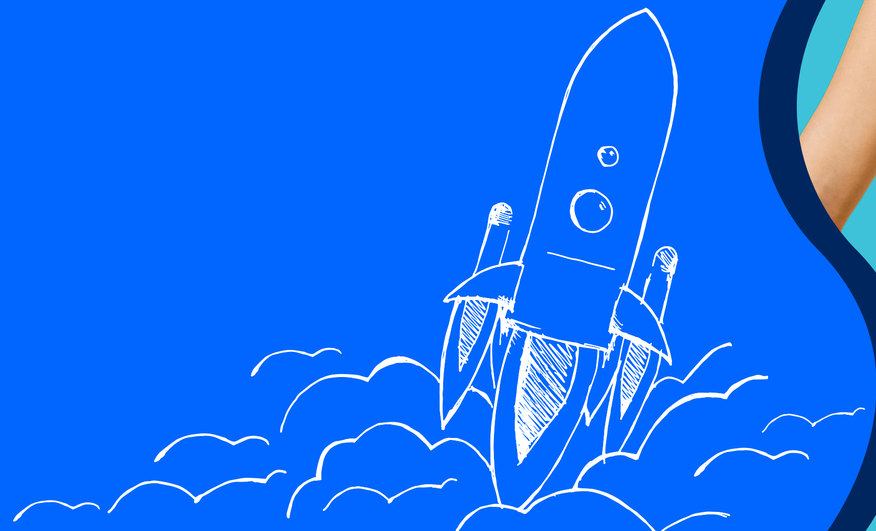
Wonder Project

WHERE SCIENCE TECHNOLOGY ENGINEERING AND MATHS COME ALIVE.

# Rocket Challenge 2025
## Impact report



engineering new zealand
te ao rangahau

# Contents



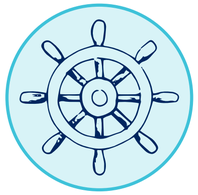
**"Seeing the students enjoying STEM and really getting stuck into it makes my day and gives me hope for the future of STEM in NZ."**

**Bayley Dropich, Ambassador**
Fulton Hogan

# HOUSTON, WE HAVE LIFT OFF!

**Ākonga blast off into STEM by designing, building and launching a water rocket. They learn about Newton's laws, the engineering design process, and working as a rōpū.**

## Modules



### Module 1: Mission Command

Ākonga will meet Mission Command (their kaiako and ambassador), unpack their rocket kit, and form their superstar space crew before exploring the first stage of the engineering design process – ask.

### Module 2: Fly

Ākonga will learn what it takes to launch a rocket, become health and safety experts, and perform their first test flight.

### Module 3: Force

Ākonga will be introduced to Sir Isaac Newton and explore his first law of motion, learn the second step in the engineering design process and design their rocket.

### Module 4: Aerodynamics

Ākonga will learn Newton's second law and aerodynamics and how this applies to rockets. They will then continue the engineering design process by creating and testing a rocket prototype.

### Module 5: Thrust

Ākonga will learn Newton's third and final law of motion and what this has to do with thrust. They will then put their prototypes to the test in their second test launch.

### Module 6: Blast off!

Ākonga will make final improvements to their rockets before celebrating their achievements by sending their rocket on its final flight.

# SCHOOLS BLAST OFF FOR THE 8TH YEAR

Funding continued to be tight for the Wonder Project this year, after losing our primary source through Government, and economic conditions for businesses being difficult. Making the most of what we had, almost 12,000 rangatahi took part – 9% of the ākonga at that age level. They were spread across more than 400 classes at 268 schools – 15% of target schools. Over the Rocket Challenge's eight years, it's been in 78% of schools with Level 3 ākonga.

Continued high demand from schools coupled with limited funds meant we again had a waitlist, with over 200 kaiako who we were unable to accept into the challenge. We prioritised schools with a higher level of socio-economic disadvantage and are proud that 45% of participants that received funded kits were in this high barrier group. We also had high levels of Māori and Pacific ākonga in the challenge, at 36% and 18% respectively, making up more than half of participants.

We saw a strong level of interest from schools who have participated before as well as schools new to the Rocket Challenge. We had 167 repeat schools and 101 new schools involved.

We supplied 181 funded full kits, valued at over $50,000, and 67 funded refresh packs to replace items in older kits. We had 128 kaiako reuse an existing kit, and 8 purchased a full kit or refresh pack.

301 STEM professionals registered to help with the Rocket Challenge, and we were able to match 231 of them to support 242 classes – 59% of participating classes. After withdrawals, we had 42 ambassadors we were unable to match due to location differences with participating schools. Thanks to our partner organisations who supplied 40% of our matched ambassadors.

