

# **Te Mātaiaho** | the refreshed New Zealand curriculum **Mathematics and statistics**

The following slides are resources for the activities.

Has a 'koiti'  
that is smaller  
than yours.

\_\_\_\_\_ Name

Their 'mārō' is  
the same as  
your height.

\_\_\_\_\_ Name

Has a 'takoto'  
that is taller  
than yours.

\_\_\_\_\_ Name

Has a similar  
sized kōnui to  
you.

\_\_\_\_\_ Name

Measure how many  
'whetoko' wide the  
room is for this  
person.

Number:

\_\_\_\_\_ Name

Measure approx. how  
many 'papanui' can fit  
on a desktop for this  
person.

Number:

\_\_\_\_\_ Name

Has a 'koiti'  
that is smaller  
than yours.

\_\_\_\_\_ Name

Their 'mārō' is  
the same as  
your height.

\_\_\_\_\_ Name

Has a 'takoto'  
that is taller  
than yours.

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Has a similar  
sized kōnui to  
you.

\_\_\_\_\_ Name

Measure how many  
'whetoko' wide the  
room is for this  
person.

Number:

\_\_\_\_\_ Name

Measure approx. how  
many 'papanui' can fit  
on a desktop for this  
person.

Number:

\_\_\_\_\_ Name



mārō

aronui

whanganga



hau



pakihiwi mārō



kumi



pae



takoto





whetoko

pakihiwi





tuke



kōiti

koroiti

kōnui





mati



matikara

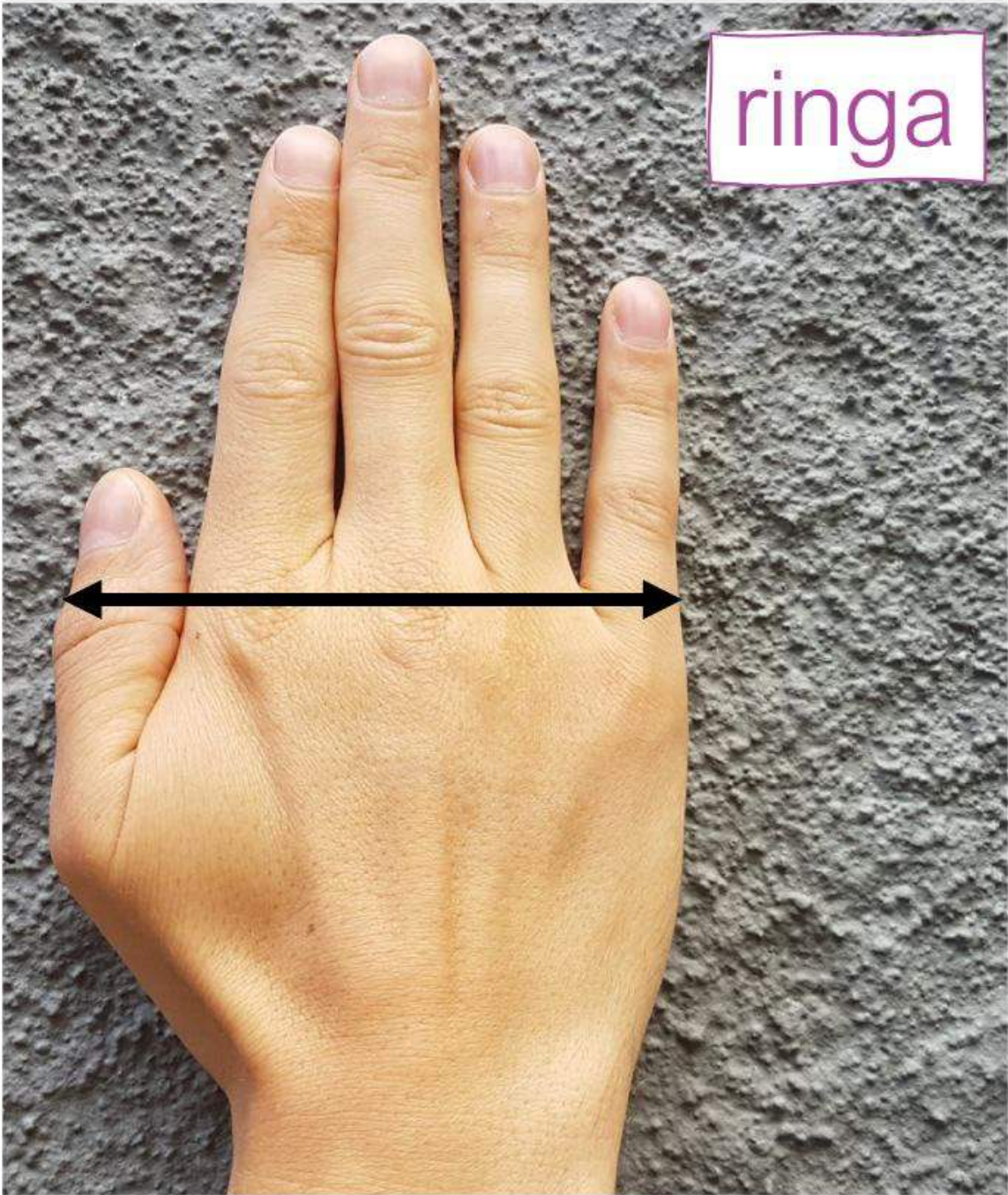
whānuitanga ringa



papanui



ringa





tuke

# Purpose statement for mathematics and statistics

## ***Ānō me he whare pūngāwerewere.***

*Behold, it is like the web of a spider.*

This whakataukī celebrates intricacy, complexity, interconnectedness, and strength. The learning area of mathematics and statistics weaves together the effort and creativity of many cultures that over time have used mathematical and statistical ideas to understand their world.

Mathematics and statistics enables students to appreciate and draw on the power of abstraction and symbolic representation to investigate, interpret, and explain patterns and relationships in quantity, space, time, data, and uncertainty. Like mathematics and statistics, mātauranga Māori is a body of knowledge with a history and a future. When we afford mana ōrite to mātauranga mathematics and statistics and mātauranga Māori while retaining their distinctiveness, students can draw from both in ways that are beneficial to both spheres of knowledge.

The learning area has been designed to support the vision of Mātaaitipu and provides personal value, participatory value, pathways value, and planetary value. Collectively, these show the richness and value of mathematics and statistics learning for students. Students discover inherent personal enjoyment and satisfaction in persistence, solving problems, identifying patterns, and seeing the beauty in mathematics and statistics. They come to appreciate the everyday use of mathematical and statistical tools in, for example, personal finance, music and dance, estimation, and measurement. They recognise how their culture is included and valued in the learning area.

Students participate as they take part in discussions with their peers about their mathematical and statistical thinking and the thinking of others. They discuss and take action on important social matters such as the ethical gathering, interpretation, and communication of data, and challenging misinformation and disinformation. They also engage with diverse cultural perspectives, including te ao Māori and Pacific world-views, on being numerate in Aotearoa New Zealand.

