

# Planning a community fair stall

Teacher guidelines



# 4

## Mathematics

Queensland Comparable  
Assessment Tasks  
(QCATs) 2011

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# The 2011 QCATs

## What are QCATs?

Queensland Comparable Assessment Tasks (QCATs) are designed to provide evidence of what students know, understand and can do in relation to a selection of [Essential Learnings](#) for English, mathematics and science in Years 4, 6 and 9, and to the [Standards](#).

QCATs are authentic, performance-based assessments that:

- engage students in solving meaningful problems
- emphasise critical thinking and reasoning
- provide teachers, students and parents/carers with information about student progress and a focus for future teaching and learning.

### *Consistency of teacher judgments*

QCATs support teachers in making consistent judgments about the quality of student work. Improved consistency of teacher judgments is achieved when teachers:

- engage in professional conversations about the quality of evidence in student responses
- reach consensus about the quality of student work
- adopt a consistent approach when using the [Guide to making judgments](#) (back page).

Information gathered may be used by teachers to promote, assist and improve key learning area programs, and to help students achieve the highest standards they can.

**Additional resources** [2011 QCATs Information statement](#)  
[www.qsa.qld.edu.au/3163.html](http://www.qsa.qld.edu.au/3163.html)

[Essential Learnings and Standards](#)  
[www.qsa.qld.edu.au/574.html](http://www.qsa.qld.edu.au/574.html)

## Important dates

Friday 24 June	QCATs packages have arrived in schools
Monday 11 July ↓ Friday 16 September	Schools: <ul style="list-style-type: none"><li>• administer QCATs at any time during the school weeks of this period</li><li>• grade QCATs</li><li>• select five student samples that are representative of grades awarded</li></ul>
Monday 10 October	Schools are notified if selected to submit student samples for QSA's random sampling process
Monday 21 November	Final day for schools to submit student data to QSA
Friday 9 December*	Schools must retain all <a href="#">Student booklets</a> until the end of the school year
* this date may vary from school to school	

# Getting ready

## Student preparation

Students should have the opportunity to do their best work. For this to occur, student preparation should include:

- opportunities to engage with the [Selected Essential Learnings](#) (page 23) well in advance of participating in QCATs — if students have not engaged with the [Selected Essential Learnings](#) recently, review and consolidation may be necessary
- experience with the types of questions used within the QCAT.

Suggested learning experiences and resources are outlined in the document [2011 QCATs – Preparation](#).

The quality of information provided by the QCATs is enhanced by the level of interaction teachers have with their students before, during and after implementation.

**Additional resources** [Queensland Comparable Assessment Tasks \(QCATs\)](#)  
[www.qsa.qld.edu.au/3163.html](http://www.qsa.qld.edu.au/3163.html)

## Catering for diversity — Special provisions

All students should have the opportunity to participate in school-based assessment. Schools are responsible for determining which students require special provisions.

The QCATs are designed to be part of a classroom assessment program, and principles of participation and equity apply. The Queensland Studies Authority (QSA) offers this general advice:

- Students who have been identified as having specific educational requirements may be assisted using those adjustments and supports usually available in the classroom. To make participation possible in all or part of the assessment task, such help may be in the form of inclusive learning technologies, reading support or the use of support personnel.
- Students for whom English is not their first language, and who are assessed as not achieving a reading level appropriate to complete the task, may be assisted by an interpreter or educational devices (e.g. pictures, electronic whiteboards, interactive devices) to allow participation in all or part of the task.
- In exceptional circumstances, where a student's learning difficulties have precluded them from engaging with the [Selected Essential Learnings](#), the principal (in consultation with specialist and support staff and parents/carers) may make a decision about the participation of that student in the task. Some students may be given an opportunity to complete some aspects of the assessment.

**Additional resources** [Inclusive strategies for implementing QCATs](#)  
[www.qsa.qld.edu.au/3163.html](http://www.qsa.qld.edu.au/3163.html)

[Equity](#)  
[www.qsa.qld.edu.au/10188.html](http://www.qsa.qld.edu.au/10188.html)

## Teacher preparation

### *Check the contents of QCAT packages as soon as they arrive at your school*

- Check that you have the appropriate number of [Student booklets](#) (one per student) and [Teacher guidelines](#) (one per implementing teacher).
- Check for any defective [Student booklets](#).
- Contact the QSA if any additional copies are required.

### *Familiarise yourself with the assessment*

- Read all the documents provided.
- Review the [Selected Essential Learnings](#) (page 23).
- Complete a [Student booklet](#) yourself, and then refer to the [Model response](#) (page 25) so that you understand what students are required to do.
- Download and view [Sample responses](#) from the [QSA Assessment Bank](#) (see Additional resources below).

### *Plan implementation*

- Discuss the assessment with your colleagues, and plan any teaching or revision that may be required.
- Set the times and dates for implementation, considering these points:
  - teachers have flexibility to implement the QCATs at any time during the designated period
  - QCATs may be completed in one, two or more sessions over one or more days
  - implementation times may differ for verified students, students with specific educational requirements or students who have English as a second language
  - QCATs will ideally replace an existing piece of assessment in the student portfolio of work for Semester 2.
- Plan:
  - any support required to enable students to do their best work (e.g. teacher aides or other support personnel)
  - any materials or equipment needed to implement the assessment.
- Decide:
  - how you will implement this task for all classes at this year level
  - the processes you will use to achieve consistency of teacher judgment
  - how you will select student samples for the QSA's random sampling process
  - when, how and who will submit your school's data.