## Participants this year

**11,919**
ākonga

**411**
classes

**268**
schools

**231**
STEM professionals

## Participants since 2018

**124,265** ākonga → **4,285** classes → **1,416** schools → **2,413** STEM professionals

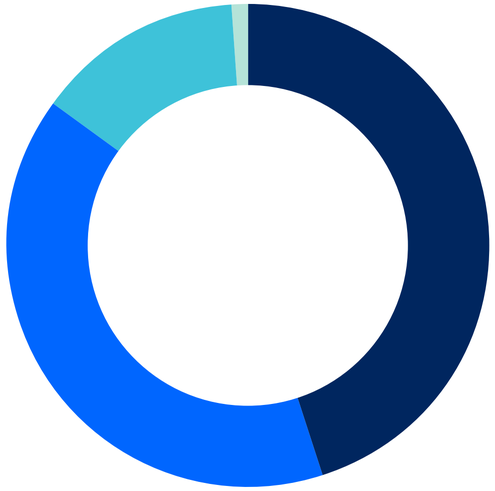
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Ākonga*** | 841 | 12,760 | 19,198 | 18,067 | 16,095 | 27,202 | 18,183 | 11,919 | 124,265 |
| **Classes** | 29 | 440 | 662 | 623 | 555 | 938 | 627 | 411 | 4,285 |
| **Schools** | 29 | 200 | 439 | 360 | 290 | 499 | 383 | 268 | 1,416 |
| **STEM professionals** | 55 | 456 | 472 | 377 | 277 | 271 | 274 | 231 | 2,413 |

**Based on average of 29 ākonga per class*

# Demographics

## Socio-economic barriers

With limited spaces in the challenge, we wanted to prioritise schools with high socio-economic barriers as much as possible. 45% of participating schools who received a funded kit had high barriers – an 80% increase from 2024. Even amongst all participants, we still had 37% in the high barrier group.



**Equity Index group**

- High barriers, 45%
- Moderate barriers, 40%
- Fewer barriers, 14%
- N/A, 1%

## Ākonga ethnicity

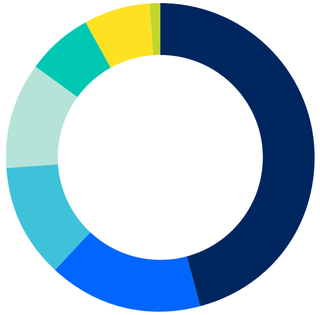
We had 36% ākonga Māori and 18% Pacific Peoples participating in the Rocket Challenge. With resources available in te reo Māori, we also had 21 kura kaupapa and 23 Māori immersion classes, totalling 44 Māori medium classes across 40 schools.

- Māori, 36%
- Pacific Peoples, 18%
- Other, 46%

## Region

We had 52% of participating schools in the main centres (Auckland, Wellington and Canterbury), and 48% across the regions.

- Auckland, 34%
- Canterbury, 11%
- Waikato, 8%
- Manawatū-Whanganui, 8%
- Wellington, 8%
- Northland, 6%
- Bay of Plenty, 6%
- Hawke's Bay, 6%
- Taranaki, 4%
- Otago, 3%
- Nelson-Tasman, 3%
- Southland, 2%
- West Coast, 1%
- Marlborough, 0%



- Major urban area, 46%
- Large urban area, 16%
- Rural other, 12%
- Small urban area, 11%
- Medium urban area, 7%
- Rural settlement, 7%
- N/A, 1%

# IMPACT AT A GLANCE

**81%** **ākonga** said the Rocket Challenge made them feel more confident in STEM subjects

**56%** **ākonga** were more interested in STEM jobs after the challenge

**83%** **ākonga** said they would do it again

**92%** **kaiako** enjoyed teaching the Rocket Challenge

**96%** **kaiako** said they would do it again

**95%** **kaiako** increased their confidence in teaching STEM

**92%** **kaiako** said ākonga were engaged with the programme

**88%** **kaiako** noticed a positive shift in ākonga perceptions of STEM

**90%** **ambassadors** enjoyed supporting the Rocket Challenge

**54** **(NPS)** Challenge Net Promotor Score

“The challenge was pretty fun and I really enjoyed it, even though I did go through some difficulties but I solved them in the end.”

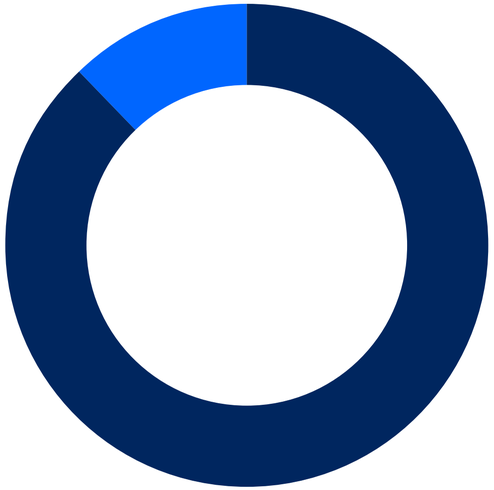
**Yashani, Ākonga**
Naenae Intermediate

# ĀKONGA EXPERIENCE

# Perceptions

### STEM perceptions

When kaiako were asked if they noticed a shift in ākonga perceptions towards STEM over the challenge, 88% said they noticed a positive shift.



- Their perceptions changed positively, 88%
- Their perceptions didn't change, 12%
- Their perceptions changed negatively, 0%

### Interest in STEM jobs

81% of kaiako believed their ākonga were more curious about the opportunities that different careers in STEM can provide, after the challenge.

More than half of ākonga reported that they were more interested in STEM jobs after completing the challenge. With a further 18% of rangatahi already interested in STEM jobs, post the challenge, 74% of ākonga would consider a STEM career.

