

8 November 2024

Tēnā koe [REDACTED]

### Official Information Act Request

Thank you for your request of 21 September 2024, under the Official Information Act 1982, for the following information regarding the Pūhoro STEMM Academy, specifically for the years 2021, 2022, 2023, and 2024 (inclusive):

1. *All correspondence between NZQA and the Pūhoro STEMM Academy, particularly related to:*
  - *Assessments and qualifications.*
  - *Evaluations or reviews of educational outcomes.*
  - *Organized trips, including details about destinations, purposes, and outcomes of these trips.*
2. *Copies of all reports, evaluations, assessments, or reviews related to the Academy submitted to or produced by NZQA.*
3. *Any advice provided to the Minister of Education or to NZQA decision-makers concerning the Pūhoro STEMM Academy, including briefings, memos, and policy recommendations.*
4. *Detailed information and documentation regarding any educational or promotional trips involving students or staff from the Pūhoro STEMM Academy, funded or facilitated by NZQA.*

We notified you on 16 October 2024 of an extension to the timeframe to 8 November 2024.

Your request has been considered under the Official Information Act 1982.

A table listing the documents being released is below in the appendix to this letter.

Under section 9(2)(a) of the Official Information Act 1982, the names and images of individual students, as well as personal contact details have been withheld.

Under section 9(2)(b)(ii) of the Official Information Act 1982, certain financial information has been withheld.

NZQA is not aware of any public interest considerations outweighing the decision to withhold information under section 9 of the Act.

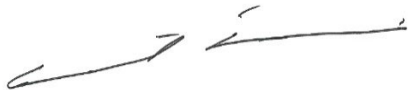
We are also withholding some information from an internal report to the NZQA Board that is outside the scope of your request.

Our response to your request may be published on our website after five working days. Your name and contact details will be removed before publication.

If you require further assistance or believe we have misinterpreted your request, please contact [ministerials@nzqa.govt.nz](mailto:ministerials@nzqa.govt.nz)

You have the right to seek an investigation or review by the Ombudsman of this decision under section 28(3) of the Official Information Act 1982. Details of how to make a complaint can be found at [www.ombudsman.parliament.nz](http://www.ombudsman.parliament.nz). You can also telephone 0800 802 502 or write to the Ombudsman at PO Box 10152, Wellington, 6143.

Nāku nā

A handwritten signature in black ink, appearing to read 'Grant Klinkum', written over a horizontal line.

Dr Grant Klinkum  
Pouwhakahaere/Chief Executive

## Appendix OFFICIAL INFORMATION ACT REQUEST OC01230

#	Request	File Code	Document Name	No. of Pages
1	<p>All correspondence between NZQA and the Pūhoro STEMM Academy, particularly related to:</p> <ul style="list-style-type: none"> <li>Assessments and qualifications</li> <li>Evaluations or reviews of educational outcomes.</li> <li>Organized trips, including details about destinations, purposes, and outcomes of these trips.</li> </ul>	<b>A1-OC01230</b>	Massey University and New Zealand Qualifications Authority Agreement for the Pūhoro STEM Academy 21 October 2020 to 30 June 2021	5 pages
		<b>A2-OC01230</b>	Pūhoro Charitable Trust Board and New Zealand Qualifications Authority Agreement for the Pūhoro STEMM Kaupapa 15 November 2021	5 pages
		<b>A3-OC01230</b>	Letter and variation of the agreement	3 pages
		<b>A4-OC01230</b>	Contract Variation (30/05/2022)	3 pages
		<b>A5-OC01230</b>	Pūhoro Charitable Trust Board And New Zealand Qualifications Authority Agreement for the Pūhoro STEMM Kaupapa November 2022	5 pages
		<b>A6-OC01230</b>	2023 -2024 Deliverables	1 page
2	Copies of all reports, evaluations, assessments, or reviews related to the Academy submitted to or produced by NZQA	<b>A7-OC01230</b>	Āmua Ao Initiatives EYMM Evaluation Report Dec 2020	24 pages
		<b>A8-OC01230</b>	Final Report Pūhoro & NZQA Partnership June 21	20 pages
		<b>A9-OC01230</b>	Annual Report Pūhoro & NZQA Partnership 2021-2022	32 pages
		<b>A10-OC01230</b>	NZQA Pūhoro Report July 2022 – June 2023	7 pages
		<b>A11-OC01230</b>	NZQA Pūhoro Report July 2023 – June 2024	9 pages
3	Any advice provided to the Minister of Education or to NZQA decision-makers concerning the Pūhoro STEMM Academy, including briefings, memos, and policy recommendations	<b>A12-OC01230</b>	Māori & Pacific in STEM - Update on the Māori and Pacific in STEM project 26/11/2020	3 pages
		<b>A13-OC01230</b>	Pūhoro STEMM Academy 29/09/2022	2 pages

4 .	Detailed information and documentation regarding any educational or promotional trips involving students or staff from the Pūhoro STEMM Academy, funded or facilitated by NZQA.	-	NZQA did not fund or facilitate any educational or promotional trips. Note: NZQA did facilitate the Silicon Valley, San Francisco, USA trips in 2016 and this is outside the scope of this OIA request.	-
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## OFFICIAL INFORMATION ACT REQUEST OC01230

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1.	<p>All correspondence between NZQA and the Pūhoro STEM Academy, particularly related to:</p> <ul style="list-style-type: none"> <li>• Assessments and qualifications.</li> <li>• Evaluations or reviews of educational outcomes.</li> <li>• Organized trips, including details about destinations, purposes, and outcomes of these trips.</li> </ul>	<b>A1-OC01230</b>	Massey University and New Zealand Qualifications Authority Agreement for the Pūhoro STEM Academy 21 October 2020 to 30 June 2021	5 pages
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		<b>A3-OC01230</b>	Letter and variation of the agreement	3 pages
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3.	Any advice provided to the Minister of Education or to NZQA decision-makers concerning the Pūhoro STEM Academy, including briefings, memos, and policy recommendations	<b>A12-OC01230</b>	Māori & Pacific in STEM - Update on the Māori and Pacific in STEM project 26/11/2020	3 pages
		<b>A13-OC01230</b>	Pūhoro STEM Academy 29/09/2022	2 pages
4.	Detailed information and documentation regarding any educational or promotional trips involving students or staff from the Pūhoro STEM Academy, funded or facilitated by NZQA.	-	NZQA did not fund or facilitate any educational or promotional trips. Note: NZQA did facilitate the Silicon Valley, San Francisco, USA trips in 2016 and this is outside the scope of this OIA request.	-



*MASSEY UNIVERSITY*

*AND*

*NEW ZEALAND QUALIFICATIONS AUTHORITY*

AGREEMENT FOR THE  
PŪHORO STEM ACADEMY

21 October 2020 to 30 June 2021

## **1. PARTIES**

- 1.1. MASSEY UNIVERSITY (Massey) (a university as established under the Education Act 1989); and
- 1.2. NEW ZEALAND QUALIFICATION AUTHORITY (NZQA) (a Crown Entity as defined by the Crown Entities Act 2004, and empowered by section 430 of the Education and Training Act 2020).

## **2. BACKGROUND**

- 2.1. Massey University and NZQA both have strategic objectives to improve Māori achievement in Science, Technology, Engineering, Mathematics (STEM) related subjects. It is this commonality that brought these two parties together to explore initiatives that are mutually beneficial to the parties.
- 2.2. The Pūhoro STEM Academy (Pūhoro) is an outreach programme established by Massey with the aim to raise participation and achievement of Māori secondary students in STEM subjects. Massey intends that Pūhoro will expose students to the breadth of NCEA choices and careers across the science and technology sector, introduce them to role models, and facilitate weekly engagements with 'Kaihautū' to support students' success in NCEA.
- 2.3. NZQA has a goal to partner with Māori, education agencies and others to enable equitable achievement for Māori students in STEM subjects at all levels of NCEA.
- 2.4. In 2015/2016 NZQA, in partnership with others, established and delivered Āmua Ao, an experiential learning programme that aims to inspire students to pursue STEM pathways.
- 2.5. The parties have agreed that the Āmua Ao programme will be incorporated into, and provided by Massey as part of, the Pūhoro programme for the period from 21 October 2020 through to 30 June 2021.
- 2.6. The parties agree to work together to explore the opportunities for Māori secondary students in STEM, and to ensure the sustainable and highly impactful delivery of the Āmua Ao and Pūhoro programmes.

## **3. THE PURPOSE OF THIS AGREEMENT**

- 3.1. The purpose of the agreement is to clarify the mutual interests and expectations of the parties and to agree how information will be shared for the length of the agreement; and
- 3.2. To gain learnings from the impact of the Āmua Ao and Pūhoro programmes and understand factors relating to Māori student achievement in STEM related subjects; and
- 3.3. To gain learnings of how the model works and how it could be replicated and/or expanded.

## **4. RESPONSIBILITIES OF THE PARTIES**

### MASSEY

- 4.1. Massey will continue to design and provide the Pūhoro programme and is solely responsible for the delivery of this programme.
- 4.2. Massey will share data and evaluative material from the Pūhoro programme with NZQA.

4.3. Massey will be responsible for the co-design of the Āmua Ao programme with NZQA and will be responsible for the delivery and evaluation of the Āmua Ao programme to Māori students.

#### NZQA

4.4. NZQA will provide to the Āmua Ao programme resources, financial, and other support as set out in this agreement.

4.5. NZQA will deliver NCEA & the Whānau workshops to Pūhoro whānau.

4.6. NZQA will, in accordance with NZQA policy and its obligations under the Privacy Act 1993, share with Massey NCEA achievement data for students enrolled in the Pūhoro and Āmua Ao programmes.

### 5. RELATIONSHIP MANAGEMENT

5.1. Each party agrees to:

- work together and share information about how to increase more Māori student participation and achievement in STEM related areas
- maintain good relationships with each other at all times
- meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required
- act in good faith at all times
- be transparent with each other without breaching confidentiality
- acknowledge each party's priorities and use best endeavours to support them.

### 6. FINANCIAL

6.1. NZQA will provide funding to support the delivery of the Āmua Ao programme by Massey. Funding will be matched to a set of deliverables with the deliverables and funding for the 2020/21 year set out in the Appendix attached to this agreement. NZQA agrees to pay invoice/s submitted by Massey within 28 days of receipt.

### 7. KEY CONTACTS

7.1. The key contacts for this agreement are:

Partner	Contact	Contact details
MASSEY UNIVERSITY	Naomi Manu Director, Academy Programmes	[Redacted] [Redacted]
NZQA	Alex Bidois Deputy Chief Executive Māori	alex.bidois@nzqa.govt.nz [Redacted]



## 8. COMMUNICATIONS

- 8.1. The parties agree that Massey will lead communications and will consult with NZQA on proposed joint publicity statements regarding the Āmua Ao programme.

## 9. DISPUTE RESOLUTION

- 9.1. All parties will agree to work together in good faith to resolve any issues raised throughout the term of the agreement.

## 10. CONFIDENTIALITY

- 10.1. The parties shall at all times, unless otherwise required by law, hold in strict confidence any confidential information it becomes aware of in relation to the other party and will not disclose any confidential information to any third party except as approved in writing by the other party. The parties may disclose confidential information to those of its employees and representatives who require access to the confidential information for the purpose of this agreement.

## 11. TERM

- 11.1. This agreement is to cover the 2020 through to 2021 year only.
- 11.2. The agreement may be amended at any time by written agreement of the parties.

## 12. COUNTERPARTS

- 12.1. This agreement may be signed in counterparts, including by email, all of which, when taken together, will constitute one and the same document.

## 13. SIGNING PROVISIONS

Signature



Date 21 December 2020

Naomi Manu  
Director  
Pūhoro STEM Academy  
**Massey University**

Signature



Date: 18 December 2020

Dr Grant Klinkum  
Pou Whakahaere | Chief Executive  
**New Zealand Qualifications  
Authority**

**APPENDIX 1 – Agreed Āmua Ao Deliverables and Provision of Funds for 2020/2021**

PERIOD	ACTIVITY	BUDGET
Oct 2020 - Jun 2021	<p><u>Engineering Young Māori Minds (EYMM)</u></p> <p>EYMM events for up to 600 Year 9 and 10 rangatahi Māori, where schools compete in science and engineering challenges based on pūrākau Māori.</p> <p>Events will be held as follows:</p> <ul style="list-style-type: none"> <li>- South Auckland (Oct 2020)</li> <li>- Palmerston North (Oct 2020)</li> <li>- Hawke's Bay (Nov 2020)</li> <li>- Christchurch (Nov 2020)</li> </ul> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	<input style="width: 50px; height: 20px; border: 1px solid red;" type="text"/>
Oct 2020 - Jun 2021	<p><u>Communications</u></p> <ul style="list-style-type: none"> <li>- Āmua Ao presence on the Pūhoro website</li> <li>- Social media presence</li> <li>- Communications and promotion of Āmua Ao initiatives in schools and regions</li> </ul>	<input style="width: 50px; height: 20px; border: 1px solid red;" type="text"/>
Oct 2020 - Jun 2021	<p><u>Evaluation</u></p> <ul style="list-style-type: none"> <li>- Design and implement evaluation framework</li> <li>- Establish and monitor programme outputs and progress</li> <li>- Provide evaluation report for EYMM initiative</li> <li>- Provide end of year evaluation report that highlights the impact of the Āmua Ao and Pūhoro programmes</li> </ul>	<input style="width: 50px; height: 20px; border: 1px solid red;" type="text"/>
<b>TOTAL</b>		<input style="width: 50px; height: 20px; border: 1px solid red;" type="text"/>



NEW ZEALAND **QUALIFICATIONS** AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

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**QUALIFY** FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

*PŪHORO CHARITABLE TRUST BOARD*

*AND*

*NEW ZEALAND QUALIFICATIONS AUTHORITY*

AGREEMENT FOR THE  
PŪHORO STEMM KAUPAPA

15 November 2021

## **1. PARTIES**

- 1.1. PŪHORO CHARITABLE TRUST BOARD (Pūhoro STEMM) which is a charitable trust incorporated under the Charitable Trusts Act 1957; and
- 1.2. NEW ZEALAND QUALIFICATION AUTHORITY (NZQA) which is a Crown Entity for the purposes of section 7 of the Crown Entities Act 2004 and which has been continued by section 430 of the Education and Training Act 2020.