**Additional resources** [Queensland Comparable Assessment Tasks \(QCATs\)](#)  
[www.qsa.qld.edu.au/3163.html](http://www.qsa.qld.edu.au/3163.html)

[Sample responses, QSA Assessment Bank](#)  
<https://qcar.qsa.qld.edu.au/assessmentbank> (registration required)

[8 – Using Queensland Comparable Assessment Tasks \(QCATs\) to support learning](#)  
[www.qsa.qld.edu.au/3166.html](http://www.qsa.qld.edu.au/3166.html)

# Implementation

## Setting up

### Equipment

- Each student requires a 30 centimetre ruler showing whole and part gradations.
- Calculators should not be used with this QCAT.

## Working with the Student booklet

Use advice given in the [Annotated Student booklet](#) (page 8) to set the conditions that ensure all students have the opportunity to do their best work.

Encourage students to interact with teachers to seek clarification when required, and with other students if appropriate to the task.

### Suggested implementation timeline

#### Preparation

Setting the scene: Group discussion	15 minutes
-------------------------------------	------------

#### The assessment task

Planning with a calendar	10 minutes
Mapping and locations	15 minutes
Measuring using standard units	5 minutes
Investigating numbers	25 minutes
Thinking about mathematics	15 minutes



Suggested time: 15 minutes

The group discussion provides an opportunity for students to share their school fete, fair or community celebration experiences.

Focus discussion on the need to plan.

Without good planning, the class stall may not be successful.

For example, if a job roster is not created, there may not be enough staff to run the stall.

Write students' ideas on the board to facilitate discussion.

### Setting the scene: Group discussion

Many communities hold fairs. Schools often take part in fairs.

Think of some fairs you have been to, seen or heard about.

- What did you like?
- What are some activities your class could do at the fair?



In this assessment, you will plan for a class popcorn stall at a local fair.

Planning a stall is important.

Some things to plan include:

- stall location
- layout of the stall
- costs
- signs
- price lists
- job rosters
- choosing a charity to donate the money to.

What might go wrong if your class did not plan for their stall?

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Images Creative Commons Attribution 2.0 Generic licensed photos <<http://creativecommons.org/licenses/by/2.0/>> accessed 07 Feb 2011: Cover, Clown: Bahman's photostream, untitled, <[www.flickr.com/photos/bahman2005/302426028/](http://www.flickr.com/photos/bahman2005/302426028/)>; p. 2 Face painting: Tom@HKs' photostream, "Face Painting", <[www.flickr.com/photos/gracewong/289332460/](http://www.flickr.com/photos/gracewong/289332460/)>; Bouncing castle: JoshSemans' photostream, "I Have Odd Friends", <[www.flickr.com/photos/joshsemans/3647094104/](http://www.flickr.com/photos/joshsemans/3647094104/)>. All other images © QSA.

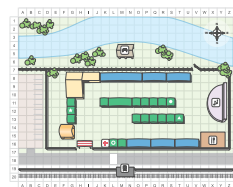


## In this assessment, you will:

- use calendars



- locate features using directions and grid references on a map



- measure using an instrument (ruler) and standard units (cm, m)



- calculate ingredient costs



- reflect on using mathematics in daily life.



Work through the [Guide to making judgments](#) on the last page of the [Student booklet](#) with students to highlight the assessable elements for this QCAT.

Explain, in student-friendly terms, the task-specific descriptors. These identify what is being valued in the student responses.



Suggested time: 10 minutes

## Planning with a calendar

Use this calendar to help answer questions on the next page.

September 2011						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	2	3	4
5	6 Choose stall food theme	7	8 Choose charity	9 Find out cost of ingredients	10	11
12	13	14	15	16	17	18
19 School holidays start	20	21	22	23	24	25
26	27	28	29	30 School holidays end		

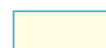
Calendars help us to plan our time effectively.

Point out calendar elements to students:

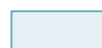
- months
- days of the week
- first and last day of each month
- the key.

If you decide to read out the activities in the cells, do not identify the days or dates associated with those activities.

October 2011						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1	2
3	4	5 Make labels	6 Get equipment	7 • Set up stall • Cook popcorn	8  Community fair	9
10	11	12	13	14	15	16
17 Student-free day	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



School days



Weekends



School holidays

As you work through the QCAT with students, check for understanding of the task and provide clarification as needed.

Where students ask individual questions, answers should be shared with all students wherever possible.

Use the calendar on page 4 to answer Questions 1 to 4.

1. **Complete the table below.** The first row is done for you.

Activity	Day	Date	Month
<i>Choose charity</i>	Thursday	8	September
	Wednesday	5	October
Student-free day			

Explain the example given in Question 1.

Point out where students need to record their responses.

2. **Write the activities below onto the calendar on page 4.**

Activity	Date
Job roster	12 September
Make posters	16 September
Buy ingredients	3 October

Emphasise that the missing month, November, is not shown in the calendar.

Prompt students to use a mathematical strategy to identify the day on which the school assembly falls.

The fair organisers are worried about rain.

They have set a backup date for the fair seven (7) days **after** 8 October.

3. **What is the backup date of the fair?** .....

Explain how you worked this out. ....

4. **There will be a school assembly on 7 November.** .....

What day of the week is this? .....



Stop here: Wait for your teacher's directions.

Instruct students that they must stop and wait for your directions where indicated.

**Stop here** directions are placed at convenient points to finish a session, or to discuss the next part of the QCAT.

### What is being assessed

Questions 1 and 2 gather evidence of students' knowledge and understanding of reading and using a calendar.