- Yes – I was more interested, 56%
- No – I was already interested, 18%
- Yes – I was less interested, 13%
- No – I am still not interested, 13%

**"I felt a bit scared at the start but as I kept improving and practicing, I felt more confident."**

**Ben, Ākonga**
Bombay School

# Confidence

### STEM subject confidence

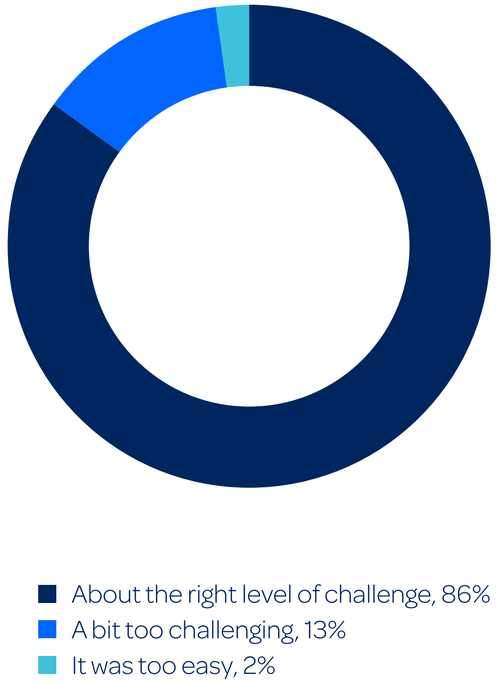
When asked if taking part in the challenge made them feel more confident in STEM subjects, 81% reported that it did.

When asked about confidence across each subject, we saw a 12% increase in ākonga being fairly or completely confident.


# Knowledge and skills

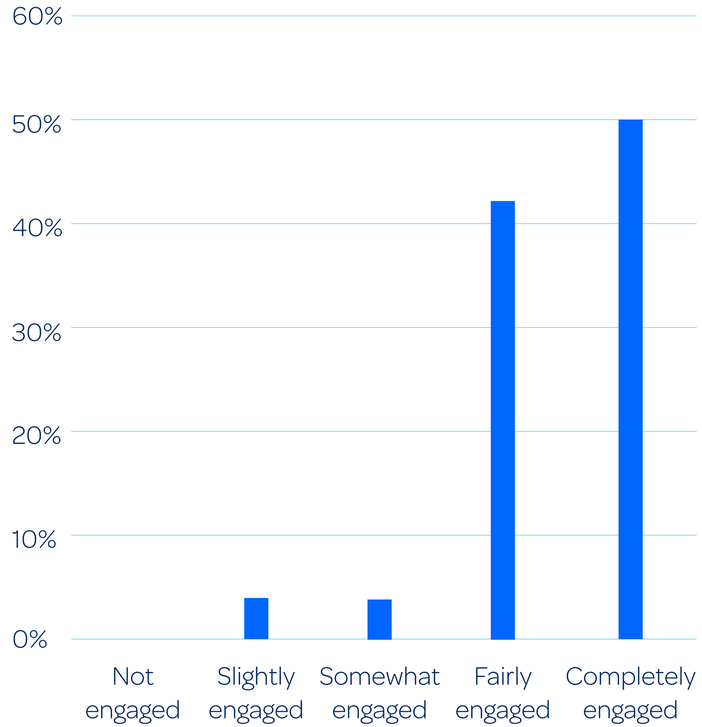
### Level of challenge

Most kaiako said ākonga were challenged by the learning material at about the right level.



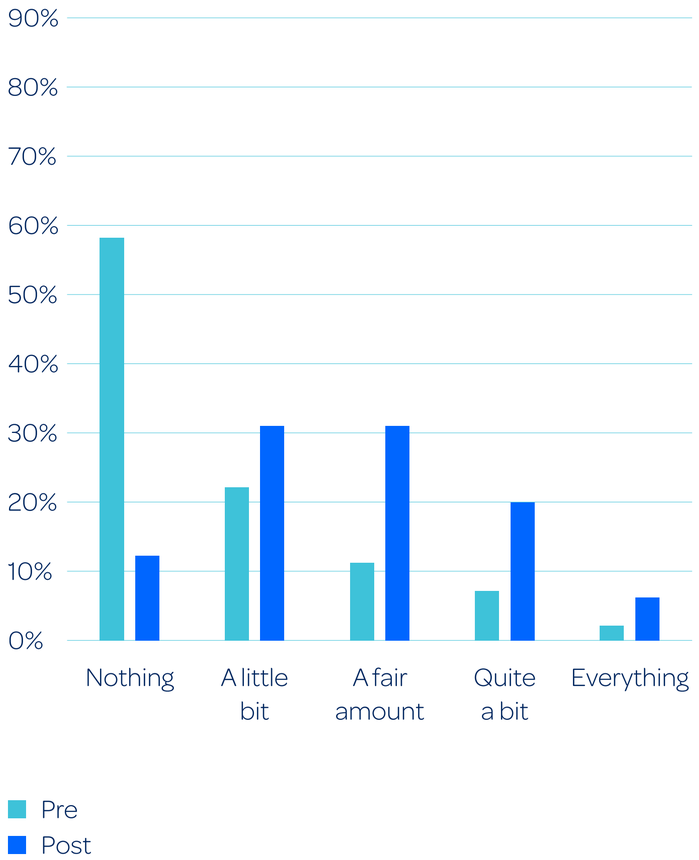

### Engagement with learning

92% of kaiako reported their ākonga were fairly or completely engaged with the learning journey.



