

Middle School Assessment Task

Subject: Year 7 Maths

Teacher:

Task Title: Integer Story

Draft Due Date: In class

Final Due Date:



Achievement Standard (ACARA 9.0)

By the end of Year 7, Students solve problems involving addition and subtraction of integers. They use mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts.

General capability: Literacy (writing)

Evidence of learning

Knowledge and understanding	Skills and processes	Application	Accuracy
<ul style="list-style-type: none"><u>Lifelong learning:</u> Negative number understanding leads to an appreciation of aspects of the natural world (hence stands in awe of God)		<ul style="list-style-type: none">The story applies a wide range of negative numbers and makes sense<u>Lifelong learning:</u> (with God's help) uses Mathematics as a tool to clearly explain things to others: Work is neat and clearly presented	<ul style="list-style-type: none">Diagram is accurate and matches the storyCalculations are accurate and match the story

Task Outline

1. Identify at least 4 topics that could be used to write a story using integers.
2. Choose one of these and make up a one-paragraph story that uses positive and negative numbers. The story *must* include a situation that goes below zero.
3. Draw an appropriate number line and picture of your story. Use arrow markings and plus/minus signs to indicate movement along the number line.
4. Write an equation that uses numbers to describe what happened.
5. Write a short reflection: how does understanding negative numbers help you appreciate God's world?
6. Hand in your draft as well as your final copy

Checklist

Your Check	Must Include	Adult Check
	Write 4 ideas that could make up a story.	
	Choose one idea to write your story about.	
	Make a list of what is going to happen in your story.	
	Include one situation when the numbers go below zero.	
	Use these words in the paragraph: up, down	
	Draw a number line and picture that tells the same story as your paragraph.	
	Use arrow marks, + and - signs on your number line.	
	Write equations to show what happens in your story. Example of an equation: $-1 + 1 - 2 - 1 + 3 = 0$	
	Write a thoughtful reflection	
	Show your draft work to the teacher.	
	Explain your story to your friend, parents or teachers.	
	Extra: use time language or the words: maximum, minimum.	

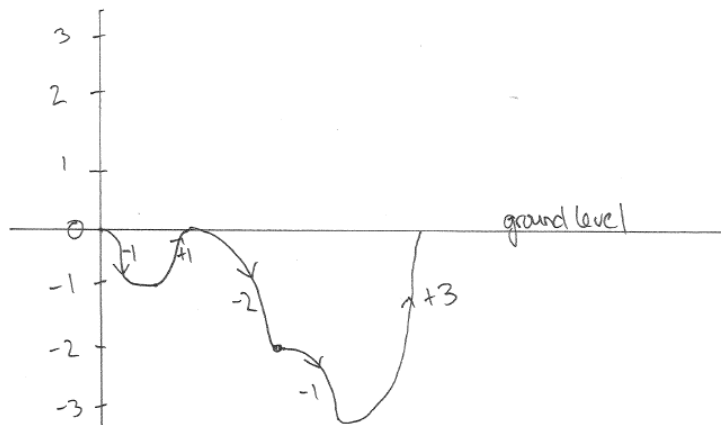
Integer Story - Example

Example:

Erin and her family went on a dream holiday to the Great Barrier Reef last July. She had been looking forward to the trip for many weeks, and it certainly lived up to her expectations. Her favourite day was the day they went snorkelling off a small island. When they first arrived, they couldn't wait to try on their diving equipment, which they had been learning to use in a swimming pool until now. To get the hang of their equipment, they initially swam down 1 metre and were amazed at the world that awaited them below. Something was not quite right with Erin's mask, so she swam back to the surface to fix it. A little more confident now, she swam down 2 metres under the water. Amazingly, she spotted a turtle swimming amongst the coral. She grabbed her sister's hand, and together they swam another 1 metre down to get a closer look at the turtle. They spent the rest of the morning exploring the beautiful coral and strange sea creatures. They were absolutely in awe of the amazing world God had created just below the surface of the sea! Erin and her sister finally surfaced again, just in time for lunch.

Example of an Equation:

$$-1 + 1 - 2 - 1 + 3 = 0$$



Helpful Hints

1. Start by writing a simple summary using words such as 'up' and 'down', and then fill in the story.
2. The numbers, diagrams, and ideas are more important in this activity than a long story using excessive words.
3. For extension purposes and higher grades, add words to your story such as 'maximum' and 'minimum' or time concepts. You will need to choose to write your story about a scenario we haven't spent much time looking at in class.
4. Write a draft, have it checked by an adult, and then write up a neat copy.

4. A diagram of your story

5. A number sentence for your story

6. How does understanding negative numbers help you appreciate God's world?

Marking Criteria

	Well above standard	Above Standard	At standard	Below standard	Well below standard
Knowledge and understanding	<p>The student</p> <ul style="list-style-type: none"> has an extensive knowledge and understanding of the content. 	<p>The student</p> <ul style="list-style-type: none"> has a thorough knowledge and understanding of the content. 	<p>The student</p> <ul style="list-style-type: none"> has an accurate knowledge and sound understanding of the content. 	<p>The student</p> <ul style="list-style-type: none"> has an incomplete knowledge and understanding of the content. 	<p>The student</p> <ul style="list-style-type: none"> has misconceptions in knowledge and a lack of understanding of the content.
Skills and processes	<ul style="list-style-type: none"> demonstrates a high level of proficiency in using skills and following processes. 	<ul style="list-style-type: none"> demonstrates a high level of competence in using skills following processes. 	<ul style="list-style-type: none"> demonstrates competence in using skills following processes. 	<ul style="list-style-type: none"> demonstrates a limited level of competence in using skills following processes. 	<ul style="list-style-type: none"> demonstrates a very limited competence in using skills following processes.
Application	<ul style="list-style-type: none"> independently adapts, integrates and applies their learning across a range of contexts that is well beyond the routine and practiced activities. 	<ul style="list-style-type: none"> independently applies learning across a range of contexts that is beyond the routine and practiced activities. 	<ul style="list-style-type: none"> applies this learning to routine and known contexts. 	<ul style="list-style-type: none"> applies this learning in explicitly structured lessons and activities. 	<ul style="list-style-type: none"> is very limited in applying their learning.
Accuracy	<ul style="list-style-type: none"> consistently demonstrates accuracy and precision with detail and can readily apply this in new situations. 	<ul style="list-style-type: none"> consistently demonstrates accuracy with detail. 	<ul style="list-style-type: none"> consistently demonstrates accuracy. 	<ul style="list-style-type: none"> shows little accuracy at this level. 	<ul style="list-style-type: none"> shows inaccuracy and lack of detail.