

The background features a dark blue gradient with a subtle starfield. On the left side, there are several overlapping circular elements. A prominent one is a large circle with a scale around its perimeter, marked with numbers from 140 to 260 in increments of 10. Other circles include dashed lines, solid lines, and arrows, some pointing inward and some outward, creating a sense of motion or orbit. The overall aesthetic is technical and scientific.

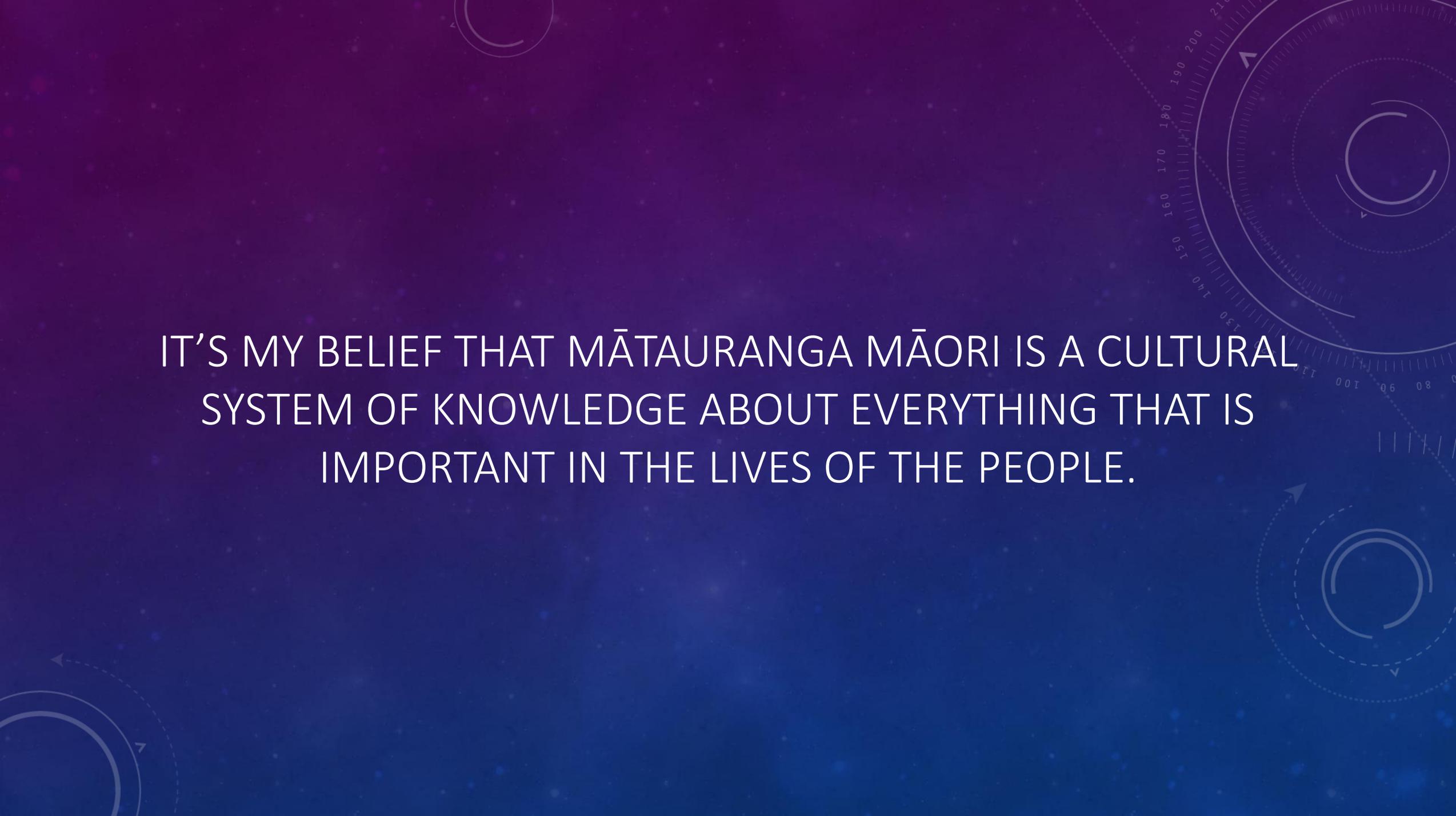
# MAKING SPACE FOR MĀTAURANGA MĀORI

CHULAINN MABBETT-SOWERBY

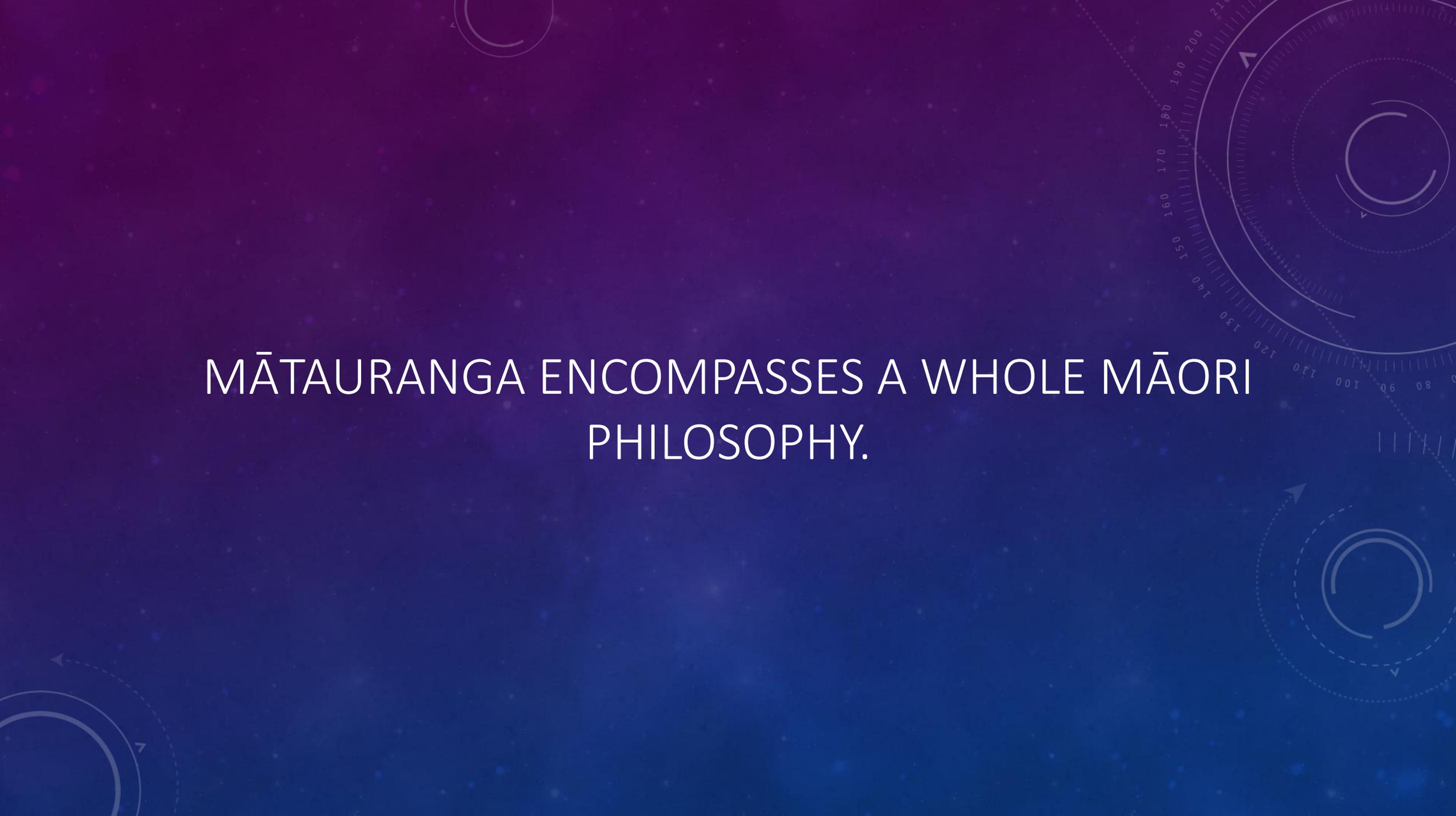


WHAT IS SCIENCE?