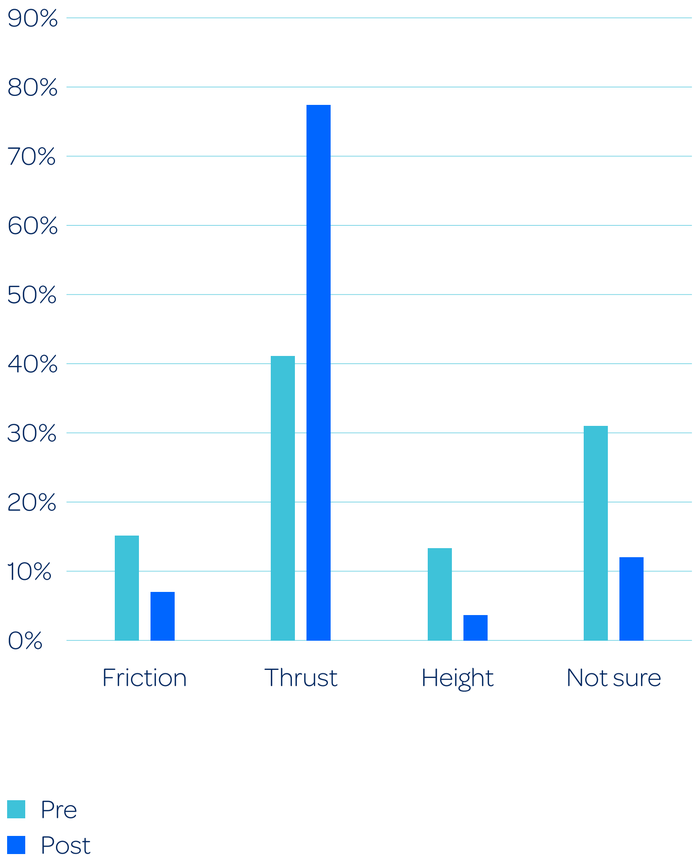
### Newton’s laws of motion

We saw a positive shift in what ākonga knew about one of the key learning outcomes, Newton’s laws of motion, including a 65% increase in ākonga saying they knew quite a bit or everything.



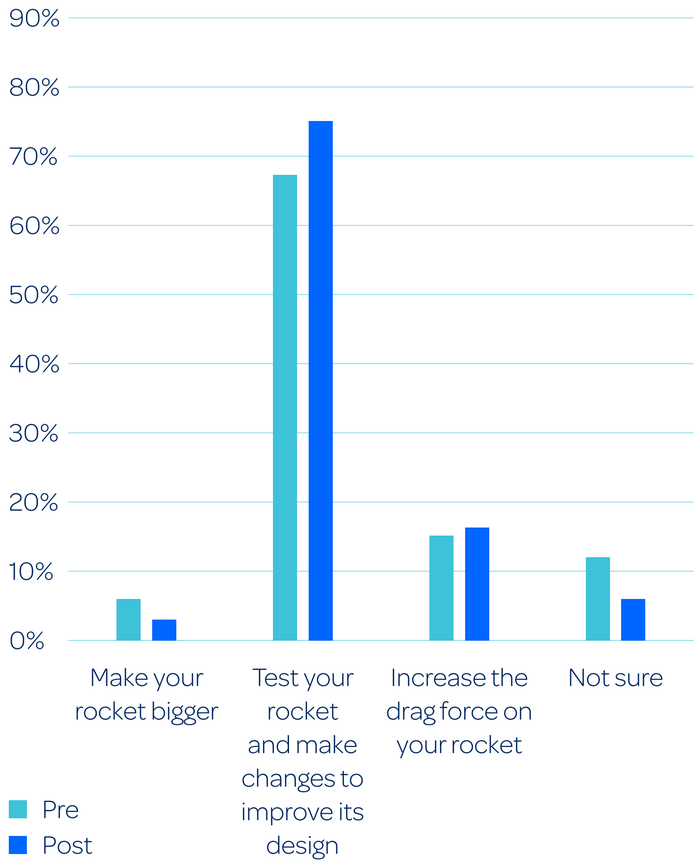

### Forces of flight

Before the challenge, 41% of ākonga could correctly identify thrust as a force of flight. After the challenge this rose to 77% of ākonga, an 88% increase.