## **2. BACKGROUND**

- 2.1. Pūhoro STEMM and NZQA both have strategic objectives to improve Māori achievement in Science, Technology, Engineering and Mathematics (STEM) related subjects. It is this commonality that brought these two parties together to explore initiatives that are mutually beneficial.
- 2.2. The Pūhoro STEMM Kaupapa incorporates mātauranga Māori as an integral focus alongside STEM (creating the acronym STEMM) and seeks to raise ākonga Māori participation and achievement in STEMM across secondary and tertiary education and in the workforce.
- 2.3. Pūhoro STEMM intends to expose secondary ākonga to the breadth of NCEA choices and careers across the science and technology sectors, introduce them to role models, and facilitate weekly engagements and hands-on wānanga to support students' success in NCEA. This focus will further enable the Pūhoro STEMM aspirations to support ākonga participation in tertiary education and in the workforce.
- 2.4. NZQA has as a goal, the development of strategic partnerships that enable equitable achievement outcomes for ākonga Māori in STEM subjects at all levels of NCEA.
- 2.5. The parties have agreed to work together to explore the opportunities for improving Māori equity and participation in STEM.

## **3. THE PURPOSE OF THIS AGREEMENT**

- 3.1. The purpose of the agreement is to clarify the mutual interests and expectations of the parties and to agree how information will be shared during the term of this agreement; and
- 3.2. To gain learnings from the impact of our shared kaupapa and understand factors relating to Māori equity and participation in STEM.

## **4. RESPONSIBILITIES OF THE PARTIES**

### PŪHORO STEMM

- 4.1. Pūhoro STEMM will design and provide the Pūhoro STEMM kaupapa, and is solely responsible for its delivery; and
- 4.2. Pūhoro STEMM will share its research, data and evaluative material from the Pūhoro STEMM kaupapa with NZQA; and
- 4.3. Pūhoro STEMM will be responsible for the co-design, delivery and evaluation of the agreed deliverables as set out in Appendix 1 with NZQA.

## NZQA

- 4.4. NZQA will provide to Pūhoro STEMM the funding as set out in this agreement and such other reasonable support and resources as the parties agree shall be provided by NZQA from time to time during the term of this agreement; and
- 4.5. NZQA will deliver NCEA me te Whānau workshops to Pūhoro STEMM whānau; and
- 4.6. NZQA will, in accordance with NZQA policy and its obligations under the Privacy Act 1993, share with Pūhoro STEMM NCEA achievement data for students enrolled in the Pūhoro STEMM kaupapa.

## 5. RELATIONSHIP MANAGEMENT

- 5.1. The parties agree to:
- work together and share information about how to increase more Māori student participation and achievement in STEM related areas; and
  - maintain good relationships with each other at all times; and
  - meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required; and
  - act in good faith at all times; and
  - be transparent with each other without breaching confidentiality; and
  - acknowledge each party's priorities and use best endeavours to support them.

## 6. FINANCIAL

- 6.1. The parties will agree to a set of deliverables for each year. The initial set of deliverables for the year ending 30 June 2022 are set out in Appendix 1 to this agreement. In the event that the parties cannot agree on a set of deliverables for each year during the term of the agreement then this agreement shall be at an end.
- 6.2. NZQA will provide funding of  per year for the term of this agreement to support the agreed deliverables, and as set out in the Appendix attached to this agreement. NZQA agrees to pay the invoice/s submitted by Pūhoro STEMM for the deliverables delivered within 28 days of receipt.

## 7. KEY CONTACTS

- 7.1. The key contacts for this agreement are:

Partner	Contact	Contact details
PŪHORO STEMM CHARITABLE TRUST BOARD	Naomi Manu Manahautū	<input type="text"/> <input type="text"/>
NZQA	Alex Bidois Deputy Chief Executive Māori	<a href="mailto:alex.bidois@nzqa.govt.nz">alex.bidois@nzqa.govt.nz</a> <input type="text"/>

## 8. COMMUNICATIONS

- 8.1. The parties agree that Pūhoro STEMM will lead communications and will consult with NZQA on proposed publicity statements regarding the initiatives set out in this agreement.

## 9. DISPUTE RESOLUTION

- 9.1. All parties will agree to work together in good faith to resolve any issues raised throughout the term of the agreement.

## 10. CONFIDENTIALITY

- 10.1. The parties shall at all times, unless otherwise required by law, hold in strict confidence any confidential information it becomes aware of in relation to the other party and will not disclose any confidential information to any third party except as approved in writing by the other party. The parties may disclose confidential information to those of its employees and representatives who require access to the confidential information for the purpose of this agreement.

## 11. TERM

- 11.1. The term of this agreement is for 3 years from 1 July 2021 through to 30 June 2024.
- 11.2. The agreement may be amended at any time by written agreement of the parties.

## 12. COUNTERPARTS

- 12.1. This agreement may be signed in counterparts, including by email, all of which, when taken together, will constitute one and the same document.

## 13. SIGNING PROVISIONS

Signature



Date: 23 November 2021

Date: 22 November 2021

Naomi Manu  
Manahautū  
**Pūhoro Charitable Trust Board**

Dr Grant Klinkum  
Pou Whakahaere | Chief Executive  
**New Zealand Qualifications  
Authority**

**APPENDIX 1 – Agreed Deliverables and Provision of Funds for 2021/2022**

PERIOD	ACTIVITY	BUDGET
Oct 2021 - Jun 2022	<p><u>Engineering Young Māori Minds (EYMM)</u></p> <p>EYMM events for up to 600 Year 9 and 10 rangatahi Māori, where schools compete in science and engineering challenges based on pūrākau Māori.</p> <p>Events will be held in four of the following regions (pending COVID restrictions):</p> <ul style="list-style-type: none"> <li>- Palmerston North</li> <li>- South Auckland</li> <li>- Hawke’s Bay</li> <li>- Christchurch</li> <li>- Waikato</li> </ul> <p>Funding will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	<input style="width: 60px; height: 20px; border: 1px solid red;" type="text"/>
Oct 2021 - Jun 2022	<p><u>Communications</u></p> <ul style="list-style-type: none"> <li>- NZQA joint initiatives</li> <li>- Presence on the Pūhoro website</li> <li>- Social media presence</li> <li>- Communications and promotion of shared initiatives in schools and regions</li> </ul>	<input style="width: 60px; height: 20px; border: 1px solid red;" type="text"/>
Oct 2021 - Jun 2022	<p><u>Evaluation</u></p> <ul style="list-style-type: none"> <li>- Design and implement evaluation framework</li> <li>- Establish and monitor programme outputs and progress</li> <li>- Provide evaluation report for EYMM initiative</li> <li>- Provide end of year evaluation report that highlights the impact of the shared initiatives and Pūhoro programmes</li> </ul>	<input style="width: 60px; height: 20px; border: 1px solid red;" type="text"/>
<b>TOTAL</b>		<input style="width: 60px; height: 20px; border: 1px solid red;" type="text"/>

10 June 2020

Naomi Manu  
Director, Pūhoro STEM Academy

Tēnā koe Naomi

I refer to the Agreement for the Pūhoro STEM Academy between Massey University and NZQA, signed by both parties on 15 April 2018.

Pursuant to this Agreement, NZQA and Massey University acknowledged and agreed the deliverables and funding for the 2019/2020 year as set out in Appendix 1, on 29 November 2019.

Due to the global Covid-19 pandemic, the international experience to Silicon Valley planned for April was cancelled. NZQA and Massey University then agreed to repurpose these funds to deliver a Gisborne Engineering Young Māori Minds (EYM) event in May 2020. Due to Covid-19 restrictions at the time however, this event was also unable to take place.

Considering these circumstances, NZQA agrees to amend our contribution for the 2019 EYM events held in Christchurch and Auckland, to reflect the true cost of delivery.

If Massey University also acknowledges and agrees that the deliverables and funding for the 2019/2020 year are as set out in the attached Appendix 2, could you please sign this letter and initial the amended deliverables schedule and return to NZQA.

I would be happy to receive an invoice for the balance of the funding when you return the signed letter and initialled schedule.

Nāku noa, nā

A handwritten signature in black ink, appearing to be 'AB', followed by a horizontal line.

Alex Bidois  
Deputy Chief Executive Māori  
NZQA

Acknowledged and agreed

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_


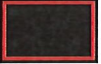
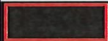

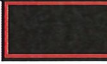



## APPENDIX 1 – Agreed Āmua Ao Deliverables and Provision of Funds for 2019/2020

MONTH	ACTIVITY	BUDGET
Sep 2019	<p><u>Engineering Young Māori Minds (EYMM) (Manawatū region)</u></p> <p>Event for up to 150 Year 9 and 10 rangatahi Māori, where schools compete in six science and engineering challenges that incorporate pūrākau Māori.</p> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	██████████
Oct 2019	<p><u>Engineering Young Māori Minds (EYMM) (Christchurch region)</u></p> <p>Event for up to 150 Year 9 and 10 rangatahi Māori, where schools compete in six science and engineering challenges that incorporate pūrākau Māori.</p> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	██████████
Nov 2019	<p><u>Engineering Young Māori Minds (EYMM) (Auckland region)</u></p> <p>Event for up to 150 Year 9 and 10 rangatahi Māori, where schools compete in six science and engineering challenges that incorporate pūrākau Māori.</p> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	██████████
Apr 2020	<p><u>International Experience</u></p> <p>Fifteen rangatahi Māori will travel abroad and explore the world of STEM possibilities.</p>	██████████
Jul 2019 – Jun 2020	<p><u>Communications</u></p> <ul style="list-style-type: none"> <li>- Āmua Ao presence on the Pūhoro website</li> <li>- Social media presence</li> <li>- Communications and promotion of Āmua Ao initiatives in schools and regions</li> </ul>	██████████
June 2020	<p><u>Evaluation</u></p> <ul style="list-style-type: none"> <li>- Monitor programme outputs and progress</li> <li>- Capture student voice</li> <li>- Provide evaluation report</li> </ul>	██████████
<b>TOTAL</b>		██████████



## APPENDIX 2 – Agreed Āmua Ao Deliverables and Provision of Funds for 2019/2020

MONTH	ACTIVITY	BUDGET
Sep 2019	<p><u>Engineering Young Māori Minds (EYMM) (Manawatū region)</u></p> <p>Event for up to 150 Year 9 and 10 rangatahi Māori, where schools compete in six science and engineering challenges that incorporate pūrākau Māori.</p> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges</li> </ul>	
Oct 2019	<p><u>Engineering Young Māori Minds (EYMM) (Christchurch region)</u></p> <p>Event for up to 150 Year 9 and 10 rangatahi Māori, where schools compete in six science and engineering challenges that incorporate pūrākau Māori.</p> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	
Nov 2019	<p><u>Engineering Young Māori Minds (EYMM) (Auckland region)</u></p> <p>Event for up to 150 Year 9 and 10 rangatahi Māori, where schools compete in six science and engineering challenges that incorporate pūrākau Māori.</p> <p>Costs will cover:</p> <ul style="list-style-type: none"> <li>- Venue and catering</li> <li>- Travel and accommodation for event staff</li> <li>- Equipment for event challenges (including shipping)</li> </ul>	
Jul 2019 – Jun 2020	<p><u>Communications</u></p> <ul style="list-style-type: none"> <li>- Āmua Ao presence on the Pūhoro website</li> <li>- Social media presence</li> <li>- Communications and promotion of Āmua Ao initiatives in schools and regions</li> </ul>	
June 2020	<p><u>Evaluation</u></p> <ul style="list-style-type: none"> <li>- Monitor programme outputs and progress</li> <li>- Capture student voice</li> <li>- Provide evaluation report</li> </ul>	
<b>TOTAL</b>		



# Contract Variation

## Contract Variation 01

**Buyer:** New Zealand Qualifications Authority, "NZQA" – NZBN: 9429041909980

**Supplier:** Pūhoro Charitable Trust

**Contract:** Pūhoro STEMM Kaupapa

**Contract reference number:** 10239

**Contract dated:** 23/11/2021

## Variation

The Buyer and the Supplier are Parties to the Contract.

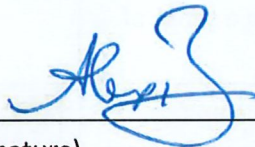
The Parties agree to vary the Contract. The scope of the Variation is set out in the attached Schedule of Changes. The Variation is effective from the Effective Date stated in the Schedule of Changes.

Subject to the changes made in any Variation, the terms and conditions of the original Contract remain in effect.

Words used but not defined in this Variation have the same meaning as they do in the Contract.