Questions 3 and 4 gather evidence of students' thinking and reasoning when using a calendar.

They demonstrate their understanding by generating solutions and making decisions using a calendar.



Suggested time: 15 minutes

Briefly discuss features and symbols on the map and legend.

Direct student attention to the location of the compass rose but do not explain its use.

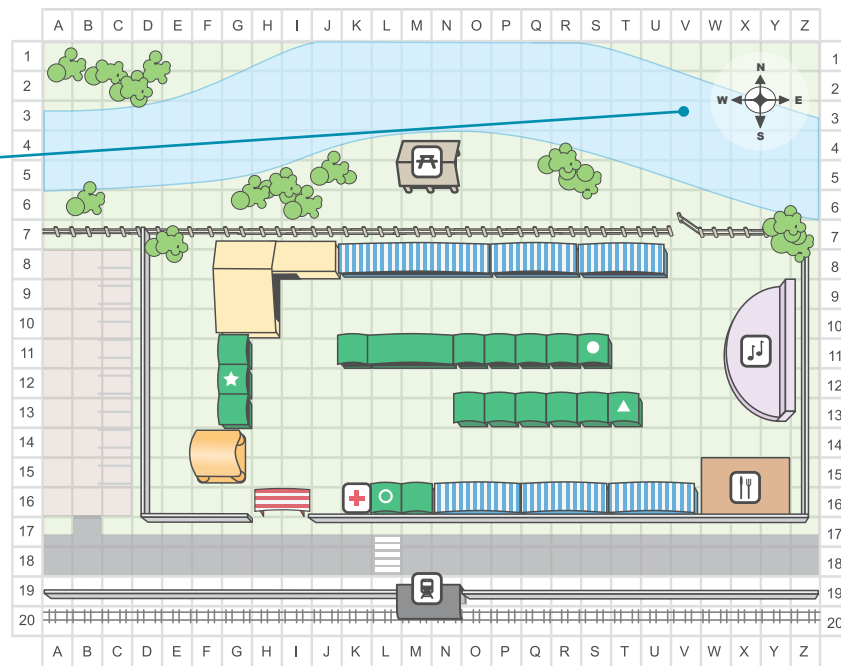
Encourage students to ask questions about the map if there is anything they do not understand.

## Mapping and locations

This map shows the landmarks, features and locations of the fair.

Alphanumeric grid maps use letter and number reference points. These points show a location or landmark.

### Community fair layout




#### Legend


Eating area	Games	Car park
First aid	Entrance	Crossing
Main stage	Friendship farm	Park
Picnic shed	Jumping castle	River
Train station	Stalls	Road



Use the map on page 6 to answer Questions 5 to 7.

5. Complete the table below. The first row is completed for you.



Landmark	Location
 stall	G 12
First aid	
	M 5

6. Use the compass rose  to identify the direction when walking from the:

- Entrance to the Friendship farm .....
- Main stage to  stall .....

There are two possible locations for your class stall, either  or .

7. Identify the advantages and disadvantages for each location, using features on the map.

Stall	Advantages (+)	Disadvantages (-)
		
		

Encourage students to:

- give reasons with detail based on their interpretation of the map
- use the legend and features in and around each suggested location to support “+ and –” reasoning.

### What is being assessed

Questions 5 and 6 gather evidence of students’ knowledge and understanding of specific mapping conventions (representations). They demonstrate this understanding by identifying locations using the alphanumeric grid references, legend and compass point directions (north, south, east and west).

Question 7 gathers evidence of students’ thinking and reasoning when using specific mapping conventions (i.e. symbols, legend) to identify features and landmarks on a map. They demonstrate this understanding by using such conventions when communicating their reasoning for advantages and disadvantages of each location.



Suggested time: 5 minutes

## Measuring using standard units







A variety of instruments can be used to measure different objects in standard units (mm, cm, m, km).

8. Draw a line from each object to the **best possible** measuring instrument.

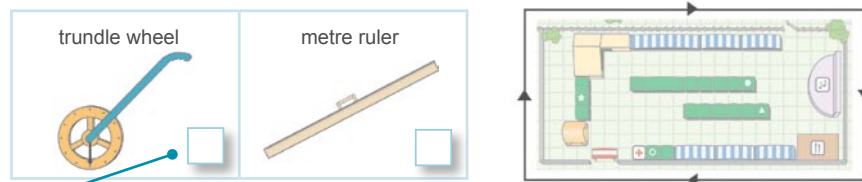
Students draw a line matching one object to one instrument.

Reinforce with students that they need to select the best possible instrument to measure each object.

Remind students to read the text above each object.

Object to measure	Instrument
length of stall 	5 metre tape measure 
height of popcorn box 	30 metre tape measure 
width of fairground 	30 cm ruler 

9. Below are two instruments. Which instrument is **better** to measure the distance around the fairground? Tick one.



Remind students to tick their choice and then write reasons for selecting this instrument.

This instrument is better because: .....

.....

.....

### What is being assessed

Question 8 gathers evidence of students' knowledge and understanding of selecting the best instrument to use to measure an object.

Question 9 gathers evidence of students' thinking and reasoning when justifying what instrument is best to use to measure the distance around the community fairground.

10. Measure accurately the length and width of the fair flyer using your ruler.



Review what *width* and *length* means.

Students can represent part cms using fractions or decimals, e.g.  $7\frac{1}{2}$  or 7.5 cm



Stop here: Wait for your teacher's directions.

### What is being assessed

Question 10 gathers evidence of students' knowledge and understanding of how to use a ruler accurately to measure width and length, using both whole and part numbers.

