Essential Mathematics

Applied senior subject

Applied

Recommendation

Nil.

Rationale

The major domains of mathematics in Essential Mathematics are Number, Data, Location and time, Measurement and Finance. Teaching and learning builds on the proficiency strands of the P–10 Australian Curriculum. Students develop their conceptual understanding when they undertake tasks that require them to connect mathematical concepts, operations and relations. They will learn to recognise definitions, rules and facts from everyday mathematics and data, and to calculate using appropriate mathematical processes.

Students will benefit from studies in Essential Mathematics because they will develop skills that go beyond the traditional ideas of numeracy. This is achieved through a greater emphasis on estimation, problem-solving and reasoning, which develops students into thinking citizens who interpret and use mathematics to make informed predictions and decisions about personal and financial priorities. Students will see mathematics as applicable to their employability and lifestyles, and develop leadership skills through self-direction and productive engagement in their learning. They will show curiosity and imagination, and appreciate the benefits of technology. Students will gain an appreciation that there is rarely one way of doing things and that real-world mathematics requires adaptability and flexibility.

Pathways

A course of study in Essential Mathematics can establish a basis for further education and employment in the fields of trade, industry, business and community services. Students learn within a practical context related to general employment and successful participation in society, drawing on the mathematics used by various professional and industry groups.

Objectives

By the conclusion of the course of study, students will:

- recall mathematical knowledge
- use mathematical knowledge
- communicate mathematical knowledge
- evaluate the reasonableness of solutions
- justify procedures and decisions
- solve mathematical problems.

Delivery (mode, time requirements, lessons)

Each week, students participate in three one-hour live lessons conducted through Microsoft Teams. In addition to these sessions, they are expected to engage in independent study to complete tasks and assessments aligned with the Work Rate Calendar. All course materials are available via the learning management system.

Student requirements

Computer, access to email, internet, scanner, telephone and USB headset with microphone, exercise book, scientific calculator, stationery and protractor.

Structure

Unit 1	Unit 2	Unit 3	Unit 4
Number, data and money • Fundamental topic: Calculations • Number • Representing data • Managing money	**Data and travel** • Fundamental topic: Calculations • Data collection • Graphs • Time and motion	**Measurement, scales and chance** • Fundamental topic: Calculations • Measurement • Scales, plans and models • Probability and relative frequencies	**Graphs, data and loans** • Fundamental topic: Calculations • Bivariate graphs • Summarising and comparing data • Loans and compound interest

Assessment

Schools devise assessments in Units 1 and 2 to suit their local context.

Summative assessment

Unit 3	Unit 4
Summative internal assessment 1 (IA1): • Problem-solving and modelling task	Summative internal assessment 3 (IA3): • Problem-solving and modelling task
Summative internal assessment 2 (IA2): • Common internal assessment (CIA)	Summative internal assessment (IA4): • Examination — short response

In Units 3 and 4 students complete four summative assessments. Schools develop three summative internal assessments and the common internal assessment (CIA) is developed by the QCAA.

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