## Acceptance

Signed for and on behalf of the Buyer:



(signature)

**Name:** Alex Bidois

**Position:** Deputy Chief Executive Māori

**Date:** Select date 30/5/22

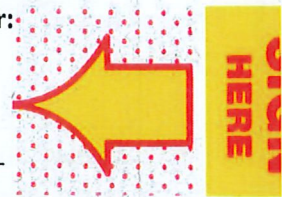
Signed for and on behalf of the Supplier:

(signature)

**Name:** Naomi Manu

**Position:** Manahautū

**Date:** Select date






## Schedule of Changes

**Effective Date:** 7/04/2022

### Changes to Schedule 1

1. **Change to description of Services**
  - 1.1 The description of the Services stated in Appendix 1 – Agreed Deliverables and Provision of Funds for 2021/2022, is amended as follows:

<b>STEMM Haerenga (Apr 2022)</b>	Delivery of 21 STEMM haerenga in the upcoming school holidays across the following regions: - Auckland	<div style="border: 1px solid red; padding: 2px; display: inline-block;">\$20k</div>
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	<ul style="list-style-type: none"> <li>- Waikato</li> <li>- Ruapehu</li> <li>- Hawke's Bay</li> <li>- Manawatū</li> <li>- Christchurch</li> </ul> <p>Confirmed activities include:</p> <ul style="list-style-type: none"> <li>- Digitech workshops (Code Avenger and Digital Natives Academy)</li> <li>- Experiential workshops (nursing, science and forensic labs, and Auckland Zoo)</li> <li>- Mātauranga Māori workshops (carving, taonga puoro, Ātea-a-Rangi)</li> <li>- Tours (Kāpiti Island*, Goat Island*, Huntly Power Thermal Station, Pūkaha/Zealandia, Antarctic Centre) <i>*includes engagement with mana whenua</i></li> </ul> <p>These haerenga were designed to be small to ensure they remained viable in the COVID climate. As such, we hope for 220 rangatahi engagements.</p>	
<b>STEMM poster series</b> <b>(by 30 Jun 22)</b>	<p>Design, print for distribution of a series of STEMM posters (1 per STEMM field) to all Pūhoro schools nationwide.</p> <p>The intention is to celebrate and normalise Māori in STEMM in classrooms around Aotearoa, and provide rangatahi with a sense of belonging in those environments.</p>	
<b>STEMM Bus business case</b> <b>(by 30 Jun 22)</b>	<p>Commission a business case to establish a STEMM mobile unit to service the needs of rangatahi Māori in Northland. The business case will include</p> <ul style="list-style-type: none"> <li>- Sizing the problem in Northland</li> <li>- Pitching the mobile unit as the solution</li> <li>- A plan, timeline and budget to support rollout</li> <li>- Benefit forecasting, and</li> <li>- Risk identification</li> </ul> <p>We have a funding opportunity to establish this service in Northland which is one of our high-needs areas. At a minimum, we expect the mobile unit would provide Yr 9-13 rangatahi the opportunity to engage in STEMM activities outside the classroom and STEMM kits to help schools deliver lessons in the classroom.</p>	
<b>Communications</b>	<p>Offerings include:</p> <ul style="list-style-type: none"> <li>- Promotion of 2021-2022 NZQA joint initiatives to schools, regions and nationally (social and traditional media)</li> <li>- Promotion of past NZQA joint initiatives, ie, Āmua Ao (Pūhoro website)</li> <li>- Promotion of NZQA partnership (Pūhoro website)</li> <li>- Sharing of approved student/STEMM images from Pūhoro events</li> <li>- Host NCEA me te Whānau workshops and training for Kaihautu</li> </ul>	

It will be noted the inclusion of an extra deliverable from what was originally discussed (STEMM Bus business case) and perhaps the absence of the \$1k investment that is usually allocated to evaluation and reporting. Pūhoro is offering the extra deliverable in the hope that NZQA may consider reducing their evaluation/reporting expectations for this year. It is also noted the evaluation rubric for the EYMM events was framed up over a substantial period with NZQA and unfortunately, Pūhoro don't have the capacity to design and implement the same type of robust evaluation for the new deliverables – especially considering the complexity of the 20+ STEMM haerenga and the short timeframe. Pūhoro will still provide NZQA with an annual report including narrative around the above deliverables.

*PŪHORO CHARITABLE TRUST BOARD*

*AND*

*NEW ZEALAND QUALIFICATIONS AUTHORITY*

**AGREEMENT FOR THE  
PŪHORO STEMM KAUPAPA**

**November 2022**

## **1. PARTIES**

- 1.1. PŪHORO CHARITABLE TRUST BOARD (Pūhoro STEMM) which is a charitable trust incorporated under the Charitable Trusts Act 1957; and
- 1.2. NEW ZEALAND QUALIFICATION AUTHORITY (NZQA) which is a Crown Entity for the purposes of section 7 of the Crown Entities Act 2004 and which has been continued by section 430 of the Education and Training Act 2020.

## **2. BACKGROUND**

- 2.1. Pūhoro STEMM and NZQA both have strategic objectives to improve Māori achievement in Science, Technology, Engineering and Mathematics (STEM) related subjects. It is this commonality that brought these two parties together to explore initiatives that are mutually beneficial.
- 2.2. The Pūhoro STEMM Kaupapa incorporates mātauranga Māori as an integral focus alongside STEM (creating the acronym STEMM) and seeks to raise ākonga Māori participation and achievement in STEMM across secondary, tertiary and the workforce.
- 2.3. Pūhoro STEMM intends to expose secondary ākonga to the breadth of NCEA choices and careers across the science and technology sectors, introduce them to role models, and facilitate weekly engagements and hands-on wānanga to support students' success in NCEA. This focus will further enable the Pūhoro STEMM aspirations to support ākonga participation in tertiary education and in the workforce.
- 2.4. NZQA has as a goal, the development of strategic partnerships that enable equitable achievement outcomes for ākonga Māori in STEM subjects at all levels of NCEA.
- 2.5. The parties have agreed to work together to explore the opportunities for improving Māori equity and participation in STEM.

## **3. THE PURPOSE OF THIS AGREEMENT**

- 3.1. The purpose of this agreement is
  - a) to clarify the mutual interests and expectations of the parties and to agree how information will be shared during the term of this agreement; and
  - b) To gain learnings from the impact of our shared kaupapa and understand factors relating to Māori equity and participation in STEM.

## **4. RESPONSIBILITIES OF THE PARTIES**

### PŪHORO STEMM

- 4.1. Pūhoro STEMM will design and provide the Pūhoro STEMM kaupapa, and is solely responsible for its delivery; and
- 4.2. Pūhoro STEMM will share its research, data and evaluative material from the Pūhoro STEMM kaupapa with NZQA; and
- 4.3. Pūhoro STEMM will be responsible for the co-design, delivery and evaluation of the agreed deliverables as set out in Appendix 1 with NZQA.

## NZQA

- 4.4. NZQA will provide to Pūhoro STEM the funding as set out in this agreement and such other reasonable support and resources as the parties agree shall be provided by NZQA from time to time during the term of this agreement; and
- 4.5. NZQA will deliver NCEA me te Whānau workshops to Pūhoro STEM whānau; and
- 4.6. NZQA will train Kaihautu to deliver two NZQA developed workshops 'Study Skills' (Preparing for NCEA Exams) and 'Subject Selection' for ākongā; and
- 4.7. NZQA will, in accordance with NZQA policy and its obligations under the Privacy Act 2020, share with Pūhoro STEM NCEA achievement data for students enrolled in the Pūhoro STEM kaupapa.

## 5. RELATIONSHIP MANAGEMENT

- 5.1. The parties agree to:
- work together and share information about how to increase more Māori student participation and achievement in STEM related areas; and
  - maintain good relationships with each other at all times; and
  - meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required; and
  - act in good faith at all times; and
  - be transparent with each other without breaching confidentiality; and
  - acknowledge each party's priorities and use best endeavours to support them.

## 6. FINANCIAL

- 6.1. The parties will agree to a set of deliverables for each year. The initial set of deliverables for the year ending 30 June 2023 are set out in Appendix 1 to this agreement. In the event that the parties cannot agree on a set of deliverables for each year during the term of the agreement then this agreement shall be at an end.
- 6.2. NZQA will provide funding of  per year for the term of this agreement to support the agreed deliverables, and as set out in the Appendix attached to this agreement. NZQA agrees to pay the invoice/s submitted by Pūhoro STEM for the deliverables delivered within 28 days of receipt.

## 7. KEY CONTACTS

- 7.1. The key contacts for this agreement are:

Partner	Contact	Contact details
PŪHORO STEM CHARITABLE TRUST BOARD	Naomi Manu Manahautū	<input type="text"/> <input type="text"/>
NZQA	Alex Bidois Deputy Chief Executive Māori	<a href="mailto:alex.bidois@nzqa.govt.nz">alex.bidois@nzqa.govt.nz</a> <input type="text"/>



## 8. COMMUNICATIONS

- 8.1. The parties agree that Pūhoro STEMM will lead communications and will consult with NZQA on proposed publicity statements regarding the initiatives set out in this agreement.

## 9. DISPUTE RESOLUTION

- 9.1. All parties will agree to work together in good faith to resolve any issues raised throughout the term of the agreement.

## 10. CONFIDENTIALITY

- 10.1. The parties shall at all times, unless otherwise required by law or parliament, hold in strict confidence any confidential information it becomes aware of in relation to the other party and will not disclose any confidential information to any third party except as approved in writing by the other party. The parties may disclose confidential information to those of its employees and representatives who require access to the confidential information for the purpose of this agreement.

## 11. TERM

- 11.1. The term of this agreement is for 3 years from 1 July 2021 through to 30 June 2024.
- 11.2. The agreement may be amended at any time by written agreement of the parties.

## 12. COUNTERPARTS

- 12.1. This agreement may be signed in counterparts, including by email, all of which, when taken together, will constitute one and the same document.

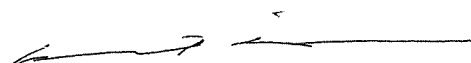
## 13. SIGNING PROVISIONS



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5 December 2022

Naomi Manu  
Manahautū  
**Pūhoro Charitable Trust Board**



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Date 14 December 2022


Dr Grant Klinkum  
Pou Whakahaere | Chief Executive  
**New Zealand Qualifications  
Authority**

## APPENDIX 1 – Agreed Deliverables for 2022/2023

	<b>DELIVERABLES</b>	<b>MEASURES</b>	<b>COSTS</b>
1	<p><u>Wānanga Events - Ākonga engagements</u></p> <ul style="list-style-type: none"> <li>• Deliver STEMM activities</li> <li>• Recognise NZQA as sponsor and include branding in wānanga promotions</li> <li>• Schedule and coordinate the NCEA me te Ākonga workshops at wānanga</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum 6 wānanga in participating regions</li> <li>• Minimum of 500 ākonga NCEA workshop engagements</li> </ul>	<input type="text"/>
2	<p><u>NCEA Workshops and Training</u></p> <p>Work with NZQA to:</p> <ul style="list-style-type: none"> <li>• Coordinate NCEA me te Whānau workshops for participating whānau, across all regions where Pūhoro is offering its programmes (in-person and / or online delivery)</li> <li>• Coordinate Pūhoro Kaihautū training in NCEA me te Ākonga</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum of 6 NCEA workshops</li> <li>• Minimum of 15 Kaihautū trained</li> </ul>	<input type="text"/>
3	<p><u>Te Kāhui Ākonga</u></p> <ul style="list-style-type: none"> <li>• Work with NZQA to maintain 'Te Kāhui Ākonga' (TKA) representation to ensure NZQA has appropriate Ākonga Māori perspectives on service design and relevant messaging across our social media platforms</li> <li>• Provide adequate Kaihautū supervision at 'Te Kāhui Ākonga' hui and engagements.</li> </ul>	<ul style="list-style-type: none"> <li>• A minimum of 12 participants</li> <li>• A minimum of 10 participants attends each hui</li> <li>• A minimum of x2 Kaihautū support TKA (male and female)</li> </ul>	<input type="text"/>
4	<p><u>Communications</u></p> <ul style="list-style-type: none"> <li>• Include NZQA brand in Pūhoro communications and social media promotions (as applicable)</li> <li>• Provide access to and permissions for Pūhoro student photo library</li> <li>• Coordinate interviews with Kaihautū, ākonga and their whānau for NZQA's reporting and publicity requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Including NZQA brand and brief outline of NZQA / Pūhoro partnership at wānanga</li> </ul>	<input type="text"/>

## 2023 – 2024 Deliverables

	DELIVERABLES	MEASURES	COSTS
1	<u>Wānanga Events - Ākonga engagements</u> <ul style="list-style-type: none"> <li>Recognise NZQA as sponsor and include branding in wānanga promotions.</li> <li>Schedule and coordinate the NCEA me te Ākonga workshops.</li> <li>Deliver STEMM activities to rangatahi.</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 6 wānanga in participating regions</li> <li>Minimum of 500 ākonga NCEA workshop engagements</li> </ul>	<input type="checkbox"/>
2	<u>NCEA Workshops</u> <ul style="list-style-type: none"> <li>Support the redesign of the student and whānau NCEA Workshops.</li> <li>Coordinate NCEA me te Whānau workshops for participating whānau, across Pūhoro regions (in-person and / or online delivery).</li> </ul>	<ul style="list-style-type: none"> <li>Minimum of 6 Kaihautū engage in the redesign of NCEA workshops</li> <li>Minimum of 6 NCEA workshops delivered in participating regions</li> </ul>	<input type="checkbox"/>
3	<u>Te Kāhui Ākonga</u> <ul style="list-style-type: none"> <li>Work with NZQA to maintain 'Te Kāhui Ākonga' representation to ensure NZQA has appropriate Ākonga Māori perspectives on service design and relevant messaging across our social media platforms.</li> <li>Provide adequate Kaihautū supervision at 'Te Kāhui Ākonga' hui and engagements.</li> </ul>	<ul style="list-style-type: none"> <li>Minimum of 12 participants</li> <li>Minimum of 10 participants attend hui</li> <li>Minimum of 2 Kaihautū attend (male and female)</li> </ul>	<input type="checkbox"/>
4	<u>Communications</u> <ul style="list-style-type: none"> <li>Include NZQA brand in Pūhoro communications and social media promotions (as applicable).</li> <li>Provide access to and permissions for Pūhoro student photo library.</li> <li>Coordinate interviews with Kaihautū, ākonga and their whānau for NZQA's reporting and publicity requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Include NZQA brand and brief outline of NZQA / Pūhoro partnership at wānanga</li> <li>Promote NZQA across social media, as applicable</li> </ul>	<input type="checkbox"/>

Signature <u>Kemp Reweti</u> <small>Kemp Reweti (Sep 7, 2023 18:02 GMT+12)</small>	Date Sep 7, 2023	Signature  <small>Alex Bidois (Sep 8, 2023 11:40 GMT+12)</small>	Date Sep 8, 2023
Kemp Reweti		Alex Bidois	



**A7-OC01230**

**ĀMUA AO INITIATIVE  
ENGINEERING YOUNG MĀORI MINDS  
EVALUATION REPORT  
PŪHORO & NZQA PARTNERSHIP**

**DEC 2020**

**Āmua Ao**  
The logo graphic for Āmua Ao consists of a thick blue horizontal line that ends in a semi-circle on the left and a small circle on the right, resembling a stylized electrical plug or a circuit component.