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Suggested time: 25 minutes

Students use data from the table to generate solutions using addition and subtraction with whole numbers.

Calculators are not to be used when completing this QCAT.

## Investigating numbers

The class popcorn stall sold lots of popcorn at the fair.

### Number of popcorn boxes sold at the fair

Time of day	Popcorn boxes sold
morning	42
lunch	83
afternoon	25

11. Calculate the **total** number of popcorn boxes sold.



Show all working

Explain to students that it is important to show all working so that it is clear what they know, understand and can do.

Students can get credit for mathematical thinking and reasoning, even if their final answer is incorrect.

Total number sold: .....

12. How many **more** popcorn boxes were sold at lunch than in the afternoon?



Show all working

Total boxes: .....

### What is being assessed

Questions 11 and 12 gather evidence of students' knowledge and understanding of addition and subtraction using whole numbers.



Here are the costs for individual ingredients.



popcorn kernels



sugar



oil

Students use data from the price labels to generate solutions using addition and subtraction with decimal numbers.

13. Calculate the total cost of ingredients.



Show all working

Total cost of ingredients: .....

Total money collected from the sale of popcorn



boxes of popcorn



collected



\$300

14. Calculate how much money your class raised after paying for the ingredients.



Show all working

Total raised: .....

Students draw on answers to Questions 11 and 13 to solve Question 14.

### What is being assessed

Questions 13 and 14 gather evidence of students' knowledge and understanding, thinking and reasoning and communicating when performing addition and subtraction using decimal numbers.



Suggested time: 15 minutes

## Thinking about mathematics

Show how mathematics can be used in your daily life.

15. Complete this table about using addition and subtraction.  
The first row is completed for you.

Activity	Operation	Write a number sentence to show how you used the operation
A board game using dice	+	$5 + 6 = 11$
	+	
	-	

Explain the example.

Students describe an activity for the given operation, and give a number sentence that demonstrates its use.

**16. Complete this table about using instruments and tools.**

The first row is completed for you.

Activity	Instrument/ tool	How did you use the instrument/tool?
<i>Record the dates of my family's birthdays</i>	calendar	<i>Found the day, date and month of each birthday and wrote name.</i>
	ruler	
	map	

Explain the example.

Students describe  
an activity using the  
given instrument  
or tool, and explain  
how it is used.



**What is being assessed**

Questions 15 and 16 gather evidence of students' knowledge and understanding of reflecting upon learning within the QCAT, and applying mathematical learning to daily life.

## Making judgments

Use the [Guide to making judgments \(GTMJ\)](#) on the back page to grade student responses.

The [Model response](#) (page 25) and [Sample responses](#) are provided for reference purposes only. They each demonstrate possible responses and should be used to support the [GTMJ](#).

Making judgments is not about determining whether one student's work is better than that of another. Rather, you should make standards-based judgments by matching evidence in student responses to descriptors in the [GTMJ](#).

Read and consider all of the evidence in the student's responses before making and recording a judgment about the quality of the performance for each assessable element.

**Additional resources** [Sample responses, QSA Assessment Bank](#)  
<https://qcar.qsa.qld.edu.au/assessmentbank> (registration required)

## Using the GTMJ

This QCAT uses a continua-style GTMJ, where descriptors are placed along a continuum within each column.

Record a nil award of "N" only when there is insufficient evidence to make a judgment for an overall grade.

In the following diagrams:

- [Diagram 1: Understanding the GTMJ](#) points out the different parts of the GTMJ continua model
- [Diagram 2: Using the GTMJ — the judgment process](#) gives steps to follow when grading student responses.