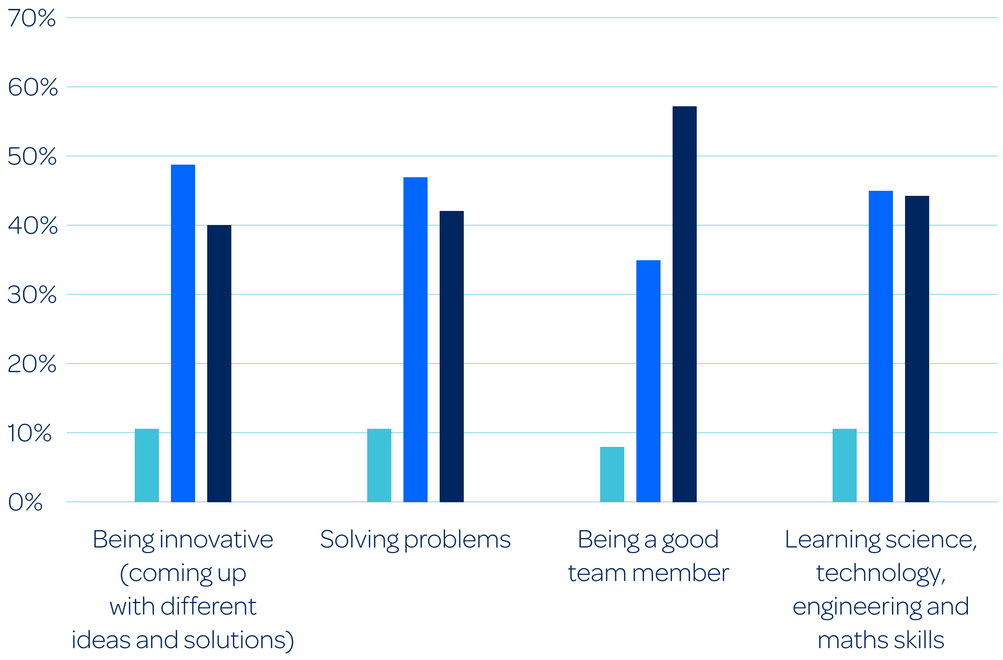

### Engineering design process

Before the challenge, 67% of ākonga could correctly identify testing and improving their rocket as the best way to get it to fly higher and further. After the challenge this rose to 75% of ākonga, a 12% increase.



### STEM skills practiced

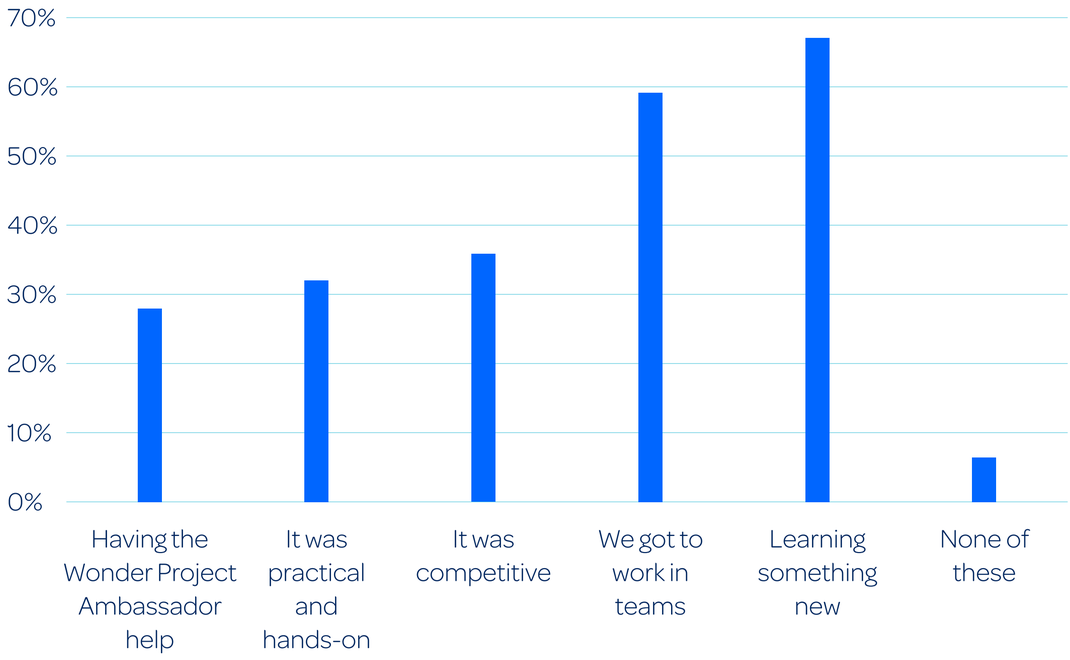
During the challenge, we expect ākonga will learn about and practice four key STEM skills. The majority of ākonga were exposed to these and could identify that they'd been able to practice them. Teamwork was a stand-out, with 57% of ākonga saying they practiced this skill a lot. 95% of kaiako also said there were lots of opportunities for ākonga to discover and develop STEM skills.




## Enjoyment

### What they liked

From their Wonder Project experience, ākonga mostly valued learning something new and working in teams, when asked what they enjoyed about the challenge.




### Experience completing the challenge

**78%** ākonga had a great experience doing the Rocket Challenge

### Take part again

**83%** ākonga said they would like to take part in another challenge

“The buy in from my kids was incredible. I discovered that kids who were disconnected with their learning in other areas found a new appreciation for school.”