NEW ZEALAND **QUALIFICATIONS** AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

**QUALIFY FOR THE FUTURE WORLD**  
**KIA NOHO TAKATŪ KI TŌ ĀMUA AO!**



## Naomi Manu - Pūhoro STEM Academy Director



*This year without question, has been one of extreme challenges. With the advent of the novel Covid-19 virus, significant disruptions have taken place across the professional, domestic, and industrial landscapes of Aotearoa and the world.*

*In April of this year, we had planned through the support of NZQA to travel once again on our annual Āmua Ao overseas experience offshore. This year we selected Silicon Valley in San Francisco and a group of fifteen outstanding Year 13 Māori students - to experience first-hand leading companies in the science and technology space there. Furthermore, the tangata whenua of the Bay area were positioned to greet us, so we could exchange and build upon the uniqueness of our traditions and tikanga as indigenous peoples of our lands. Sadly, with the advent of Covid accelerating through the world during that period of time, we cancelled the trip and were able to create an additional EYM event in the Hawke's Bay region in lieu of this through NZQA support.*

*I am extremely proud that through our on-going relationship with NZQA we were able to pivot accordingly, add another EYM event into the 2020 calendar and once again deliver the unique experience to our rangatahi that is 'Engineering Young Māori Minds' in spite of the adversity that impacted our delivery of our Āmua Ao international initiative this year.*

*With all that has transpired in 2020, we express our gratitude and thanks to NZQA. Their support of our Āmua Ao initiatives over the years, has made it possible for us to design, create and implement together meaningful opportunities in science and engineering for our rangatahi to experience. Which are fundamentally by Māori, for Māori and connect to us as Māori. Their support gives voice to the whakatauki, Nāu te rourou, Nāku te rourou ka ora ai te iwi. From all of the team here at Pūhoro, we thank you!*

## Evaluation Report

This report fulfils milestone reporting requirements to the New Zealand Qualifications Authority (NZQA) for the 2020-2021 period agreement.

This report summarises information regarding:

- a) A brief overview of the Āmua Ao San Francisco arrangements made before cancellation
- b) An overview of Engineering Young Māori Minds events that took place in 2020, school participation and variances, and the six challenges created
- c) A breakdown of the evaluation approach that took place across the EYM events and the initial results that have emerged from this
- d) Teacher initial feedback with quotes and commentary

## Āmua Ao 2020

### Āmua Ao - San Francisco 2020 (cancelled)

An incredible amount of background work was completed in preparation for the annual overseas Āmua Ao experience in 2020. Fifteen Pūhoro Year 13 students were selected to participate in the trip from partner schools in Auckland, Palmerston North and Ōtaki. The following companies were contacted and through negotiation confirmed as hosts for the proposed travelling group of rangatahi and Pūhoro staff:

1. Tesla – San Francisco Factory
2. Facebook Headquarters
3. Google Headquarters
4. NASA Ames Research Laboratory – Multi-centre private group tour
5. Stanford University – Tour and session with School of Engineering
6. APPLE Headquarters – Special session with the Dean of Apple University
7. Levi Strauss
8. Allbirds San Francisco
9. Hosting with the Ohlone Indigenous people of San Francisco Bays – Cultural Exchange

Due to Covid-19 this overseas experience was cancelled. All of the above organisations have confirmed that in future should we return, they would be happy to host us. Now that contacts have been established we are well-positioned to explore these options as appropriate in the future. Due to this cancellation, NZQA reallocated support towards an additional EYM event held in the Hawke's Bay.

### Āmua Ao - Engineering Young Māori Minds (EYM) 2020

Four (4) EYM day events were held in South Auckland, Palmerston North, Christchurch and Hastings in 2020. **Six hundred and thirty-two (632)** Year 9 and 10 rangatahi registered for the EYM events with **five hundred and three (503)** Year 9 and 10 rangatahi attending the events across the four locations (including a mini-EYM event held separately at Palmerston North Boys' High School). **Thirty-three (33)** schools attended the EYM events (including seven kura kaupapa Māori), and students participated in a set of six new pūrākau-based hands-on STEM challenges created by Pūhoro for the 2020 events.

This is now the second year that EYM has been realised through NZQA support, with an additional event this year held in Hastings for the first time. The Hawke's Bay is a new region for Pūhoro and the launch of the programme coincided with their inaugural EYM event.



## EYM School Participation

The following breakdown provides detailed data around school participation in the 2020 EYM events.

### SOUTH AUCKLAND EYM | WED 28 OCT 2020

KURA	INVITED	CONFIRMED INTEREST	REGISTERED #S	ATTENDED #S
Alfriston College	✓	✓	17	15
Auckland Girls' Grammar School	✓	✓	17	17
Mangere College	✓	✓	30	17
Manurewa High School	✓	✓	16	12
Onewhero High School	✓	✓	10	10
Pukekohe High School	✓	✓	16	9
Puutake Te Waahanga Māori James' Cook High School	✓	✓	18	17
Rosehill College	✓	✓	24	22
TKKM o Mangere	✓	✓	27	20
TKKM o Ngā Maungarongo	✓	✓	12	5
Waitākere College	✓	✓	16	14
<b>TOTAL</b>			<b>203</b>	<b>158</b>

### MANAWATŪ EYM | FRI 30 OCT 2020

KURA	INVITED	CONFIRMED INTEREST	REGISTERED #S	ATTENDED #S	COMMENTS
Awatapu College	✓	✓	18	17	
Feilding High School	✓	✓	37	31	
Freyberg High School	✓	✓	15	13	
Makoura College	✓	✓	11	7	
Mana Tamariki	✓	✓	6	5	
Ōtaki College	✓	✓	6	6	
TKKM o Tupoho	✓	✓	6	6	
Tai Wānanga Tu Toa	✓	✓	31	22	
<i>Palmerston North Boys' High School</i>	✓	✓	<i>28</i>	<i>21</i>	<i>Students attended EYM mini event held at their school.</i>
<i>Palmerston North Girls' High School</i>	✓	✓	<i>0</i>	<i>0</i>	<i>Pulled out from event late, citing double</i>

					<i>booking with other school event.</i>
<i>Hato Paora</i>	✓	✓	0	0	<i>Expressed keen desire to attend then became unresponsive to follow up communications.</i>
<i>St Peters' College</i>	✓	✓	0	0	<i>Unable to attend due to no teacher supervision available. Explored parent supervision instead but school was unable to secure parents.</i>
<b>TOTAL</b>			<b>158</b>	<b>128</b>	

#### **HAWKE'S BAY EYM | THURS 5 NOV 2020**

KURA	INVITED	CONFIRMED INTEREST	REGISTERED #S	ATTENDED #S	COMMENTS
Karamu High School	✓	✓	22	20	
Napier Girls' High School	✓	✓	18	21	
Sacred Heart College	✓	✓	13	11	
Tamatea High School	✓	✓	20	11	
Te Ara Hou	✓	✓	23	22	
TKKM o Ngāti Kahungunu o Te Wairoa	✓	✓	17	11	
Wairoa College	✓	✓	23	10	
<i>TKKM o Whare Tapere</i>	✓	-	0	0	<i>No response to comms.</i>
<b>TOTAL</b>			<b>136</b>	<b>106</b>	

#### **CHRISTCHURCH EYM | THURS 26 NOV 2020**

KURA	INVITED	CONFIRMED INTEREST	REGISTERED #S	ATTENDED #S	COMMENTS
Avonside Girls' High School	✓	✓	27	26	
Cashmere High School	✓	✓	24	21	
Linwood College	✓	✓	30	21	
Riccarton High School	✓	✓	17	16	
Shirley Boys' High School	✓	✓	22	13	
Te Pa o Rākaihautū	✓	✓	15	14	

<i>Christchurch Girls' High School</i>	✓	✓	0	0	<i>Unable to attend due to double booking with a school event. Interested in 2021.</i>
<i>Te Kura Kaupapa Māori o Te Whānau Tahī</i>	✓	✓	0	0	<i>Confirmed interest and keen to attend. Senior leadership decided to exit the Pūhoro programme and did not send a student group accordingly.</i>
<i>Rangiora High School</i>	✓	✓	0	0	<i>Unable to attend due to suicide in junior school that week. Interested in 2021.</i>
<i>Burnside High School</i>	✓	✓	0	0	<i>Sent two teachers to scout out the event. Confirmed attendance for 2021.</i>
<i>Kaiapoi High School</i>	✓	-	-	-	<i>No response to comms.</i>
			<b>TOTAL</b>	<b>135</b>	<b>111</b>

## **EYM Attendance Variance**

Due to unexpected reasons, a number of schools across the different EYM regions were unable to attend after confirming their attendance. These variances impacted our ability to reach our contractual obligations of a minimum of 150 rangatahi Māori present at each event (we were prepared accordingly to receive a maximum of 180 rangatahi Māori at each event). To explain these variances, please find the following school explanations provided by region:

### **Manawatū Region**

#### **1. Palmerston North Boys' High School**

Palmerston North Boys' High School were unable to attend the EYM event and in 2021 will be adding a large cohort of 40 year 11's into the programme. Because of previous attendance at EYM, they requested if special permission could be given to hold a mini-EYM event at their school. After deliberation, Pūhoro staff ran a mini-EYM event for 21 Year 10 rangatahi where they could engage in two out of three challenges offered.

#### **2. Hato Paora College**

Hato Paora College have been incredibly supportive of Pūhoro events. They confirmed their interest to attend and were keen to bring a cohort. They then became unresponsive to follow up communications, which was unusual. Pūhoro staff will find ways to engage further to see if there is a way to ensure secure their attendance in 2021.

#### **3. Palmerston North Girls' High School**

In the final stages of EYM preparation, Palmerston North Girls' High confirmed they were unable to attend citing that they were double booked. They have also shown incredible support towards the programme and are highly engaged in Pūhoro initiatives. We hope to ensure their attendance in 2021.

#### **4. St Peter's College**

St Peter's College was incredibly motivated to attend EYM this year. In the final stages of EYM preparation they confirmed they were unable to attend as no teachers were available to supervise at the event. We requested they check if any parents would be able to supervise their cohort instead, which they were keen to explore. Furthermore, we reiterated the safety of the event and our Risk Assessment Management protocols in place, and offered to supervise their students ourselves if parent supervision was untenable.

Unfortunately, no parents were able to support, and the school was unwilling to allow us to supervise them solely.

## **Hawke's Bay Region**

Hawke's Bay is a new region for Pūhoro. As such we determined to host an EYM in the region to coincide with the Pūhoro launch of the programme there. We anticipate off the back of the EYM we held that more interest will be generated in future. We hope to invite more schools to attend in 2021 to maximise the event's reach amongst our rangatahi.

## **Christchurch Region**

### **1. Rangiora High School**

Rangiora High school offered their apologies at a late stage due to an extreme occurrence in their junior school which had severely affected their students. This was the first time they were invited to attend EYM. They will be invited again in 2021.

### **2. Burnside High School**

Burnside High School were unable to attend however they sent two science teachers, including their Head of Department of Junior Science, to scout the event. After conversations and being impressed with the nature and uniqueness of the event, they committed a cohort to attend in 2021.

### **3. Te Kura Kaupapa Māori o Whānau Tahī**

Te Kura Kaupapa Māori o Whānau Tahī were keen to attend the event this year but due to mitigating circumstances were unable to. Furthermore, their management made the decision to withdraw from the 2021 Pūhoro programme.

### **4. Christchurch Girls' High School**

Christchurch Girls' High were extremely apologetic and informed us very late in the final stages of EYM preparation that they were unable to attend due to a double booking with a school activity. They had supposed we had been informed but after follow up communication from us, it transpired that this was not the case. We will invite them again in 2021.

## EYM Challenges Overview

Six new challenges were created by Pūhoro which built upon the learnings gleaned from the initial challenges designed for the 2019 EYM events. These challenges sought to achieve the following outcomes:

1. Connect rangatahi to Māori pūrākau narratives
2. Bridge together pūrākau and STEM to expand rangatahi perspectives on science
3. Are hands-on, fun and engaging and can be delivered within a short amount of time
4. Utilise cost-effective materials, that can easily be sourced and reused as required

The following table gives a brief overview of the suite of challenges created in 2020, including the associated task and the pūrākau narrative it connects to:

CHALLENGE NAME	DESCRIPTION
1) Māui me Tamanui-te-rā	Rangatahi were challenged to construct a free-standing, air-powered cannon using just cardboard tubing, pegboards, doweling, and an air blower to provide the firing power. The cannon had to be able to fire a ping pong ball to be caught in 3 separate flax baskets at different distances, and then rearranged to be able to levitate the ping pong ball for as long as possible. This challenge represented the capturing of Tamanui-te-ra with harakeke ropes and how Māui forced the sun to slow down.
2) Te Wehenga o Rangi rāua ko Papatūānuku	Rangatahi were required to design and build their own hydraulic scissor lift using Engino blocks, syringes, cable ties and tubing. Rangatahi received a small platform for the top of their scissor lift representing Rangi. Points were awarded based on how tall the scissor lift was able to extend and how much weight could be added onto the platform to test the strength of the structure. This challenge represented Tāne extending forth his legs to separate Rangi from Papa and the weight of Rangi and Papa's love that continually endeavours to bring them back together.
3) Whiro me Te Aitanga Pepeke	Rangatahi were challenged to design, name and build their own robotic insect using craft materials (popsicle sticks, rubberbands, doweling etc.), a battery pack and DC motor. The insect was then tested for movement and speed by seeing how far it could travel through 12 outlined sections on a testing table in one minute. This challenge represented the insect army of Whiro travelling through the 12 realms of the heavens as they tried to thwart Tāne's attempt at retrieving ngā kete o te wānanga.
4) Te Hekenga o Kupe	Rangatahi were required to construct a vehicle out of icecream containers, skewers, straws, paper and wheels, that could be propelled by air over both land and water. The vehicle was tested to see how much it weighed and then how far it could travel on land and in a paddling pool of water. This represented the way in which Kupe was able to use the tides and winds to complete his journey to Aotearoa as he and his crew chased after Te Wheke o Muturangi.
5) Te Pakanga o Okatia	Rangatahi were challenged to build a working trebuchet out of a kitset and use its adjustable components (height, length, weight) to aim projectiles at a foam block wall, with the aim of breaking it down completely. This challenge represented Okatia's strength and power as he smashed his way through the mountain that blocked his journey to discover where Tamanui-te-rā travelled

	every day – a journey which laid the foundation of the Manawatū river and resulted in the Tararua and Ruahine ranges being formed.
<b>6) Te Āpiti o Okatia</b>	Rangatahi were required to create a water filter by piecing together a water pump (including a DC motor) with a clear plastic filtration pipe, and using natural resources (stones, moss, leaves etc.) within the pipe to create an effective filter with the ability to suspend particles out of water. Points were awarded on the water filter's ability to pump water in an upward movement and to successfully purify the water. This challenge represented the upward movement of the Manawatū river as it crosses from one side of the Tararua ranges to the other – a feat attributed to Okatia's travels - and the ever-growing necessity for water purification in sustaining life.