**Diagram 1: Understanding the GTMJ**

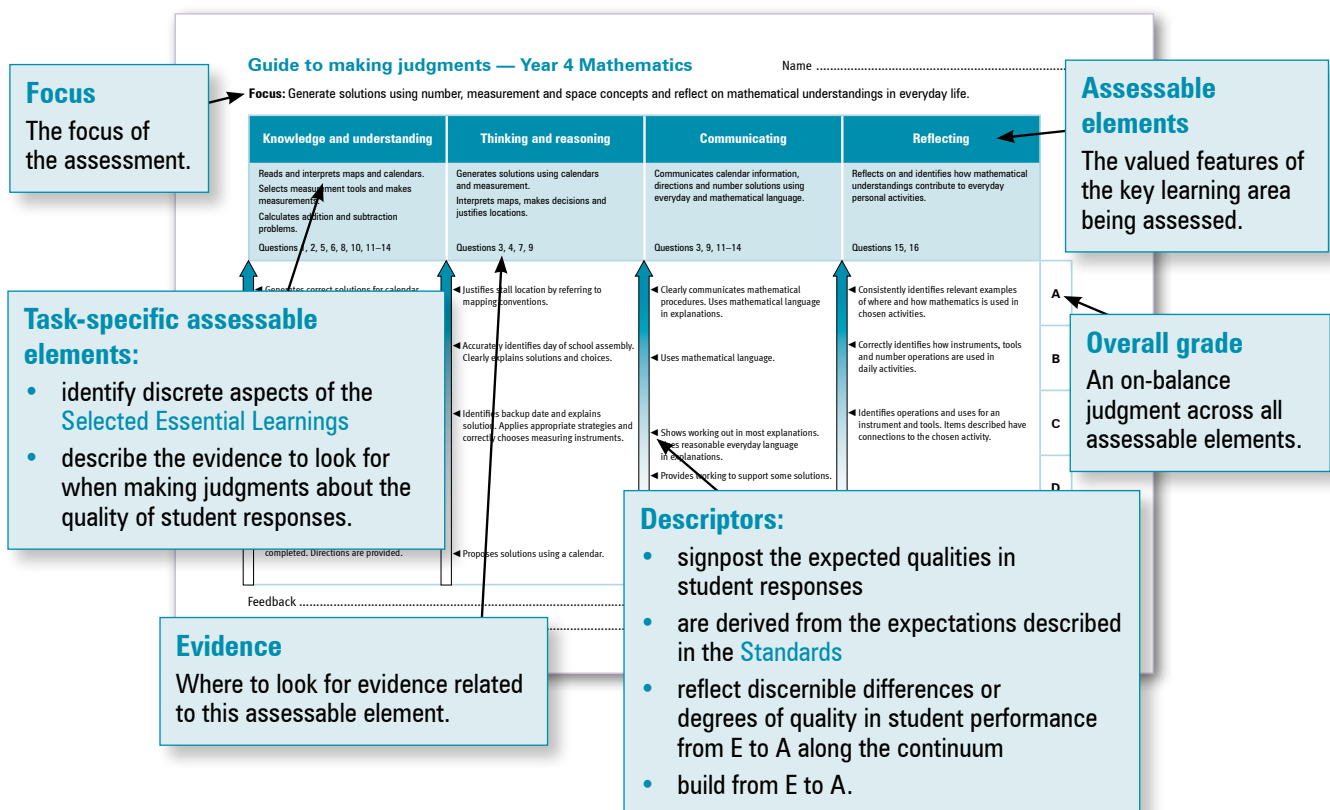
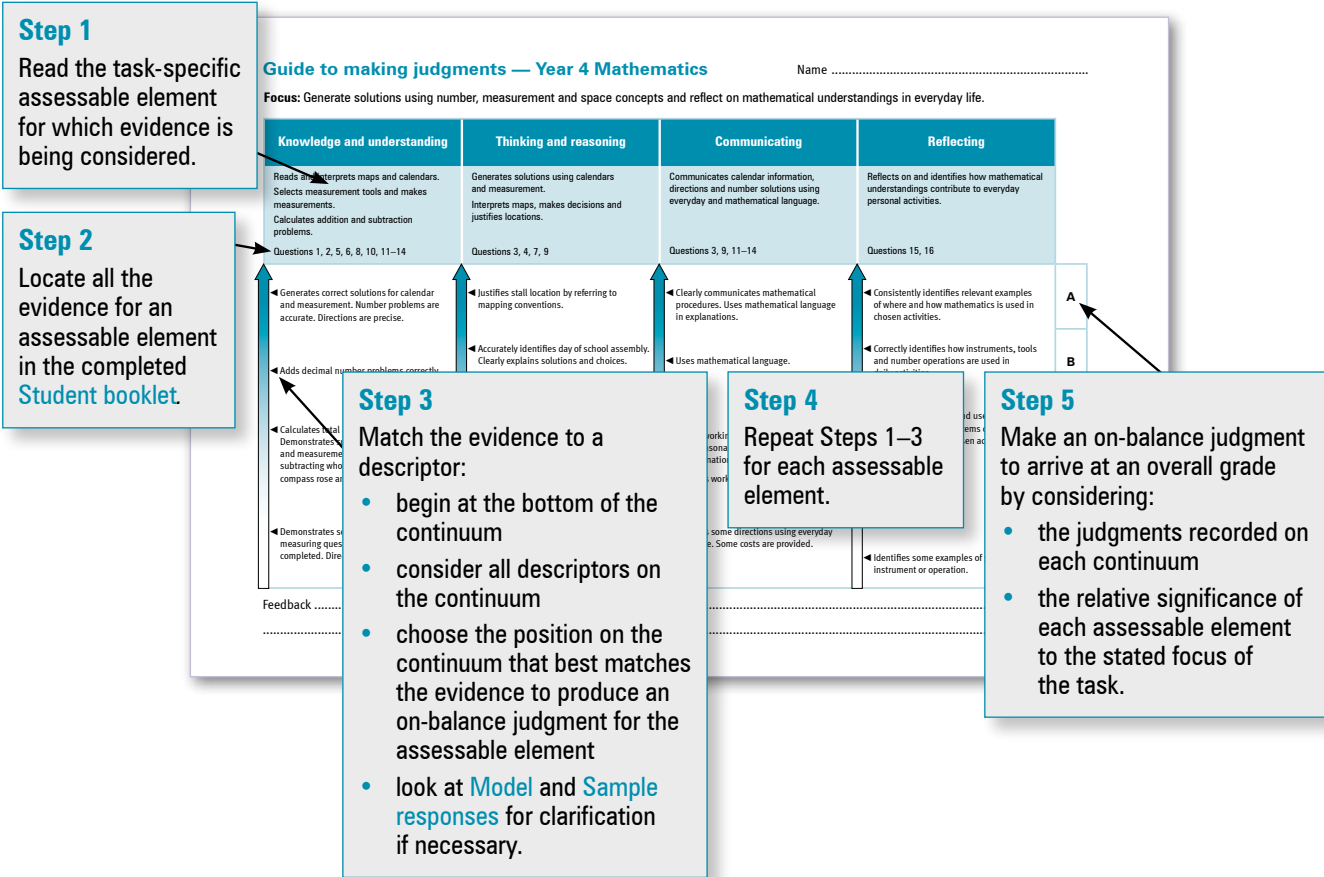


Diagram 2: Using the GTMJ – the judgment process



## Using feedback

Assessment alone will not contribute significantly to improved learning — it is what teachers and students do with the information gathered that makes the difference. Providing quality and useful feedback is a crucial step in using assessment information to support future learning.

