Numeracy 2018 v1.1

IA1A sample assessment instrument

October 2018

Extended response — oral mathematical presentation

This sample has been compiled by the QCAA to assist and support teachers to match evidence in student responses to the characteristics described in the instrument-specific standards.

Assessment objectives

This assessment instrument is used to determine student achievement in the following objectives:

1. select and interpret mathematical information in personal, social and learning situations

2. select from and use a variety of mathematical and problem-solving strategies in personal, social and learning situations

3. use oral and written mathematical language and representation to communicate mathematically in personal, social and learning situations.

Note: Objectives 4 and 5 are not assessed in this instrument.

Subject	Numeracy	Instrument no.	IA1A
Technique	Extended response — oral mathematical presentation		
Topic	1: Personal identity and education		

Conditions			
Duration	Five weeks' notification and preparation (including 10 hours of class time)		
Mode	Spoken/signed	Length	4–6 mins
Individual/ group	Individual	Other	• opportunity may be provided for group work, but unique responses must be developed by each student • use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation or word processing • the teacher provides the mathematical investigative scenario or context for the oral presentation
Resources available	Open access to resources		

Context

This topic has focused on using numeracy to achieve personal goals. You have experimented with problem-solving strategies and used mathematics to calculate a range of financial targets according to your interests and whether they are viable. You will use your mathematical knowledge in a variety of personal contexts related to one of the following options:

• the week-long holiday known as 'Schoolies'
• an alternative holiday with or without your family/friends
• starting part-time work and saving up for your first home or car.

Since the 1970s, what began as a celebration to mark the end of final exams for students on the Gold Coast has grown to become a national tradition. While some young people now see Schoolies as a cultural rite of passage, they can forget the financial implications it can have on them personally and socially. Others see more value in spending that money on a different kind of holiday with family/friends or saving for their first home or car.

Task

Create and present an informative oral mathematical presentation to your class, using numeracy to solve the problem of funding one of the options given above. Communicate how you calculated the costs and how you devised a personal budget to fund your preferred option.

To complete this task, you must:

Use practical mathematical strategies and interpret the mathematical information in your calculations to communicate:

- your calculations of all expenditures related to your preferred option
- a comparison of the costs and its affordability
- how income was generated, e.g.
  - earning money by
    - working part time
    - doing chores around the house (including the financial remuneration for each job)
  - saving enough money by
    - setting aside a portion of your income each week/month
    - riding your bike or walking instead of catching the bus
    - reducing your phone bill
    - spending time preparing food at home rather than spending money on takeaways
- how you used technology (e.g. spreadsheeting) to graphically represent your budget for funding your preferred option
- reasons for your final choice
- your considerations of the strengths and limitations of your decision.

Your peers will provide feedback on the effectiveness of your oral presentation in showing them how you used numeracy to select and use a variety of mathematical and problem-solving strategies for your preferred option.

Stimulus

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Checkpoints

☐ Week 1: Investigate the scenario or context.

☐ Week 2: Select and interpret the mathematical data.

☐ Week 4: Prepare your spoken/signed presentation.

☐ Week 4: Provide draft spoken/signed presentation for feedback.

☐ Week 5: Finalise and deliver your spoken/signed presentation.

Criterion	Result
Numeracy Assessment objectives 1, 2, 3	

Authentication strategies

- The teacher will collect and annotate drafts.

- Students must acknowledge all sources.

- The teacher may conduct a question-and-answer session (teacher and/or class members) at the conclusion of the spoken/signed presentations to provide information about your learning and engagement with the task.

Scaffolding
In your response: • incorporate your calculations and data in a slideshow or alternative media platform of your choice (including graphs and other visual forms of information) • use mathematical language • sequence and organise your ideas.

Instrument-specific standards

Numeracy	
The student work has the following characteristics:	**Grade**
• selection and thoughtful interpretation of mathematical information in personal, social and learning situations • selection and use of a variety of effective practical mathematical and problem-solving strategies when applying mathematics in personal, social and learning situations • controlled use of oral and written mathematical language and representation to communicate mathematically when expressing personal identity, achieving personal goals, understanding and interacting with the wider community, and in learning situations.	**A**
• appropriate selection and interpretation of mathematical information in personal, social and learning situations • selection and use of a variety of relevant mathematical and problem-solving strategies in personal, social and learning situations • some control in the use of oral and written mathematical language and representation to communicate mathematically in personal, social and learning situations.	**B**
• selection and interpretation of mathematical information in personal, social and learning situations • selection and use of a variety of mathematical and problem-solving strategies in personal, social and learning situations • use of oral and written mathematical language and representation to communicate mathematically in personal, social and learning situations.	**C**
• selection and superficial interpretation of basic mathematical information in personal, social and/or learning situations • selection and variable use of some practical mathematical and/or problem-solving strategies in personal, social and/or learning situations in inappropriate or irrelevant ways • fragmented and unclear use of oral and written mathematical language and representation in mathematical communication.	**D**
• use of rudimentary aspects of mathematical information in personal, social and/or learning situations • inaccurate and sporadic use of mathematical strategies information in personal, social and/or learning situations • infrequent and unclear use of mathematical language information in personal, social and/or learning situations.	**E**