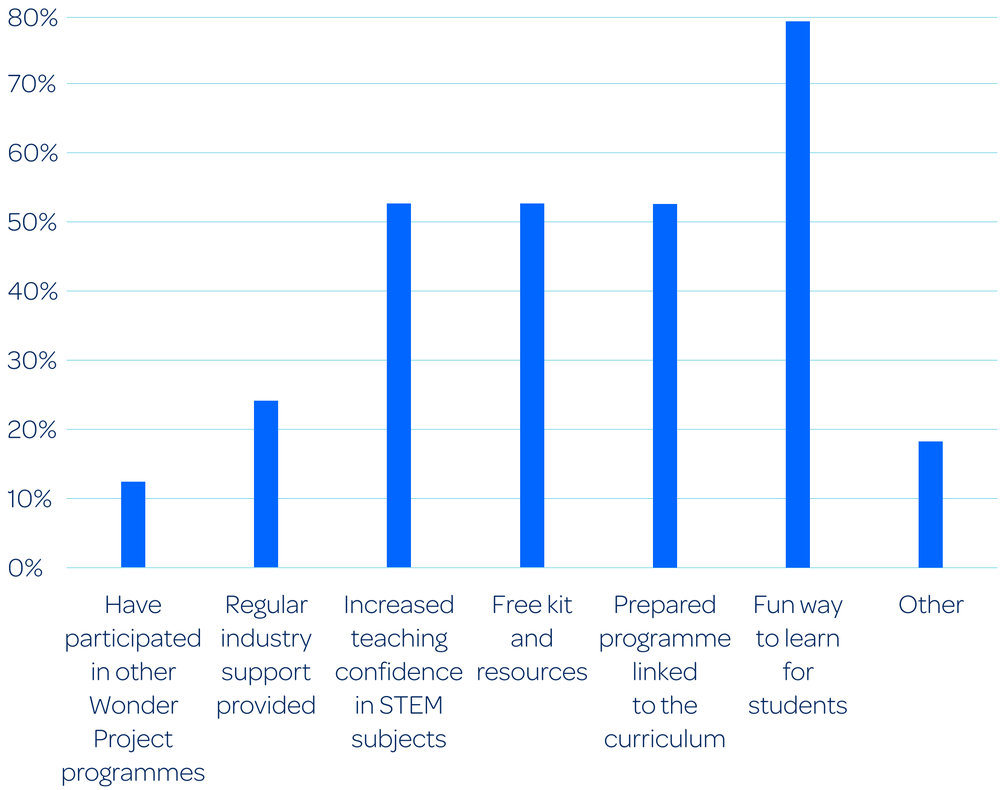
**Nichola Humby, Kaiako**
Paroa School

# KAIAKO EXPERIENCE

# Registering

### Motivation to sign up

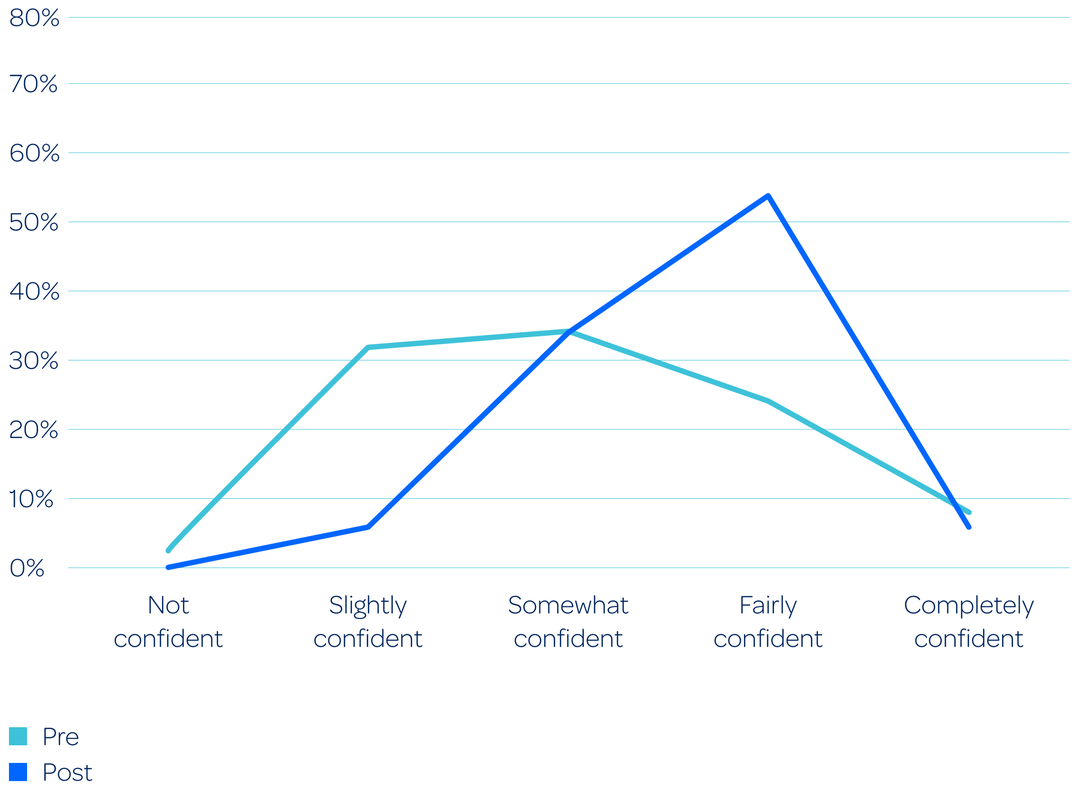
Teachers primarily registered for the Rocket Challenge because it looked like a fun way for their ākonga to learn. Having a prepared programme linked to the curriculum, the free kit and resources, and increasing their confidence teaching STEM were also predominant reasons they signed up.