## EYM Evaluation Overview

To strengthen our evaluation approach, we formed an evaluation rubric<sup>1</sup> with NZQA to help measure the impact of EYM.

Our approach centred on gathering data to help us understand and quantify the following metrics:

1. To determine whether the event helped **to inspire students to study STEM**
2. To determine student **enjoyment of the challenges** in order to inform how we can continually develop EYM events that remain engaging for rangatahi
3. To collect **qualitative data** based on teachers' observations, impressions and learnings from the event
4. To collect **qualitative data** based on participant's personal experience, impressions and learnings within the event

These specific focal points of enquiry have been designed in the approach to help us gather some understanding and perspective around what students and teachers are experiencing through EYM events. With both quantitative and qualitative data being sought at each event together, it gives us a clear snapshot as to how these events are received.

As EYM events occur once a year over the course of a day only, it is difficult to measure the long-term impact on rangatahi attitudes and their desire to pursue STEM. With that in mind, our evaluation rubric offers a post-event evaluation which seeks to determine the following:

1. To measure the **impact of EYM on Pūhoro enrolments**
2. To provide further insight into the **impact of EYM on rangatahi engagement in STEM/Pūhoro**

This is achieved firstly by determining how many EYM attendees transitioned into the Pūhoro program. Secondly, we will survey teacher attendees again in 2021 to determine whether they have discovered or observed further impacts that the event had on their rangatahi who attended. These post event analysis findings will be presented in the final overall NZQA/Pūhoro report delivered in 2021.

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<sup>1</sup> See Appendix 1



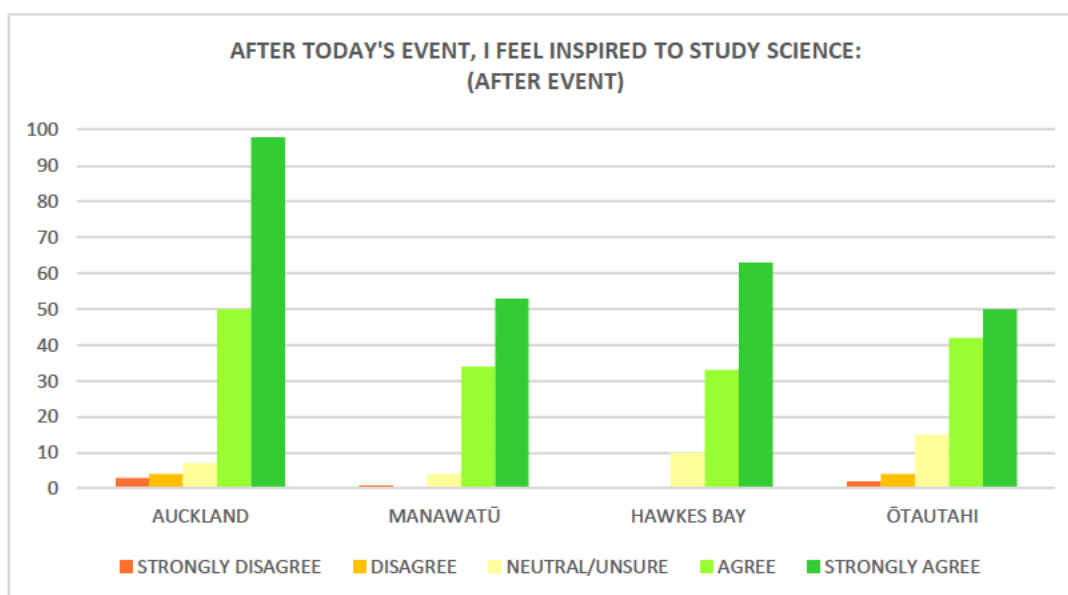
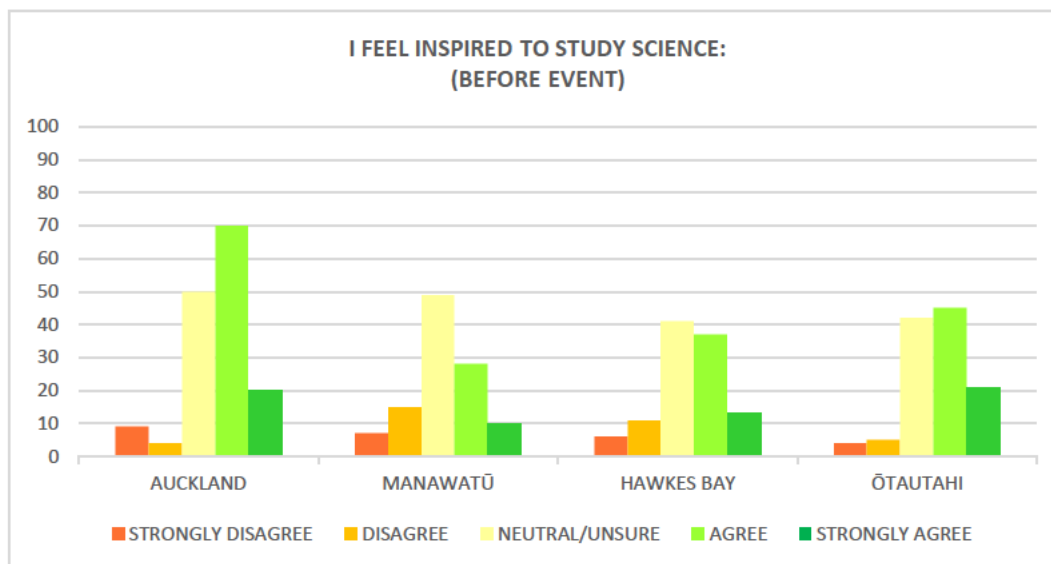
## Evaluation Findings

This year, the evaluation process for each EYM event was three-fold. Firstly, a bespoke ‘Emoji Token Box’ was created to gather rangatahi responses to a key statement. Rangatahi responded to the same key statement on entry before the event, and again on leaving the premises at the end of the day. The second approach invited rangatahi to rate how much they enjoyed each of their challenges and the third approach sought to survey teachers to understand their perspective on EYM. Finally, video interviews were conducted with rangatahi to gather qualitative data around their observations of the event.

The following data summarises the approach, and analysis/findings from these four approaches described:

### Approach 1 – Emoji Token Box

The following two tables display rangatahi responses to a statement, once before the event had begun and again at the conclusion of the event. The two questions posed were “*I feel inspired to study science*” at the beginning of the event, and “*After today’s event, I feel inspired to study science*” at the conclusion.



## Approach 1 - Analysis

This approach was used to see if the EYM event caused a *shift in inspiration towards studying science*. The results from this approach are significant. All four regions demonstrated a seismic shift in inspiration towards studying science after engagement at the EYM events.

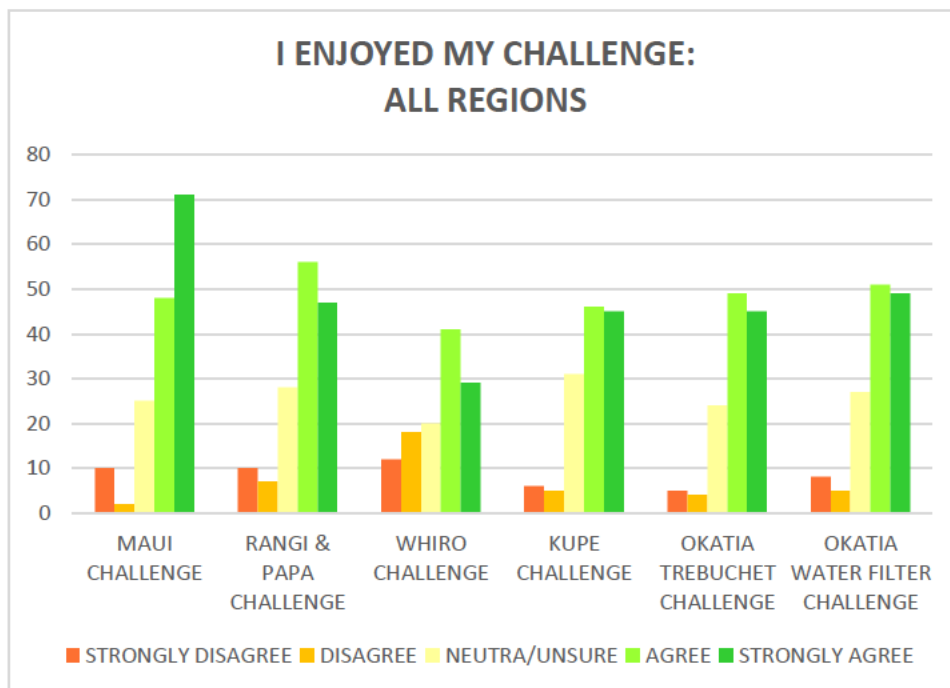
Three other significant shifts emerged from the data. Firstly, the EYM events appeared to influence most impactfully those rangatahi who were initially neutral or unsure in how they felt about science. To begin with, 37% of all rangatahi over the four regions were neutral/unsure in their responses to the key statement. After the event, only 8% of all rangatahi who participated in EYM remained neutral/unsure which demonstrates the event's effectiveness in inspiring rangatahi to study science.

Secondly, only 13% of all rangatahi felt strongly inspired to study science at the beginning of the EYM events. After the events, 56% of all rangatahi felt strongly inspired to study science which again demonstrates a significant increase.

Thirdly, when looking at the positive responses (agree/strongly agree) in general, 50% of all rangatahi felt inspired to study science to begin with. By the end of all four events, a significant 89% of rangatahi now felt inspired to study science, clearly showing how engagement in EYM events positively impacts rangatahi attitudes towards science.

## Approach 2 – Challenge Enjoyment Token Box

The second approach centred on understanding rangatahi enjoyment of the six challenges that had been created for EYM in 2020. This helps us ensure our challenges are engaging, and furthermore, supports us in our development of future challenges. Rangatahi engaged in two challenges throughout the day and rated them on conclusion by placing a token to indicate the appropriate emoji in response to the key statement “*I enjoyed my challenge*”. The following table demonstrates rangatahi enjoyment of each of the six challenges collectively across all four regions.



## Approach 2 - Analysis

As indicated, enjoyment across each of the challenges was considerably high. Some challenges were rated more highly in terms of the enjoyment factors (Agree/Strongly Agree) and across each of the challenges, the dissatisfaction was comparably low (Disagree, Strongly Disagree). Overall, out of the responses received, 70% rated their enjoyment within the ‘Agree/Strongly Agree’ categories. This result indicates that our goal to achieve certain challenge outcomes is being met.

One thing to note is the relative consistency across the challenges of rangatahi rating their enjoyment as ‘neutral’. The Māui challenge which had the highest overall ‘enjoyment’ metric, also had one of the lowest ‘neutral’ ratings. This information could help to inform future challenge creation by replicating or adapting the elements from high enjoyment challenges to see if this decreases the neutral rates experienced.

### Approach 3 – Teacher Voices

All teacher attendees at each EYM event were asked to respond to the following questions:

1. *What has been one of your highlights from this event so far?*
2. *How do you feel EYM has been beneficial for your taura?*
3. *What differences, if any, have you noticed about your taura in terms of their engagement with STEM at school and at this event?*
4. *Any other observations or comments you would like to add?*

See below survey questions with a selection of responses received from teachers across the EYM events:

#### **1. *What has been one of your highlights from this event so far?***

Teacher response was overwhelmingly positive and they were able to clearly articulate their highlights and observations of the EYM events. Teachers mentioned the hands-on, fun and interesting nature of the challenges as being a highlight and that their student's levels of engagement were high during the event. Importantly, they also noted the connection between the activity and pūrākau Māori as a highlight, which was reflected consistently across different regions.

*“More hands-on engagement, seeing ways to combine STEM and culture”* – Science teacher, Waitakere College, Auckland

*“My kids realising science and math is fun and applicable”* – Kaiako, Te Pā o Rākaihautū, Christchurch

*“Seeing the students working together to solve problems”* – Teacher, Linwood College, Christchurch

*“Exposure to science and engineering through a Māori perspective. Watching our kids get excited and proud at what they accomplished”* – Kaiako, Te Kura Kaupapa Māori o Ngāti Kahungunu o te Wairoa, Hawke's Bay

*“Kōrero pūrākau being the foundation of the learning”* – Head of Department Science, Te Kura Kaupapa Māori o te Ara Hou, Hawke's Bay

*“Ngā ngohe, kia whakarite, te whakamārama i te ngohe, me te pūrākau, hei whakapiki ki te ao Māori”* – Kaiako, Te Pūtaka, Auckland

*“Attaching pūrākau/hītori Māori to each activity and seeing all taura striving to achieve the challenges, WHAKAWHANAUNGATANGA!”* – Head of Māori Mentoring, Feilding High School, Palmerston North

## **2. How do you feel EYM has been beneficial for your taura?**

Teachers comments across the regions focused on several key themes. Firstly, that the environment was positive and Māori centred, secondly, that in spite of any apprehension or doubts around their own capacity to achieve, students pushed through these barriers and were able to succeed and achieve at the EYM challenges. Finally, it was noted by teachers how the challenges aided in the learning of scientific principles.