Assessment feedback goes beyond a simple mark or grade. Comments on the strengths of students' achievements, and on areas for improvement, provide quality feedback that can be used to inform future teaching and learning. Assessment feedback is most helpful if the specific elements of the knowledge and skills are identified and specific suggestions are provided.

The information gathered from the implementation, marking and moderation of QCATs should feed back into future planning of teaching and learning.

### *Feedback to help students learn*

Quality feedback to a student:

- focuses on their achievement in relation to either the assessable elements with their task-specific descriptors or the [Selected Essential Learnings](#) (page 23) and their associated questions
- includes strengths of achievements
- identifies areas for improvement and strategies for future learning
- is communicated in student-friendly language
- is appropriate (e.g. in quantity and detail) to the student's age and their capacity to respond
- includes the use of [Sample responses](#) to provide examples of the quality of work corresponding to each standard.

### *Feedback to help teacher planning*

Individual and collective student performance on QCATs, along with other school-based assessment, can be used to inform teaching and learning.

**Additional resources** [Using feedback to inform teaching and learning](#)  
[www.qsa.qld.edu.au/3163.html](http://www.qsa.qld.edu.au/3163.html)

[Sample responses, QSA Assessment Bank](#)  
<https://qcar.qsa.qld.edu.au/assessmentbank> (registration required)

# Resources

## Selected Essential Learnings

This QCAT will assess what students know, understand and can do in relation to the following selection of [Essential Learnings](#).

Mathematics Essential Learnings by the end of Year 5	
<b>Assessable elements</b> The valued features of the key learning area about which evidence of learning is collected and assessed.	<b>Ways of working</b> The processes students use to develop and demonstrate their <a href="#">knowledge and understanding</a> .  Students are able to:
<b>Thinking and reasoning</b>	<ul style="list-style-type: none"> <li>identify and use mental and written computations, estimations, representations and technologies to generate solutions and check for reasonableness of solutions</li> <li>make statements, predictions, inferences and decisions based on mathematical interpretations</li> </ul>
<b>Communicating</b>	<ul style="list-style-type: none"> <li>communicate and justify thinking and reasoning, using everyday and mathematical language, concrete materials, visual representations and technologies.</li> </ul>
<b>Reflecting</b>	<ul style="list-style-type: none"> <li>reflect on mathematics and identify the contribution of mathematics to personal activities.</li> </ul>
	<b>Knowledge and understanding</b> The essential concepts, facts and procedures.
<b>Knowledge and understanding</b>	<p><b>Number</b></p> <p><b>Whole numbers, simple and decimal fractions and a range of strategies are used to solve problems.</b></p> <ul style="list-style-type: none"> <li>Whole numbers (to thousands) and decimal fractions (to hundredths) can be calculated using addition and subtraction.</li> </ul> <p><b>Measurement</b></p> <p><b>Length, area, volume, mass, time and angles can be estimated, measured and ordered, using standard and non-standard units of measure.</b></p> <ul style="list-style-type: none"> <li>Timelines, clocks, calendars and timetables are used to sequence, schedule and calculate timed events.</li> <li>Standard units, including centimetre, metre, square centimetre, square metre, gram, kilogram, minute, degree, millilitre and litre, and a range of instruments are used to measure and order attributes of objects, including length, area, volume, mass, time, and angles.</li> </ul> <p><b>Space</b></p> <p><b>Geometric features are used to group shapes and guide the accuracy of representation of 2D shapes and 3D objects. Mapping conventions apply to the structure and use of maps and plans.</b></p> <ul style="list-style-type: none"> <li>Mapping conventions, including symbols, scales, legends and alphanumeric grids, are used to represent and interpret movements and to identify locations on maps and plans.</li> <li>Mapping conventions, including the four major compass points, are used to give direction and movement and can be linked to turns.</li> </ul>

Source: QSA 2007, [www.qsa.qld.edu.au/7296.html](http://www.qsa.qld.edu.au/7296.html)

## Connection to the Australian Curriculum

This QCAT connects to the following proficiencies and content descriptions of the Australian Curriculum.