WHAT IS MĀTAURANGA MĀORI?

The background is a dark blue gradient with faint, light blue technical graphics. On the right side, there are several circular gauges or dials with numerical scales (e.g., 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210) and arrows. There are also some dashed lines and other circular patterns scattered across the background.

IT'S MY BELIEF THAT MĀTAURANGA MĀORI IS A CULTURAL  
SYSTEM OF KNOWLEDGE ABOUT EVERYTHING THAT IS  
IMPORTANT IN THE LIVES OF THE PEOPLE.

The background is a dark blue gradient with a field of small white stars. Overlaid on this are several technical diagrams. In the top right, there is a large circular diagram with concentric rings and a scale from 80 to 210. In the bottom right, there is a circular diagram with dashed lines and arrows. In the bottom left, there is a circular diagram with solid lines and arrows. In the top left, there is a small circular diagram with a dashed line and an arrow.

MĀTAURANGA ENCOMPASSES A WHOLE MĀORI  
PHILOSOPHY.

CB Standard Details	CB Standard Title
Chemistry and Biology 1.1 92020 (Internal 5 credits)	Explore a microorganism within the mauri of the taiao
Chemistry and Biology 1.2 92021 (Internal 6 credits)	Explore chemical reactions in the taiao
Chemistry and Biology 1.3 92022 (External 5 credits)	Explore whakapapa using knowledge of genetic variation and inheritance
Chemistry and Biology 1.4 92023 (External 4 credits) Explore physical properties of materials and their use in the taiao	Explore physical properties of materials and their use in the taiao

# BRINGING MĀORI CONCEPTS INTO SCHOOL SCIENCE: NCEA

- Not attempting to present 'truth', encourage and describe a way in which to approach it in a practical manner
- Takes into consideration some of the barriers for addressing Mātauranga Māori
  - Speaks to mana ōrite of Mātauranga
- Provides an example of a way in which Mātauranga and science can be shown as not exclusive
  - MRS GREN – the idea of living things
  - Are rivers living things? What about mountains?
- Taiao, Mauri and Whakapapa

Stewart, G. T., & Tedoldi, A. (2021). Bringing Māori concepts into school science: NCEA. *Access: Contemporary Issues in Education*, 41(1), 77-81.

# WELLINGTON DISCUSSION

- A few teachers had piloted this in their school
- Lack of resources
- Lack of direction and support/training
  
- Found it more pertinent to discuss how to engage with Māori students in a meaningful way
- Whakawhanaungatanga, Manaakitanga, Kotahitanga

# WHAT CAN WE DO...

- Is there anyone who already tries to include Mātauranga in some way?
- What have the results been?
- Why have we not attempted to?
- Where can we go for assistance?

# RESOURCES

- [Indigenous Knowledge\(s\) and the Sciences in Global Contexts: Bringing Worlds Together](#)
- [Mātauranga Māori: Here to stay - Ocean Mercier, Spencer Lilley](#)
- [Scinechub - Resources with Māori content](#)
- [Importance of including cultural practices in ecological restoration](#)
- [Mātauranga Māori and the data–information–knowledge–wisdom hierarchy: a conversation on interfacing knowledge systems](#)
- [Colonial histories, racism and health-The experience of Māori and Indigenous peoples](#)
- [Enhancing Mātauranga Māori and Global Indigenous Knowledge](#)
- Tara G. McAllister, Sereana Naepi, Elizabeth Wilson, Daniel Hikuroa & Leilani A. Walker (2022) Under-represented and overlooked: Māori and Pasifika scientists in Aotearoa New Zealand's universities and crown-research institutes, *Journal of the Royal Society of New Zealand*, 52:1, 38-53, DOI: 10.1080/03036758.2020.1796103
- Stewart, G. T., & Tedoldi, A. (2021). Bringing Māori concepts into school science: NCEA. *Access: Contemporary Issues in Education*, 41(1), 77-81

# PEOPLE WHO CAN HELP

- Hirini Moko Mead
- Linda Tuhiwai Smith
- Ocean Mercier
- Tara McAllister
- Sereana Naepi
- Priscilla Wehi