical approximations and contextual conclusions while keeping the model's assumptions separate from the example data.

Try the mathematics

Task 1. Identify the state variable, parameters, initial condition and constraints in the logistic model. Find equilibrium populations, the initial rate and a suitable interpretation of 1000.

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/sm-u34-o2-kk-01/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Units 3–4; Outcome 2; Key knowledge; bullet 1; p. 115.

The learning target is a concise paraphrase. Aspire reference: sm-u34-o2-kk-01. This is an internal identifier, not an official VCAA code.

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