*“Confidence boosting, they saw that they could successfully create things that may have seemed out of reach. Non-threatening environment”* – Assistant HOD Science, Awatapu College, Palmerston North

*“EYM has enabled the taura to think differently from how they think at school in their science lessons.*

*The experience has been priceless!”* – Teacher, Ōtaki College, Palmerston North

*“It’s opened their minds up, shown them new experiences that they may have thought they couldn’t do”*

– Māori Liaison officer, Linwood College, Christchurch

*“Having students learning in a Māori environment. (Māori first environment). Students seeing science as Māori”* – Teacher, Linwood College, Christchurch

*“I think many of them are surprised by their ability to solve the challenges, many have underestimated their abilities...they have been able to relax and enjoy due to the large numbers of other students and they are all among Māori”* – Science teacher, Rosehill College, Auckland

*“I think it creates a lot of thinking amongst the taura. A solution can be created with a bit of trial and error. Sciences can be fun and with student’s creativity and encouragement will overcome some of the barriers of science learning”* – HOD Science, Mangere College, Auckland

*“The students realising that science is for them too. The hands-on approach is also great fun!”* – Head of Faculty, Karamu High School, Hawke’s Bay

*“Allowing students to work together, meeting new friends, whakawhanaungatanga. Developing skills to meet scientific challenges”* – HOD Māori, Wairoa College, Hawke’s Bay

**3. What differences, if any, have you noticed about your taura in terms of their engagement with STEM at school and at this event?**

This question provided an insight into rangatahi engagement with STEM as experienced through teacher's observations at school and then directly compared to their behavioural observations with the same rangatahi during the EYM challenges.

*"I now have students approaching me, wanting to find out how to get into this programme"* – Head of Faculty, Karamu High school, Hawke's Bay

*"We don't have STEM per se but we believe that they are more engaged here at this event than they are at Maths or Science at our kura"* – Te Reo Māori me te Pūtaiao Kaiako, Napier Girls High School, Hawke's Bay

*"It's amazing to see how engaging they are at this event. Activities that are fun challenges, thinking and hands on motivate their enthusiasm to work to find a solution"* – HOD science, Mangere College, Auckland

*"Being the year it has been, gauging benefit has been difficult. However, in the context of today, they are really enjoying the activities. Thank you for the thoughtful planning and coordination"* – Teacher, Onewhero High school, Auckland

*"My taura are always open-minded to give anything a crack however, the more that any task/activity is inclusive of kaupapa Māori, the keener my taura become to get involved. Ko rātou ngā rangatira mō āpōpō otirā mō nāianeī"* – Head of Mentoring Māori, Feilding High School, Palmerston North

*"I've noted their confidence grow in willingness to tackle a challenge. A massive problem has been too whakamā to give something hard a go. Self-doubt. This is changing!"* – Director of Innovation, Tai Wānanga Tū Toa, Palmerston North

*"Engaged for longer periods of time"* – Health and PE teacher, Linwood College, Christchurch

*"Very high level of engagement compared to at school"* – Science teacher, Avonside Girls' High School, Christchurch

Teachers across the regions commented on how they noted positive engagement from their students at EYM events, and in some cases saw a clear distinction of improved engagement at EYM as opposed to at school. Furthermore, teachers reiterated how engaging and relevant to rangatahi the challenges were which seemed to increase rangatahi engagement at EYM.

#### **4. Any other observations or comments you would like to add?**

Teachers were invited to offer further comments regarding EYM. Not all teachers responded to this question however a selection of responses are outlined below.

*“One of our tauira said she wished this could happen more frequently, and maybe even include year 11 as well earlier in the year”* – Kaiārahi admin kaiāwhina, Te Pā o Rākaihautū, Christchurch

*“Lots of positive energy from the presenters. Overall a very positive and well worthwhile experience on all levels. Learning about the kauri and whales and that whakapapa has really piqued my interest hugely, I’m on it!!”* – Assistant Head of Faculty Science, Karamu High School, Hawke’s Bay

*“This day has been worth the effort of getting our tauira to attend. Māori mana is embraced and tikanga often comes through the agenda on the day, and how much passion comes through each and everyone involved today. Ngā mihi nui ki a koutou katoa”* – Teacher, Ōtaki College, Palmerston North

*“Creating at the speed of thought is fun! Every table I look at students are talking, smiling, laughing, creating. Ngā mihi nunui ki a koutou!”* – Kaiako, Te Pūtake, Auckland

## Approach 4 – Rangatahi Voices

Rangatahi across each region were interviewed to help ascertain their impressions, learnings, and experiences at the EYM events. Overall, rangatahi expressed their enjoyment at the EYM events and referenced different parts of the day that stood out to them. Some highlights that emerged from rangatahi, included the opportunity to interact with different schools, the chance to have fun, the ability to open up to science and achieving in the different challenges:

\_\_\_\_\_, a Year 10 student from Auckland Girls' Grammar said:

*"A highlight was working with my mates, meeting people from other schools and experiencing something new"*

\_\_\_\_\_ a year 10 student from Alfriston college commented that:

*"My highlight for today was just being able to have fun!"*

\_\_\_\_\_ a year 10 student from Te Pūtake said that:

*"My highlight was opening up to science, the technology stuff is incredible and there was heaps of opportunity for Māori"*

\_\_\_\_\_ from Feilding High School in Palmerston North stated that his highlight was being able to achieve in the challenge:

*"My highlight was making a bug and trying to get it to the other side of the table (Whiro Challenge)".*

Other students who were interviewed echoed similar sentiments around a key highlight being the atmosphere and interacting with other Māori students. For example, \_\_\_\_\_ a Year 10 student from Sacred Heart in the Hawke's Bay said that, *"my favourite part was meeting everyone and socialising"*.

Rangatahi were asked to describe if there was anything that they had learnt from the EYM event. \_\_\_\_\_ a year 10 student from Alfriston college stated that *"I learnt how to develop ideas"*. \_\_\_\_\_ from Sacred Heart college in the Hawke's Bay commented that she learnt to *"work as a team and take on other ideas"*. Another student from Karamu High school in the Hawke's Bay commented that for her something she learnt from EYM was, *"I learnt more Māori words, we don't speak Māori at home, so it was cool to become more immersed."* \_\_\_\_\_ a Year 10 student from Tū Toa Tai Wānanga in Palmerston North commented how *"I learnt to put a motor together"*. This was something that had never been attempted before, and EYM provided a unique opportunity to try something new. Another student, \_\_\_\_\_ from Ōtaki College further emphasised this by saying that *"I like doing this stuff, we don't get to make catapults in class, and I won my challenge!"*.



Rangatahi offered insight into how they viewed sciences before attending EYM, and how after attending the event if they could see themselves pursuing science throughout high school and into the future.

\_\_\_\_\_ from Pūtake in Auckland said how *“I had a little interest in science but today has really opened my eyes, it’s given me a good opportunity to see what I want to be when I’m older”*. \_\_\_\_\_ a year 10 student from Te Kura Kaupapa Māori ki te Wairoa echoed this by saying *“I mua i tēnei rangi kāore au i te tino rata ki ēnei momo mahi, engari, inaiānei, ka rata au”*. When asked, both \_\_\_\_\_ and \_\_\_\_\_ from Auckland Girls’ Grammar stated succinctly how participating in EYM had strengthened their desire to pursue STEM subjects at High school.

\_\_\_\_\_ from Mangere College stated how before the event his interest in science was somewhere near the middle of the road, and that after the event he had changed his mind in regard to his interest in pursuing science further. *“I was hesitant at first because I didn’t know what it would be like, it was new to me, but I liked it at first and it just got better”*.

\_\_\_\_\_ a Year 9 student from Feilding High School in Palmerston North stated that:

*“Before today I didn’t really like science because science at school is boring, today was mean as! Everyone was having fun and even I was having fun”*. \_\_\_\_\_ from Tū Toa commented similarly when asked to describe

his interest in science he said, *“I don’t pay attention in science!”* When asked if EYM had prompted him to give more attention to the sciences, he responded that *“definitely, it’s a challenge and I like challenges!”*

\_\_\_\_\_ from Feilding High school, had a similar perspective *“I didn’t like science as a class, but I like the making side of it and problem-solving side.”* He also commented how he would keep doing science if Pūhoro were to keep coming to his school.

\_\_\_\_\_ from Karamu High School on the other hand, did have an interest and enjoyment in science before EYM particularly in Biology. However, she said that after EYM it had inspired her to pursue the sciences further, *“because when I first heard about Māori STEM, I had no idea what it was but after the first challenge it inspired me more to get involved”*. Another student, \_\_\_\_\_ a Year 10 student from Napier Girls’ High school also expressed that before EYM she had an interest and enjoyed the sciences, specifically Chemistry and Biology. After attending EYM the effect that it had was that *“It made me feel a lot more comfortable working and wanting to do science because sometimes you get a bit shy and think, I’m Māori I don’t know if I want to do it.”*

A comment of note emerged from \_\_\_\_\_ a year 10 student from Tamatea High school. He said that before EYM he had no interest or enjoyment in science. However, after the event he felt that it inspired him to pursue science further, *“because it talked about how science is important for us, because in school we are told to do science and not why we do science.”*

Some final comments from rangatahi included the following:

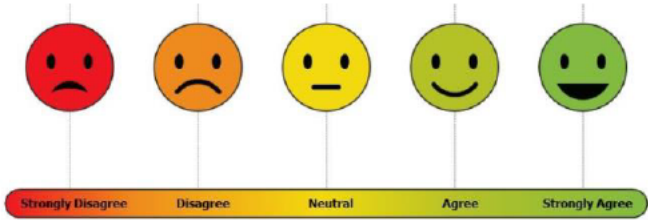
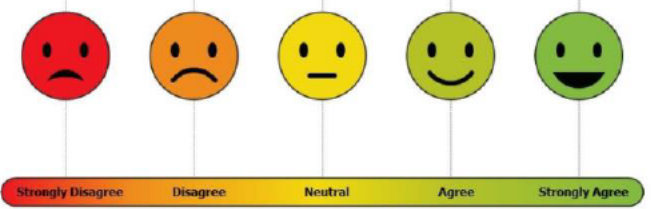
\_\_\_\_\_ from Karamu High school said that *“The environment is very up lifting, it’s an enjoyable environment to be around, I want to stay here for longer”*. \_\_\_\_\_ from Tamatea High school noted that something she enjoyed was *“working with people I don’t usually work with”*. She stated how perseverance was something she learnt, and her final thoughts were that it was *“beautiful to be around your own people and have fun”*.

Overall, rangatahi interviews expressed a positive view towards the EYM events and they were enjoyed. From their comments, rangatahi expressed that after participating in EYM they had a greater desire to engage in STEM. Furthermore, a common element through the rangatahi interviews was how EYM affirmed their Māoritanga and identity. Finally, there was a clear view from rangatahi that STEM content delivered at school is very different to how they experience STEM at EYM events.

## Conclusion

- Attendance at EYM helps to inspire rangatahi to pursue science.
- EYM challenges are engaging and fit for purpose as demonstrated by consistently high ratings from rangatahi across all four locations.
- Teachers and high school faculty view EYM in a positive light and as an important initiative which further strengthens rangatahi engagement in STEM.
- Rangatahi are more likely to perceive science positively after participating in an EYM event.
- Attendance variances were experienced across the regions. Further work and solutions are required to ensure participation levels on the day are maintained.

## APPENDIX 1: Evaluation Rubric by NZQA and Pūhoro for EYM 2020

APPROACH	PURPOSE	METHOD
Before & After Snapshot	To determine whether the event helped to inspire students to study STEM	<p>A single statement is posed to rangatahi <b>before</b> the event:  <b>I FEEL INSPIRED TO STUDY SCIENCE</b></p> <p>Rangatahi are asked to <b>rate their agreement</b> with the statement by posting a token in an emoji token box. A coloured token associated with the 'before' response is used (e.g. black)</p> <p>The following statement is then posed to rangatahi <b>after</b> the event:  <b>AFTER TODAYS EVENT, I FEEL INSPIRED TO STUDY SCIENCE</b></p> <p>Rangatahi then place a different coloured token associated with the 'after' response (e.g. white) into one of the emoji token boxes after the event.  Responses on the token box as follows:</p> 
Emoji Continuum	To determine student <b>enjoyment of the challenges</b> in order to inform how we can continually develop EYMM events that remain engaging for rangatahi	<p>A single statement is posed to rangatahi after each challenge:  <b>I ENJOYED MY CHALLENGE</b></p> <p>Rangatahi are asked to rate their agreement with the statement by posting another token in an emoji token box.</p> <p>Rangatahi place a coloured token associated with their challenge (yellow, orange, red, blue, green or pink) into the appropriate emoji token box.</p> 
Teacher Interviews	To collect <b>qualitative data</b> based on teachers' observations, impressions and learnings from the event	<p>Ideally, 1x teacher per school (around mid point of event) is chosen to participate in a video/voice recorded interview.</p> <p>Conducted by Kemp Reweti, questions include:</p> <ol style="list-style-type: none"> <li>1) Teacher intro (name, position, kura, iwi if applicable)</li> </ol>

		<ol style="list-style-type: none"> <li>2) What has been one of your highlights from this event so far?</li> <li>3) How do you feel EYMM has been beneficial for your taura?</li> <li>4) What differences, if any, have you noticed about your taura in terms of their engagement with STEM at school and at this event?</li> <li>5) Any other observations or comments you'd like to add?</li> </ol>
Student Interviews	To collect <b>qualitative data</b> based on participant's personal experience, impressions and learnings within the event	<p>Minimum 1x Y10 student per challenge (in the second half of the day – more if time allows) are chosen by Kaihautū and/or teachers to participate in a video recorded interview.</p> <p>Conducted by Kemp Reweti, questions include:</p> <ol style="list-style-type: none"> <li>1) Student intro (name, age, year, kura, iwi)</li> <li>2) What has been one of your highlights from today?</li> <li>3) What is something you've learnt today?</li> <li>4) Before today's event, how would you describe your enjoyment and interest in science?</li> <li>5) Has today inspired you to think differently about science? How? Why?</li> <li>6) After today, could you see yourself pursuing science throughout high school and possibly into the future?</li> <li>7) Any other observations or comments you'd like to add?</li> </ol>

#### POST EVENT

APPROACH	PURPOSE	METHOD
Numbers/Data	To measure the <b>impact of EYMM on Pūhoro enrolments</b>	After the bulk registration period (which occurs early to mid Term 1), analyse Pūhoro enrolments against EYMM attendance to determine the transition rate to Pūhoro. Include findings in final evaluation report to NZQA.
Teacher Followup Questionnaire	To provide further insight into the <b>impact of EYMM on rangatahi engagement in STEM/Pūhoro</b>	<p>Email a follow up questionnaire, approximately 6 months post-event, to all teachers who attended EYMM.</p> <p>Questions include:</p> <ol style="list-style-type: none"> <li>1) Many of your students who attended EYMM continued into the Pūhoro programme. How do you think EYMM helped your students transition into Pūhoro?</li> <li>2) The following student(s) attended EYMM but did not transition into the Pūhoro programme. Could you please indicate whether they are currently studying NCEA Level 1 Science?</li> <li>3) Did your students' engagement with EYMM cause a shift in their attitudes towards STEM? If so, please explain.</li> <li>4) How else did the EYMM impact your students, if at all?</li> <li>5) Do you have any other comments about EYMM 2020?</li> </ol>

**A8-OC01230**

FINAL REPORT  
**PŪHORO & NZQA PARTNERSHIP**  
JUNE 2021



## FINAL REPORT

This report completes Pūhoro reporting requirements to the New Zealand Qualifications Authority (NZQA) for the 2020-2021 period agreement.

