

Mission 2: Water Guardians

Role: Junior Water Monitor **Duration:** 50 minutes

Learning Intentions & Success Criteria

We are learning to:

- Track an amount that changes by a repeated rule each day.
- Read and plot a point on a graph using a day number and a litre amount.
- Use a graph as evidence to make and explain a decision.

Success criteria — I can:

- I can fill in a table showing an amount going up and down over several days.
- I can plot a point on a graph when I'm given a day and a litre amount.
- I can use my graph to answer a real question with evidence.

Curriculum focus: Number & Measurement — patterns of change, and reading/plotting points on a graph

Materials

- Pencil
- Coloured pencils (optional, for marking points)
- Calculator (optional)
- Printed worksheet

Lesson Flow & Scripted Questions

Use these prompts rather than explaining the maths yourself — let students reason first.

Stage	Ask students
Context	"Where does the water we use every day come from?" "What happens if a water tank runs low?"
Student Exploration	"The tank starts with 130 L. Each day it gains 20 L from rain and loses 5 L to the sun. Try working out Day 1 with your group before we do it together."
Reading the Graph (do this explicitly)	"What do you think the numbers along the bottom show us?" "What do you think the numbers up the side show us?" "Show me with your finger where Day 0, 130 litres would go."
Discussion	"What did you do to move from Day 0 to Day 1?" "Is the amount of water going up or down overall? How do you know?"
Introduce the Maths	"What's the net change each day — how much extra water is there by the end of each day?" "Could we say this as a short rule: 'tomorrow's water = today's water + ____ - ____'?"
Reflection	"Why is a graph useful here, when we already have a table of numbers?" "What would happen to our decision if it didn't rain for a few days?"

Do Not Default To

- Assuming students already know how to read a graph — walk through the axes explicitly first, before asking them to plot anything.
- Giving students the Day 5 total straight away — the day-by-day build-up is the point of the lesson.
- Accepting a Yes/No decision with no reasoning or evidence from the table or graph attached.

 Differentiation**Extra support:**

- Pre-teach key words before starting: litre, rain, sun/evaporation, tank, graph, axis.
- Use real containers of water (e.g. 1 L bottles) so students can physically see litres before working with numbers.
- Provide a partly-filled table so students only need to complete a few rows.

Extension / mentor track:

- Ask students to find the exact day the tank would first reach 200 L if it rained every single day with no dry days.
- Have students write their day-to-day rule in words, then test it against a Day 6 and Day 7 that aren't shown on the worksheet.

 Adapting This Mission To Your Community

- Replace the school rainwater tank with a real local water source — a bore, dam, creek, or community tank — if your community is comfortable sharing real numbers.
- Invite a local Water Ranger, Land and Sea Ranger, or council water officer to speak with the class about how they monitor water locally.
- Adjust the starting amount and daily rates to roughly match a real local water source's scale, even if exact figures aren't available.

This mission uses a placeholder context. Please localise names, places, and any cultural knowledge in consultation with local Traditional Owners, Elders, or community members, and only include specific cultural knowledge that has been given permission to share.