Through the learning area, students can discover pathways into a wide range of industries that rely on mathematical knowledge and reasoning. This allows them to participate fully in an increasingly technology- and information-rich world of work. Learning in mathematics and statistics is important for realising the aspirations and priorities of every student and their parents and whānau.

Students also come to understand the value of mathematical and statistical modelling as a lens for resolving collective global challenges – for example, in adapting to and mitigating climate change and in helping to build an equitable, sustainable future for all.

Learning in mathematics and statistics builds both literacy and numeracy. Mathematics and statistics contribute to students' literacy by developing their skills in oral and written communication, meaning-making, and the use of specific vocabulary and symbols. Statistics and probability, in particular, support the understanding of tables, graphs, and diagrams as well as critical thinking about the quality of data and stories told about it.

As this whakataukī tells us, connections between different concepts, knowledge, and practices are central to mathematics and statistics. Teachers weave together the elements of Understand, Know, and Do to ensure students learn mathematics and statistics as a connected body of knowledge.

## Planning for teaching

The most effective teaching of mathematics and statistics follows a strengths-based approach that creates opportunities for all students to learn and progress. Such an approach recognises that all students exist within their whānau and culture and includes parity for mātauranga Māori.

It is important for teaching to be ambitious within and potentially beyond each phase of learning. When designing a mathematics and statistics programme, teachers need to plan for providing students with multiple opportunities to progress.

Learning happens best when mathematics and statistics are taught daily, using purposeful tasks related to both mathematical contexts and wider contexts relevant to the communities, cultures, interests, and aspirations of students.

When planning how to support progress, teachers can ask: What opportunities do students have to:

- › learn new mathematics and statistics concepts and practices?
- › use mathematics and statistics to investigate relevant tasks?
- › communicate and critique mathematical findings and understandings?
- › understand the interrelated nature of skills and concepts in mathematics and statistics?
- › practise the mathematics and statistics that they have learned?

When planning tasks, teachers can ask:

- › What are the cultural contexts that will resonate with my students?
- › How can I support students to engage with a context's whakapapa, tikanga, and significance while honouring and maintaining the integrity of both the mathematics and the context?

As they prepare, teachers can work through the tasks themselves and ask:

- › How can I help students find the joy in this learning?
- › How can I help build the resilience of students?
- › How can I value and reward persistence?
- › How can I help students see the broad relevance of this work to their lives, including purposeful contexts, mathematical skills, social skills, knowledge, cognitive development, and cultural competence?

Our thoughts on purpose

Purpose Statement

God's purpose

So what, now what?

What's the same?

What has changed?

What's the same?

What has changed?

What's Interesting

What's Interesting

For activity 2 -  
Suggestion of a graphic organiser. They could  
draw their own.