The report summarises information regarding:

- a. evaluation insights which pertain to Āmua Ao (EYM)
- b. communication tools used to support Āmua Ao initiatives, and
- c. a general overview of the impact of the Pūhoro programme on STEM participation and achievement.

## ĀMUA AO DOMESTIC

### Engineering Young Māori Minds (EYM)

Four EYM events were held in Manawatū, Tāmaki Makaurau, Ōtautahi and Te Matau a Māui in 2020. Five hundred and three (503) Year 9 and 10 rangatahi attended the events across the four locations. Thirty-two (32) schools attended the EYM events (including seven kura kaupapa Māori), and students participated in six pūrākau-based STEM challenges.

EYM was an initiative developed from scratch for the domestic delivery of Āmua Ao and has now run for two years in a row. 2020 was also the first time EYM was taken and delivered in Te Matau a Māui – Hawke’s Bay which launched as the newest region for the Pūhoro programme at the time in November 2020.

### EYM Case Study – Te Matau a Māui/Hawke’s Bay

This case study provides a snapshot of how EYM has supported Year 10 Hawke’s Bay attendees to transition into Pūhoro or, despite not joining Pūhoro, go on to take science at NCEA Level 1. The following table indicates the attendant schools at EYM in Hawke’s Bay and the transition rate to Pūhoro/NCEA L1 science.

School Name	No. of Yr 10 students	Transition Rate to Pūhoro	Non-Pūhoro students' Transition Rate to Level 1 Science
Sacred Heart	11	100%	n/a
Wairoa	10	60%	100%
Napier Girls'	21	48%	100%
Tamatea	11	36%	14%
Karamu	20	35%	100%
Te Ara Hou *	7x Y10 3x Y11 1x Y12	73%	33%

*\*Te Ara Hou brought Y11 and Y12 taura to primarily support the launch of Pūhoro. They subsequently stayed on for the EYM event and all have since joined Pūhoro.*

### Table Analysis

Hawke’s Bay data suggests that EYM had a generally positive impact on student transitions to Pūhoro and thus Level 1 science. Although this data provides a small snapshot, it does demonstrate a correlation between participation at EYM and engagement in Level 1 science at Year 11.

## Teacher Survey

As part of the Hawke's Bay case study, teachers were surveyed to assess whether EYM may have caused a shift in student behaviour or STEM attitudes post-event, adding further depth to the EYM evaluation completed in 2020. The following demonstrates the post-event survey questions and some of the responses received.

1. *Do you have any thoughts or perspectives around how EYM may have impacted your students' views of STEM?*

Teachers commented on how they felt EYM impacted students' interest in STEM. One insight from a Wairoa College teacher was:

*"Some students found out that science included many different fields. A couple of students said that the event day made them want to do science as a subject more"*

This was supported by observations from Te Ara Hou and Tamatea High School:

*"Yes – I think a lot more taura are more open/interested in STEM. [EYM had a] positive impact. Encouraged them and helped them consider all the options available to them"*

*"Yes, students enjoyed trying to solve a problem, [they] felt a different energy that was fun"*

2. *Were there any other shifts that you may have seen around students' perceptions of science or any other positive impacts that may have come from EYM engagement?*

One insight into other positive impacts derived from the EYM event came from Wairoa students, where they embraced the opportunity to interact with other kura and recognise that many of their peers are experiencing the same things as them:

*"EYM helped the students have an insight into Pūhoro. Also gave them an opportunity to interact with other students and find that the same issues facing them is the same for others"*

This point was also raised by a Tamatea High School teacher who highlighted what EYM brought to the table for their taura and how that impacted them:

*"Good fun activities and students had lots of fun interacting with like-minded students from other schools"*



3. *As a result of attendance at EYM, some/all of your students continued into the Pūhoro programme. In what ways do you think engagement in EYM helped your students transition into Pūhoro?*

A common narrative coming through teacher feedback was how EYM provided opportunities to build relationships with other taura and schools before starting their Year 11 Pūhoro year. This supported taura transition into Pūhoro as a natural progression in their engagement with each other and the sciences. This was highlighted by Te Ara Hou and Napier Girls' High School who explained:

*"They had an opportunity to meet the staff and fellow Pūhoro taura prior to their year beginning. Whanaungatanga is integral to building engagement so was awesome"*  
*"Definitely, as they got a taster. They gained self-confidence working with the STEM activities and got to work collaboratively and meet ākongā from other kura"*

This was supported by comments from Wairoa College and Tamatea High School who emphasised the importance of EYM events in supporting transition into Pūhoro:

*"[EYM is] a necessary pre-requisite for entry into Pūhoro"*  
*"Do it again"*

## **EYM Summary**

EYM is a single day event that occurs during school hours. EYM Hawke's Bay generated some positive impacts on Pūhoro transition rates and participation in STEM, however Pūhoro also recognises that much more than a one-day event is needed to influence the STEM pathway trajectories for rangatahi Māori in Year 9 and Year 10. As we grow the Hawke's Bay region and track our rangatahi there, we look forward to seeing the impacts from this event increase further. EYM attendance supports transition into NCEA Level 1 science, and more particularly, into the Pūhoro programme which further aims to increase student participation and achievement in STEM over time.

## ĀMUA AO INTERNATIONAL

As previously reported, an Āmua Ao international trip for 2020 could not occur, furthermore in 2021 the option to go overseas was deemed untenable. However, rangatahi who have participated in these trips often have a higher transition rate into tertiary study than national Māori, non-Māori and even the general Pūhoro population.

Below are tables that continue to track the whereabouts of all past Āmua Ao participants including those chosen last year who were not able to go to San Fransisco, to gauge any on-going impact from Pūhoro and Āmua Ao participation.

ĀMUA AO 2020 COHORT (SAN FRANSISCO, USA - CANCELLED)	
██████████	Massey University – Bachelor of Environmental Science
██████████	Massey University - Bachelor of Food Process Engineering
██████████	Canterbury University - Bachelor of Engineering
██████████	Unitec – Performing Arts
██████████	NZDF - Training to become a Helicopter Pilot for the NZ Navy
██████████	Auckland University – Bachelor of Engineering
██████████	Pacific International Hotel Management School – Hotel Management & Commerce
██████████	Otago University – Bachelor of Commerce Majoring in Marketing and a Bachelor of Arts Indigenous Development & Minor in Sociology
██████████	Gap year, Bachelor of Psychology in 2022
██████████	AUT – Certificate of Applied Science
██████████	Auckland University – Bachelor of Science Microbiology
██████████	AUT – Bachelor of Health Science
██████████	Auckland University – Certificate in Health Science
██████████ - ██████████	Te Aho o Te Kura Pounamu – Rongoā (AUT – Bachelor of Health Science/Physiotherapy in 2022) Currently, involved in the NZDF
██████████	Employed in Logistics and Freight

Despite being unable to embark on this overseas trip, all of these rangatahi and their whānau expressed their sincere gratitude at being selected. As shown, 87% went on to transition into tertiary study and other learning. Of this group, 77% of them moved into STEM-related studies – a clear indication that these rangatahi were well deserving of their spot on the Āmua Ao trip and no doubt would have benefited from the experience.

<b>ĀMUA AO 2019 COHORT (TAIWAN AND SINGAPORE)</b>	
_____	Canterbury University - Bachelor of Education
_____	Massey University - Bachelor of Business Property
_____	Massey University - Bachelor of Sport & Exercise
_____	Massey University – Bachelor of Agricommerce
_____	Massey University - Bachelor of Accountancy
_____	Massey University – Bachelor of Animal Science
_____	Otago University - Bachelor of Health Science
_____	Massey University - Te Aho Tatairangi Māori Medium
_____	Victoria University - Resource Management
_____	NZDF (2020 info)
_____	Gap Year (2020 info)
_____	Gap Year (2020 info)
_____	Employed
_____	Employed (2020 info)
_____	Employed (2020 info)

<b>ĀMUA AO 2018 COHORT (HOUSTON, USA)</b>	
_____	Canterbury University - Bachelor of Science
_____	Otago University - Bachelor of Applied Science and Activity and Health Major and a Sport and Nutrition Minor
_____	Auckland University - Bachelor of Medicine and Surgery
_____	Victoria University - Bachelor of Marine Biology
_____	Auckland University - Bachelor of Law & Engineering
_____	Canterbury University - Bachelor of Engineering
_____	Auckland University - Bachelor of Health Science
_____	UCOL - Electrical Engineering (2020 info)
_____	Massey University - Bachelor of Engineering with Honours
_____	Victoria University - Bachelor of Law Criminology Major
_____	Victoria University - Bachelor of Design
_____	Auckland University - Certificate of Health Science (2020 info)
_____	NZ Police Force (2020 info)
_____	Employed
_____	Employed

Āmua Ao 2017 COHORT (HAWAII, USA)	
██████████	Massey University - Bachelor of Science
██████████	Otago University - Bachelor of Medicine and Surgery
██████████	Canterbury University - Bachelor of Engineering
██████████	Massey University - Bachelor of Environmental Studies
██████████	Massey University - Bachelor of Science, Te Reo Māori
██████████	De La Salle University, Philippines - Bachelor of Commerce & Computer Science
██████████	Unknown (currently unable to be contacted)
██████████	Two-year service mission then a return to full-time tertiary study in 2023
██████████	Employed
██████████	Employed

### Āmua Ao International Experience Summary

Forty (41) students out of the fifty-five (55) students who have been on or chosen for an Āmua Ao overseas experience, continue to remain in, or have transitioned into the tertiary sector. This equates to a 75% transition/retention rate for Āmua Ao students.

This is significant when compared with the national Māori and European transition rates highlighted in the table below. Further analysis shows that the Āmua Ao transition rate continues to exceed that of the general Pūhoro transition rate.

	Āmua Ao	General Pūhoro	National Māori	National European
<b>Student transition rate into tertiary study</b>	75%	60%	*48%	*62%

\* Latest data supplied from Education Counts

<https://www.educationcounts.govt.nz/indicators/main/education-and-learning-outcomes/1907>

Āmua Ao continues to have a significant impact on students who have been part of, or chosen for these experiences. As demonstrated, Āmua Ao supports tertiary pathway transitions and also influences study in STEM significantly.

# ĀMUA AO COMMUNICATIONS

## Āmua Ao Communication Tools

Pūhoro has used social media (Instagram, Facebook), banners, photographs and reports to promote and document Āmua Ao related events over the 2020 – 2021 agreement period.

## Āmua Ao Image & Video Library

An image library containing all Pūhoro generated photos and video clips of Āmua Ao related events is contained securely onsite at Pūhoro headquarters in accordance with the new Privacy Act 2020 and our updated Privacy policy. Pūhoro media consent forms authorise Pūhoro to freely share these images and videos with NZQA and other partners as appropriate. This library continues to expand as more images and videos are captured.

## Website Revamp and Social Media Exposure

Pūhoro has a dedicated landing page for Āmua Ao on our website. Presently, the Pūhoro website is undergoing staged developments and upgrades to better reflect our growing team, our expansion throughout Aotearoa and the many events we hold throughout the year. Developments and upgrades to the Āmua Ao page are also planned and in due course will feature improved accessibility and latest material. At present, it features a description of Āmua Ao including the partnership with Pūhoro, a scrolling quote banner from student testimonials who have been involved in Āmua Ao initiatives, and photo galleries of Āmua Ao events.

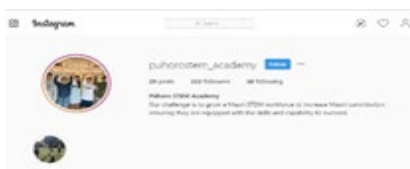
### [Āmua Ao Pūhoro Website Landing Page](#)



### [Pūhoro Facebook Page](#)



### [Pūhoro Instagram](#)



### [Puhoro Instagram MWT/OTK](#)



### [Puhoro Instagram AKL](#)



## EYM Banners, Videos and Media Links

Pūhoro, in partnership with NZQA, funded the creation and purchase of 7 banners to reflect the EYM pūrākau-based challenges - past, present and future. Four banners were designed for newly designed challenges Whiro me te Aitanga Pēpeke Challenge, Kupe Challenge, Ranginui rāua ko Papatūānuku Challenge, and Māui me te Rā Challenge. Two banners reflected past challenges held at EYM including Tūrongo rāua ko Whatihua Challenge and Ngātoroirangi Challenge. And one banner reflected a Challenge envisioned for use at EYM in the future – Mahuika Challenge. Pūhoro employee and qualified artist, \_\_\_\_\_ designed each of these banners and will continue to provide banner designs for all past, present, and future EYM pūrākau challenges.





*Rangatahi from Awatapu College, Manawatū, in front of the newly designed banners*

A media release was pitched to numerous media outlets and anticipated for the EYM event in Manawatū and Hawke's Bay but despite these attempts for promotion, these offers were not taken up by media. However, various kura from different regions felt encouraged to share their experiences with the EYM events on social media, generating even further reach than Pūhoro's capability.

