

Calendar Maths

Updated June 2026

Year level: 2

Approximate number of lessons: 1

Learning goals

- Engage in chance-based investigations about everyday situations to:
 - identify possible outcomes
 - collect and record data
 - create visualisations for frequencies of outcomes (e.g., lists, picture graphs)
 - describe what these data visualisations show
 - answer chance-based investigative questions
 - notice variations in outcomes

Resources

- Monthly calendar charts or pages (see teacher notes for an example)
- [Maramataka information](#)
- Days of the week, months of the year and seasons on display in Te Reo Māori and English
- Timetable or overview for the class for the week and school events overview for the term

Activity

Introduction

This lesson can be repeated throughout the year with increasing depth and complexity as ākongā become confident in thinking about the calendar using the vocabulary of impossible, unlikely, possible, likely, and certain. The kaiako leads a discussion using the calendar information on the calendar along with the class timetable to explore the likelihood of an event occurring. Ākongā are supported to voice whether they agree or disagree with statements made by the kaiako or their peers in relation to the calendar.

? PROBLEM:

Ākongā are supported to answer the investigative question of **'Is it impossible, possible or certain that _____ will happen next Tuesday?' (or another day of the week)**

The kaiako initially models making statements that ākonga are asked to discuss with a peer and then agree or disagree with. For example (but make up own relative to class situation):

- It is possible that tomorrow it might rain because... it is autumn and it rains a lot in autumn.
- It is certain that school will be open tomorrow because... it is Thursday during term time and school is open on Thursdays during term time.
- It is impossible that there will be aliens visiting school today.

Kaiako then support ākonga to use their knowledge of seasons and with a **Talk Partner** come up with a chance (probability) statement, similar to the ones modelled about a day in the future, focusing on what is possible.

- Give ākonga the starter... It is possible... because....
- For example, 'It is **possible** it will be a sunny day on our Swimming Carnival day in March because it is Summer.'

Then kaiako offer their "certain" statement of 'I am **certain** that it will be sunny for our Swimming Carnival.'

As a class discuss further, thinking about what would be impossible?

Ākonga have three options, 'impossible', 'possible', or 'certain'. The kaiako supports the discussion with 'think alouds' with the vocabulary displayed before re-presenting the investigative question.

PLAN:

Share with ākonga the investigative question '**Is it impossible, possible or certain that _____ will happen next Tuesday?**' (or another day of the week) that will be investigated.

Encourage ākonga to discuss their personal experiences with their **Talk Partner** before talking as a whole group.

- What do they think the answer will be?
- Why do they think that?

Plan a series of questions to ask using days of the week, months of the year, seasons and the timetables and overviews as suggested in the problem part of this lesson. Plan for how you will organise the answers to these questions or whether ākonga agree or disagree with the series of statements.

The kaiako leads a co-construction of a data sheet, chart or table. For example you could make a chart showing the days of the week and record all the things that are impossible, possible and 'certain' on that day. For example, your data sheet could look like this. Of course the information entered would depend on your class and what is possible, impossible or certain in your class.

Is it possible, impossible or certain?			
DAY OF THE WEEK	IMPOSSIBLE	POSSIBLE	CERTAIN
MONDAY	COME TO SCHOOL ON AN ELEPHANT SCHOOL IS AT THE MOON	COME TO SCHOOL ON A MOTORBIKE	SCHOOL IS IN THE SAME PLACE AS USUAL
TUESDAY	IT IS SUMMER IN AUCKLAND, IT WILL NOT SNOW TODAY AT SCHOOL	WE COULD GO TO THE SCHOOL LIBRARY TODAY	IT IS OUR GYM DAY TODAY
WEDNESDAY			
THURSDAY			
FRIDAY			

DATA:

The kaiako roves while ākonga work in pairs or small groups to answer the question, drawing their data from the information recorded on the class calendar and other calendar maths resources such as maramataka or seasonal knowledge

- Is it certain, possible, or impossible that we might get the_____?
- Explore the question posed as a class
- What do we know about this? What tells us that?

ANALYSIS:

Kaiako support ākonga to identify whether their anticipated answer was correct. How do we know that is certain, impossible or possible?

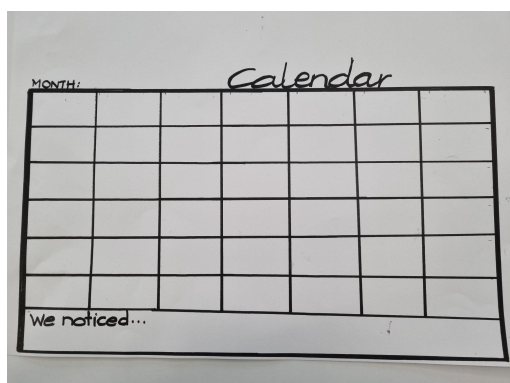
As the months progress ākonga are invited to make statements about what they notice. Spend some time looking for any trends or patterns and talking about what they are and why they might occur. It is important to give ākonga a voice as this often reveals patterns or focus areas important to them that the kaiako may not have seen as important. What did the discussion reveal? Why might this be?

CONCLUSION:

- Kaiako support ākonga to complete the statements:
 - We noticed that _____ was certain.
 - We noticed that _____ was possible.
 - We noticed that _____ was impossible.
 - In Summer _____ is certain (or changes to this statement as suit your class data).
- Kaiako offer opportunities for impossibilities to be shared, or events that definitely are 'impossible'.

Notes for teachers

Use a calendar to write on key school events, recurring things such as what your class library day is and special class events such as ākonga birthdays. You can use a commercial printed calendar, digital calendar that you can display on your screen or create your own like this example



It is good to have a space to record what you noticed about the weather, what days are busy days, what reoccurs etc as this allows you to build a picture of information that leads to richer investigations and conversations.

- If ākonga are hesitant to share their thinking they may need support with structuring an oral sentence using the new vocabulary. Talk frames and sentence starters work well here. For example, “I think ____ might happen because...” or “I think ____ won’t happen because...”
- This is an example of chart to support teachers

Is it possible, impossible or certain?			
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WEDNESDAY			
THURSDAY			
FRIDAY			



Poster is linked as well <https://new.censusatschool.org.nz/resource/data-detective-poster/>