# Confidence

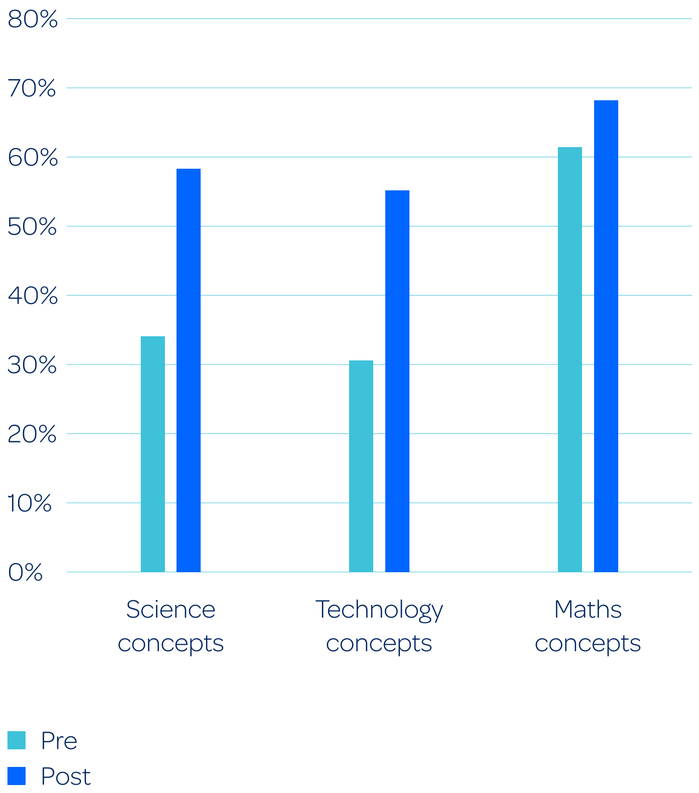
### Teaching STEM subjects

When asked if they felt participating in the challenge has increased their confidence in teaching STEM, 95% of teachers agreed. We had an 88% increase in kaiako feeling fairly or completely confident teaching STEM subjects..



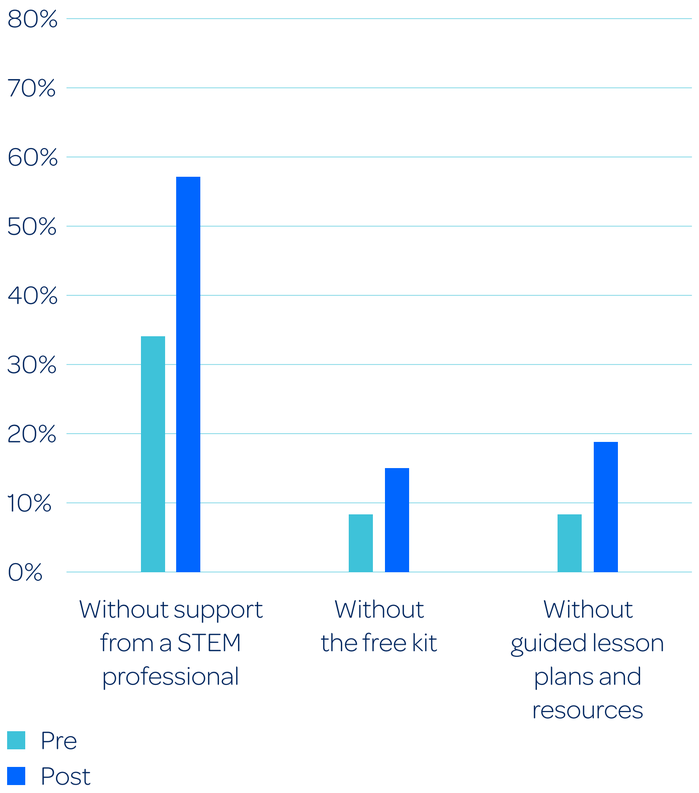
### Demonstrating STEM concepts

There was a 44% increase in kaiako feeling fairly or completely confident demonstrating STEM concepts overall.




### Wonder Project support

When asked how confident kaiako would feel funning the challenge on their own and without various aspects of support provided by the Wonder Project, we notice that kaiako still value the free kit and lesson plans post the challenge. They do feel more able to run the challenge without support from a STEM professional, which aligns to their increase in confidence teaching STEM subjects and demonstrating concepts.




**“It was so engaging for my neurodiverse tamariki too, giving them a creative outlet and a role in the team that suited them.”**

**Liah Hughes,**
Westown School

# Challenge content

**Structure and pace**

**91% of kaiako** said the challenge was well structured and paced to support ākonga learning and agency

**Accessibility**

**97% of kaiako** said the challenge was appropriate for ākonga from different cultures and backgrounds

**Inclusiveness**

**97% of kaiako** said the challenge was appropriate for neurodiverse learners

**Online Learning Hub**

**88% of kaiako** said the online Learning Hub was helpful, easy to use and navigate

**Teaching content**

**89% of kaiako** were fairly or completely satisfied with the teaching content

**Teaching content**

**91% of kaiako** were fairly or completely satisfied with the ākonga module content

# Enjoyment

**Net Promotor Score**

**NPS of 55**

with

**63% of kaiako**

being promoters for the Wonder Project

**Experience teaching the challenge**

**92% of kaiako**

said they enjoyed teaching the Rocket Challenge

**Take part again**

**96% of kaiako**

said they'd take part in another Wonder Project challenge based on their experience

“It’s great seeing the light bulb moment for kids, especially those that don’t think they have the STEM skills to be successful. All our kids can do this, they just need to be inspired to.”