The Australian Curriculum: Mathematics		Version 1.2
Proficiency strands		Assessed proficiencies are <b>highlighted</b> .
<b>Understanding</b>		Students build a robust knowledge of adaptable and transferable mathematical concepts. They make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the “why” and the “how” of mathematics. Students build understanding when they connect related ideas, when they represent concepts in different ways, when they identify commonalities and differences between aspects of content, when they <b>describe their thinking mathematically and when they interpret mathematical information</b> .
<b>Fluency</b>		Students develop skills in choosing appropriate procedures, <b>carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily</b> . Students are fluent when they calculate answers efficiently, when they recognise robust ways of answering questions, when they choose appropriate methods and approximations, when they recall definitions and regularly use facts, and when they can manipulate expressions and equations to find solutions.
<b>Problem Solving</b>		Students develop the ability to <b>make choices, interpret, formulate, model</b> and investigate problem situations, and <b>communicate solutions effectively</b> . Students formulate and solve problems when they use mathematics to represent unfamiliar or meaningful situations, when they design investigations and plan their approaches, when they apply their existing strategies to seek solutions, and when they verify that their answers are reasonable.
<b>Reasoning</b>		Students <b>develop</b> an increasingly sophisticated <b>capacity for</b> logical thought and actions, such as analysing, proving, <b>evaluating</b> , explaining, inferring, <b>justifying and generalising</b> . Students are reasoning mathematically when they explain their thinking, when they deduce and justify strategies used and conclusions reached, when they adapt the known to the unknown, when they transfer learning from one context to another, when they prove that something is true or false and when they compare and contrast related ideas and explain their choices.
Content strands		Content descriptions
<b>Number and Algebra</b>	<b>Year 3</b>	<b>Patterns and algebra</b> <ul style="list-style-type: none"> <li>Describe, continue, and create number patterns resulting from performing addition or subtraction.</li> </ul>
	<b>Year 4</b>	<b>Number and place value</b> <ul style="list-style-type: none"> <li>Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems.</li> </ul> <b>Patterns and algebra</b> <ul style="list-style-type: none"> <li>Use equivalent number sentences involving addition and subtraction to find unknown quantities.</li> </ul>
<b>Measurement and Geometry</b>	<b>Year 4</b>	<b>Using units of measurement</b> <ul style="list-style-type: none"> <li>Use scaled instruments to measure and compare lengths, masses, capacities and temperatures.</li> </ul> <b>Location and transformation</b> <ul style="list-style-type: none"> <li>Use simple scales, legends and directions to interpret information contained in basic maps.</li> </ul>
	<b>Year 5</b>	<b>Location and transformation</b> <ul style="list-style-type: none"> <li>Use a grid reference system to describe locations. Describe routes using landmarks and directional language.</li> </ul>
Source: Australian Curriculum, Assessment and Reporting Authority (ACARA) 2011, <a href="http://www.australiancurriculum.edu.au/Mathematics">www.australiancurriculum.edu.au/Mathematics</a> Resources: QSA 2011, <a href="http://www.qsa.qld.edu.au/13656.html">www.qsa.qld.edu.au/13656.html</a>		



# Model response

This Model response gives one example of a very high quality response for each question. The Sample responses, available for download from the QSA Assessment Bank, demonstrate the quality of student responses for each standard, A to E.

## Planning with a calendar

Use this calendar to help answer questions on the next page.

September 2011						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	2	3	4
5	6 Choose stall food theme	7	8 Choose charity	9 Find out cost of ingredients	10	11
12 Job roster	13	14	15	16 Make posters	17	18
19 School holidays start	20	21	22	23	24	25
26	27	28	29	30 School holidays end		

October 2011						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1	2
3 Buy ingredients	4	5 Make labels	6 Get equipment	7 Set up stall • Cook popcorn	8 Community fair	9
10	11	12	13	14	15	16
17 Student-free day	18	19	20	21	22	23
24	25	26	27	28	29	30
31						
School days			Weekends		School holidays	

Use the calendar on page 4 to answer Questions 1 to 4.

1. Complete the table below. The first row is done for you.

Activity	Day	Date	Month
Choose charity	Thursday	8	September
Make labels	Wednesday	5	October
Student-free day	Monday	17	October

2. Write the activities below onto the calendar on page 4.

Activity	Date
Job roster	12 September
Make posters	16 September
Buy ingredients	3 October

The fair organisers are worried about rain.  
They have set a backup date for the fair seven (7) days after 8 October.

3. What is the backup date of the fair? Saturday, 15 October

Explain how you worked this out. I added 7 days (1 week) to 8 October

4. There will be a school assembly on 7 November.

What day of the week is this? Monday

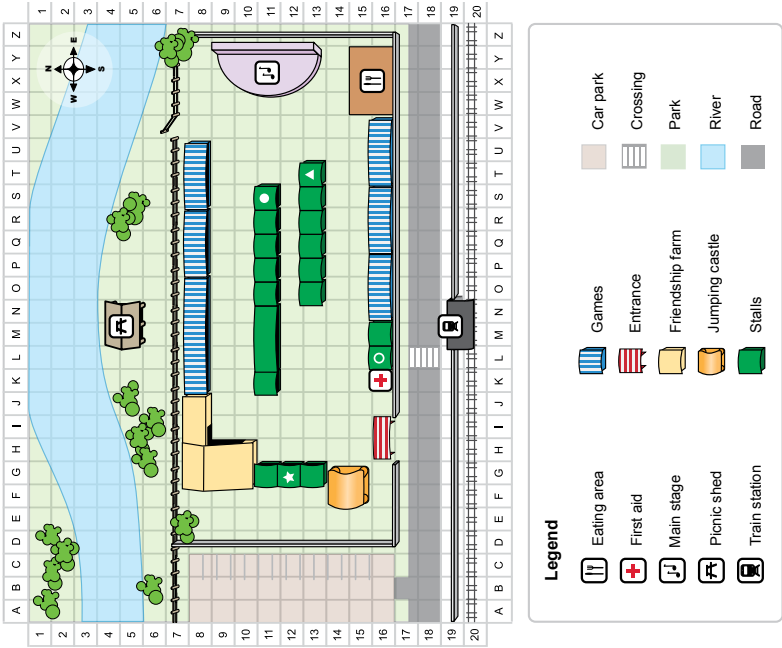
Stop here: Wait for your teacher's directions.

Model response

Mapping and locations

This map shows the landmarks, features and locations of the fair. Alphanumeric grid maps use letter and number reference points. These points show a location or landmark.

Community fair layout




Use the map on page 6 to answer Questions 5 to 7.

5. Complete the table below. The first row is completed for you.

Landmark	Location
 stall	G 12
First aid	K 16
Picnic shed	M 5

6. Use the compass rose  to identify the direction when walking from the:

- Entrance to the Friendship farm North.....
- Main stage to  stall West.....

There are two possible locations for your class stall, either  or .

