Essential Mathematics

Applied senior subject

Recommendation

Nil.

Rationale

Essential Mathematics' major domains are Number, Data, Location and time, Measurement and Finance.

Essential Mathematics benefits students because they develop skills that go beyond the traditional ideas of numeracy. Students develop their conceptual understanding when they undertake tasks that require them to connect mathematical concepts, operations and relations. They learn to recognise definitions, rules and facts from everyday mathematics and data, and to calculate using appropriate mathematical processes.

Students interpret and use mathematics to make informed predictions and decisions about personal and financial priorities. This is achieved through an emphasis on estimation, problem-solving and reasoning, which develops students into thinking citizens.

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:

- select, recall and use facts, rules, definitions and procedures drawn from Number, Data, Location and time, Measurement and Finance
- comprehend mathematical concepts and techniques drawn from Number, Data, Location and time, Measurement and Finance
- communicate using mathematical, statistical and everyday language and conventions
- evaluate the reasonableness of solutions
- justify procedures and decisions by explaining mathematical reasoning
- solve problems by applying mathematical concepts and techniques drawn from Number, Data, Location and time, Measurement and Finance.

Delivery (mode, time requirements, lessons)

Students are expected to undertake independent study to complete tasks and assessment in accordance with the Work Rate Calendar. Students also have access to a one-hour scheduled lesson and a one-hour tutorial each week. Course materials can be accessed in the learning management system.

Student requirements

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

Structure

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

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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