**Amanda Dilenno, Ambassador**
University of Auckland

# AMBASSADOR EXPERIENCE

## Challenge content

**Teaching content**

**82%**
**ambassadors**

were fairly or completely satisfied with the teaching content

**Ākonga module content**

**80%**
**ambassadors**

were fairly or completely satisfied with the ākonga module content

## Enjoyment

**Net Promotor Score**

**NPS of 53**

with

**63%**
**ambassadors**

being promoters for the Wonder Project.

**Experience supporting the challenge**

**90%**
**ambassadors**

said they enjoyed supporting the Rocket Challenge

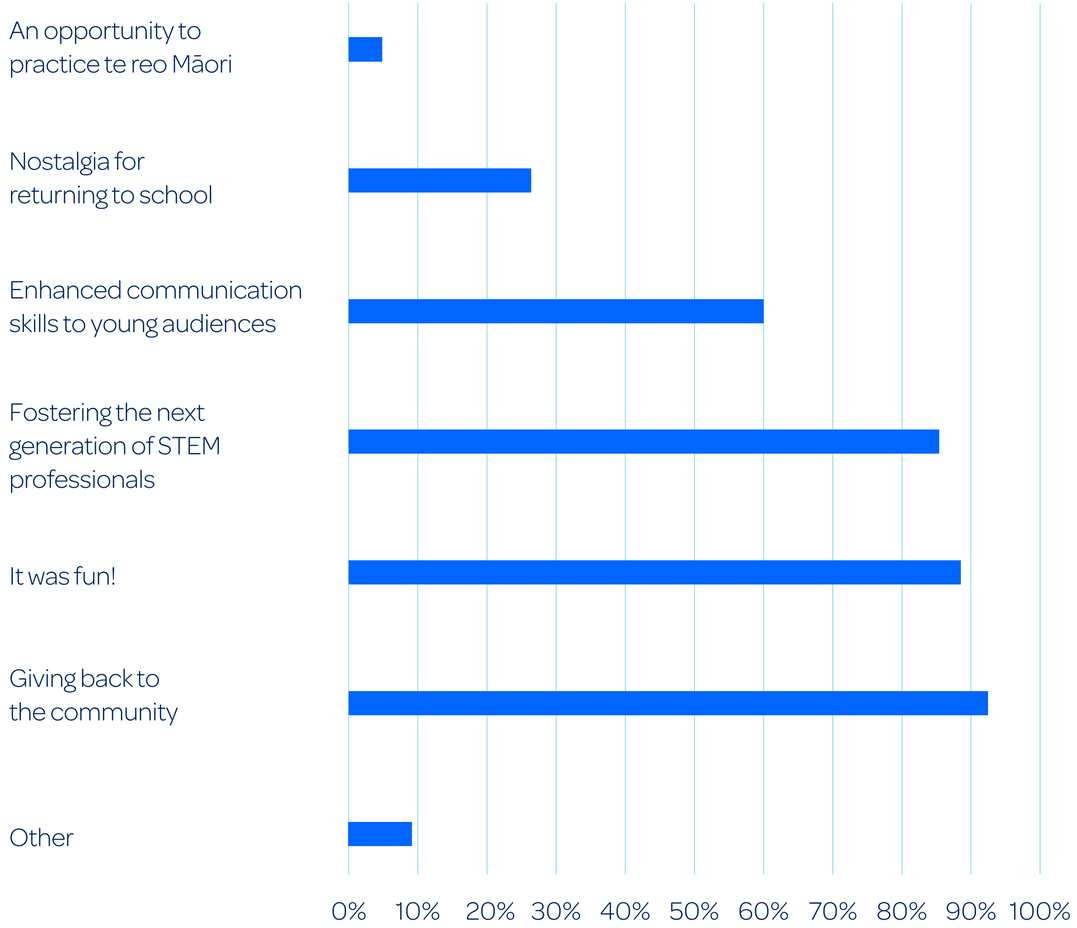
**Take part again**

**88%**
**ambassadors**

said they'd like to be involved again

**Benefits**

Ambassadors rated giving back to their community, having fun, and fostering the next generation of STEM professionals as the top things they gained from being part of the Wonder Project.



“It was great to be back in the classroom and hang out with the kids - seeing their excitement reminded me of why I chose this field.”

**Breanna Jury, Ambassador**
Tonkin + Taylor

# FINAL BLAST OFF WINNERS

# Rangatahi soar to new heights

Each year we ask our rocketeers to create a video or poster that showcases their learning journey, to enter the final blast off competition. Watch the 2025 winners soar to new heights!

**Winner:** Naenae Intermediate

**Runner up:** Dairy Flat School


**“I have been doing this challenge for a while now, and it just keeps getting better and better.”**

**Hira Hutchinson, Kaiako**
Kaihu Valley School

Wonder
Project

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