7. Identify the advantages and disadvantages for each location, using features on the map.

Stall	Advantages (+)	Disadvantages (-)
	Close to first aid stand in case a parent needs something for a sick child. Many people pass by.	It is near the front entrance and many people may walk past without stopping.
	Close to performance stage and eating area that will have lots of people.	Too busy and many people will pass by the stall.

## Model response

### Measuring using standard units

A variety of instruments can be used to measure different objects in standard units (mm, cm, m, km).

8. Draw a line from each object to the **best possible measuring instrument**.

Object to measure	Instrument
length of stall	5 metre tape measure
height of popcorn box	30 metre tape measure
width of fairground	30 cm ruler

9. Below are two instruments. Which instrument is **better** to measure the distance around the fairground? Tick one.

trundle wheel	metre ruler
---------------	-------------

This instrument is **better** because: it measures as you walk around the large grounds easily. It clicks each metre measured. It goes around corners and is quick. A metre ruler would take a long time and may not be as accurate.

10. Measure accurately the length and width of the fair flyer using your ruler.

Width  $11.5 \dots \text{cm}$   $11 \frac{1}{2} \text{cm}$

Length  $16 \dots \text{cm}$

Note to teachers:  
Accept a margin  
of error of  
 $\pm 0.2 \text{ cm}$ .



Stop here: Wait for your teacher's directions.

The class popcorn stall sold lots of popcorn at the fair.

Number of popcorn boxes sold at the fair

Time of day	Popcorn boxes sold
morning	42
lunch	83
afternoon	25

11. Calculate the **total** number of popcorn boxes sold.

42  
83  
+ 25  
-----  
150

Total number sold: .....150.....

12. How many **more** popcorn boxes were sold at lunch than in the afternoon?

$$\begin{array}{r} 83 \\ - 25 \\ \hline 58 \end{array}$$

Here are the costs for individual ingredients.



popcorn kernels



sugar



oil

- 13. Calculate the total cost of ingredients.**

Calculate the total cost of ingredients.

25.50	
10.70	
+ 6.00	
<hr/>	
\$42.20	

Total money collected from the sale of popcorn



boxes of popcorn



collected




\$300

14. Calculate how much money your class raised after paying for the ingredients.

Ingredients.

$$\begin{array}{r}
 300.00 \\
 - 42.20 \\
 \hline
 \$257.80
 \end{array}$$

 Show all working

Total raised: ..... \$257.80 .....

Model response

Thinking about mathematics

Show how mathematics can be used in your daily life.

15. Complete this table about using addition and subtraction.  
The first row is completed for you.

Activity	Operation	Write a number sentence to show how you used the operation
A board game using dice	+	$5 + 6 = 11$
Buying treats at the shop, such as gum and a chocolate bar.	+	$1.20 + 0.80 = \$2.00$
Checking my pocket money balance after buying treats.	-	$10 - 2 = \$8.00$

16. Complete this table about using instruments and tools.  
The first row is completed for you.

Activity	Instrument/tool	How did you use the instrument/tool?
Record the dates of my family's birthdays	calendar	Found the day, date and month of each birthday and wrote name.
Check that my new book will fit into my bookcase.	ruler	Measure the height of the book and the shelf and compare.
Finding the netball court I will play on next Saturday.	map	Look up the name of the court and use the grids on the map to find it.



## Notes

## Notes

# Guide to making judgments — Year 4 Mathematics

Name .....

**Focus:** Generate solutions using number, measurement and space concepts and reflect on mathematical understandings in everyday life.

Knowledge and understanding	Thinking and reasoning	Communicating	Reflecting
<p>Reads and interprets maps and calendars. Selects measurement tools and makes measurements. Calculates addition and subtraction problems.</p> <p>Questions 1, 2, 5, 6, 8, 10, 11–14</p>	<p>Generates solutions using calendars and measurement. Interprets maps, makes decisions and justifies locations.</p> <p>Questions 3, 4, 7, 9</p>	<p>Communicates calendar information, directions and number solutions using everyday and mathematical language.</p> <p>Questions 3, 9, 11–14</p>	<p>Reflects on and identifies how mathematical understandings contribute to everyday personal activities.</p> <p>Questions 15, 16</p>
<p>Generates correct solutions for calendar and measurement. Number problems are accurate. Directions are precise.</p> <p>Adds decimal number problems correctly.</p> <p>Calculates total number of popcorn boxes. Demonstrates success in solving calendar and measurement problems, adding and subtracting whole numbers, and using a compass rose and alphanumeric grid.</p> <p>Demonstrates some success in calendar and measuring questions. Costing is partially completed. Directions are provided.</p>	<p>Justifies stall location by referring to mapping conventions.</p> <p>Accurately identifies day of school assembly. Clearly explains solutions and choices.</p> <p>Identifies backup date and explains solution. Applies appropriate strategies and correctly chooses measuring instruments.</p> <p>Proposes solutions using a calendar.</p>	<p>Clearly communicates mathematical procedures. Uses mathematical language in explanations.</p> <p>Uses mathematical language.</p> <p>Shows working out in most explanations. Uses reasonable everyday language in explanations.</p> <p>Provides working to support some solutions.</p> <p>Provides some directions using everyday language. Some costs are provided.</p>	<p>Consistently identifies relevant examples of where and how mathematics is used in chosen activities.</p> <p>Correctly identifies how instruments, tools and number operations are used in daily activities.</p> <p>Identifies operations and uses for an instrument and tools. Items described have connections to the chosen activity.</p> <p>Identifies some examples of selected tool, instrument or operation.</p>

Feedback .....