A video highlight reel created by Manawatū kura Tū Toa, promoted Pūhoro and EYM:

<https://fb.watch/5Bi6zG7rV8/>

Various kura from different regions documented their involvement in the various EYM events:

<https://www.facebook.com/awatapu/posts/3733564173392278>

<https://www.facebook.com/AucklandGirlsGrammarSchool/posts/789611788253049>

<https://www.facebook.com/wairoacollege/posts/3504384492974790>

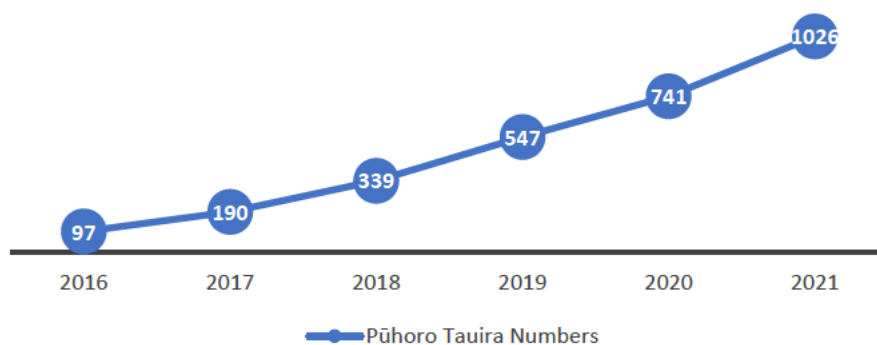
<https://www.facebook.com/PalmyBoys/posts/4015498325132960>

# PŪHORO IMPACT

## Pūhoro Growth

The following graph illustrates Pūhoro student growth within the programme since its beginning in 2016 through to May 2021.

### Pūhoro Student Growth



## Pūhoro Achievement Data

### *Transition to Tertiary*

In 2020, the majority of Pūhoro students who completed Te Urunga Tū (Phase 1 High School programme) successfully transitioned into tertiary study, apprenticeships, the defence forces or employment in 2021. Te Urunga Pae (Phase 2 Tertiary programme) now have cohorts in their first, second and third years of tertiary, and we are preparing already for some of our founding cohort to move into post-graduate studies or Te Urunga Tapu (Phase 3 Employment) as they graduate university in 2022.

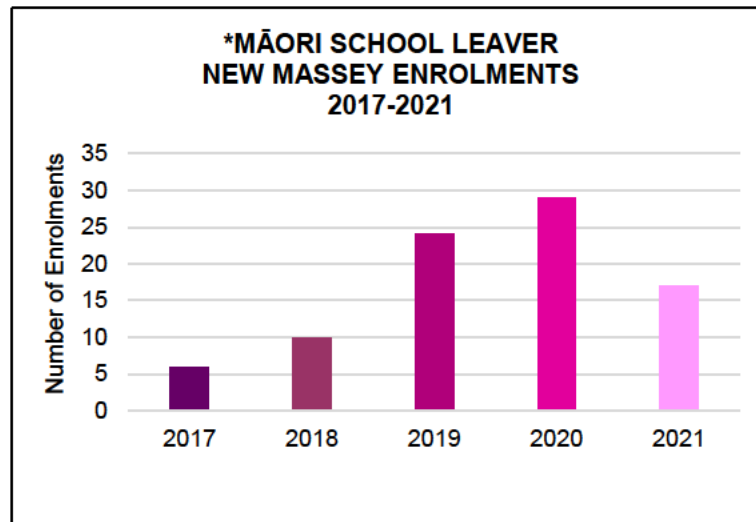
Given the incredible diversity of the tertiary education sector, Pūhoro now have rangatahi involved in universities, polytechs, PTE's, apprenticeships and the defence forces throughout Aotearoa. The overall transition rate for Pūhoro students into the tertiary sector currently sits at 60%. This rate continues to exceed the national Māori tertiary transition rates which sits at \*48% and furthermore, is virtually on par with the national European transition rate at \*62%.

\*As per latest data (2019) on Education Counts - <https://www.educationcounts.govt.nz/indicators/main/education-and-learning-outcomes/1907>

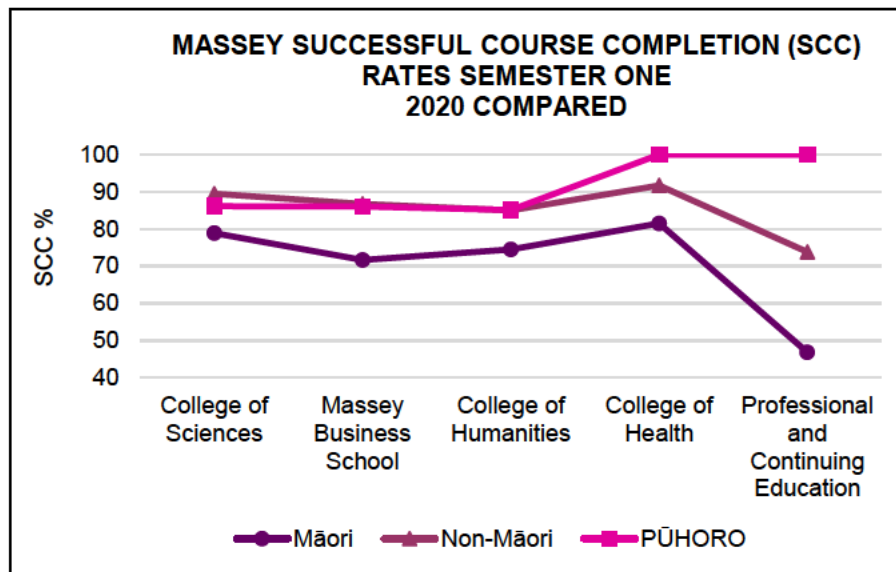


### **Massey University Achievement Data**

Within Massey University we have full access to our student data. The following graphs and data points illustrate Pūhoro impact over this reporting period within Massey University:



\*First time Massey enrolments from Pūhoro partner schools



- First time Massey enrolments are down in 2021 from the previous 2 years, however there are still enrolments expected in Semester 2. Additionally, scholarships were unavailable for new Massey enrolments in 2021 due to fiscal restraints and this further had an impact on students' choice to study with Massey. However, Pūhoro students are becoming involved in more and more tertiary study options outside of Massey and remain engaged in their education

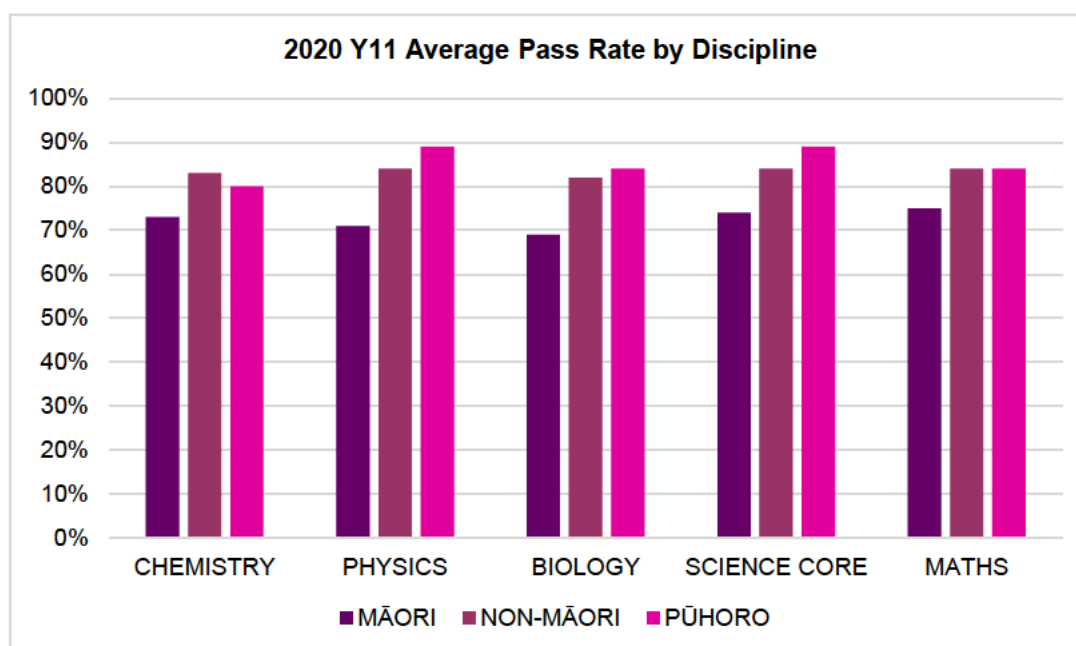
- We now have Pūhoro TUP students participating in 7 universities across Aotearoa, 1 international university, 4 polytechnics, 4 PTE's including the NZDF and a variety of paid apprenticeships and internships
- Semester 1 2020 Successful Course Completion (SCC) rates for Pūhoro students were on par with, or exceeded, SCC rates for non-Māori students at Massey University

### **High School Achievement Data 2020**

This data represents both internal and external achievement standards within each science discipline. It is a Pūhoro expectation that **every** Pūhoro student in Year 11, 12 and 13 participates in both external and internal achievement standards.

### **Year 11 Pūhoro Achievement 2020**

- Pūhoro students exceeded nationwide pass rates of Māori and non-Māori in Level 1 Physics, Biology and Core Sciences
- Pūhoro students came within 3 percentage points of non-Māori for NCEA Level 1 Chemistry, and achieved parity with non-Māori NCEA Level 1 Maths



### **Year 12 Pūhoro Achievement 2020**

- Pūhoro students exceeded nationwide Māori passrates in NCEA Level 2 Chemistry, Biology and Maths and came within 4-5% percentage points of non-Māori passrates
- Pūhoro students were on par with nationwide Māori Level 2 Physics passrates and is an area that Pūhoro can further ameliorate

### **Year 13 Pūhoro Achievement 2020**

- Pūhoro students exceeded the nationwide pass rates of Māori in NCEA Level 3 Biology
- Pūhoro students fell behind nationwide non-Māori pass rates in Level 3 Chemistry, Physics, Biology and Mathematics. This is perhaps one of the repercussions of Covid-19 on Pūhoro's ability to maintain face-to-face engagement with Year 13 rangatahi at such a critical phase of their schooling. We are eager to see how the reinstatement of face-to-face engagement with rangatahi can improve these pass rates in 2021, including focusing further Kaihautū delivery on uplifting achievement in subjects that indicate the need for further support/focus

Overall, Pūhoro pass rates for Year 11 and Year 12 were positive during such a turbulent year. While Year 13 pass rates were not on par with the pass rates of historical cohorts, we understand the disturbance to Pūhoro's main mode of delivery for a significant portion of the year, including no face-to-face wānanga for Auckland and Manawatū rangatahi, had an impact on them at such a critical time in their schooling. This is an area we are addressing and look forward to seeing how a full return to face-to-face engagement strengthens rangatahi achievement in 2021.

## Internship Opportunities

During the summer of 2020-2021 (November to February) Pūhoro, in collaboration with its partners, offered an incredible 47 paid internship opportunities to Year 13 rangatahi and those already in their first and second year of tertiary study. This was an increase from the 15 paid internships offered the previous summer. It is projected that the number of Pūhoro internship offerings will increase further as we move into the next summer period.

Interns were selected to participate based on a number of factors including expressed interest, commitment to Pūhoro, STEM aspiration, and a matching process to connect them with internships/projects best suited to them. These internships achieved many outcomes including further strengthening students' motivation and aspiration, STEM career exposure, hands-on industry involvement and practical experience of contributing to the STEM sphere with their inherent Māori worldview. Similarly, internships benefited stakeholders and project managers by exposing them to Te Ao Māori through the unique viewpoints of rangatahi, and understanding the value of mātauranga Māori in the STEM industry. The following tables feature participants in Āmua Ao International experiences who were also chosen for student internships.

### STEM Research Internships

Name and Iwi	Āmua Ao Trip	Project
Ngāpuhi	2020 San Fran (cancelled)	_____ was selected and received special permission to travel to Pōnui Island in the Hauraki Gulf, accompanied by Kaihautū _____ and _____. Their purpose was to track our endemic taonga, the Kiwi, by checking and collecting data from Kiwi radio transmitters, finding nests to ascertain Kiwi egg development and taking measurements of the eggs.
Ngāti Mutunga (Wharekauri/Chatham) Te Atiawa ki Whakarongotai	2020 San Fran (cancelled)	Tahi Spirulina: NZ Algae Innovations operates New Zealand's first and only spirulina farm near Himatangi Beach, and our products are sold under the name of Tahi Spirulina™. Spirulina is a super food rich in protein, antioxidants and minerals (especially iron and zinc) and is often heralded as one of the best 'superfoods'. _____ was able to discover this emerging industry that sits at the frontier between traditional farming and biotechnology and helped operators with monitoring, production, and participated in researching how to better harvest and dry the products, and food development.
Kāi Tahu	2020 San Fran (cancelled)	Central Cancer Network: These internships were created for rangatahi to explore and understand the cancer career network. Opportunities were

<i>Tainui</i>		created for our rangatahi to be exposed to the industry and career activities that make up the MidCentral District Health Board.
<i>Ngāti Kahungunu</i>		
<i>Ngāti Raukawa, Ngāti Maniapoto, Tūhoe</i>	2019 Taiwan/Singapore	MBIE Future Foods: Project 1: Values-based Māori Food entities are well placed to lead the development of high-value future foods. Their ingenuity, unique strengths of relationship building, storytelling and collective assets allows them to influence the whole value and supply chain. Through discussion with Māori food entities, [ ] investigated the potential product development and marketing opportunities for Māori Food entities in the global alternative protein market and the gaps in knowledge that need to be further investigated for success.
<i>Te Atiawa Ngāti Maniapoto</i>	2019 Taiwan/Singapore	Green Shell Mussels: This project explored published literature of the traditional and customary uses of Kūkū / Kūtai, particularly around the impacts on health. Scientific literature states that the health of coastal Māori was extremely robust due to consumption of this seafood. The project aimed to unpack and explore that statement and further back it with the historical and scientific evidence needed. Season explored Mātauranga, indigenous knowledge and science and innovation.
<i>Ngā Puhi, Ngāti Kahungunu</i>	2018 Houston	Wine Science: Bragato Research Institute drives world-leading innovation for the New Zealand wine industry—from blue sky research through to the practical application of science in our vineyards, wineries and supply chain. [ ] had the opportunity to travel to Nelson for this internship. This internship was co-designed with Annaleise and Bragato and looked at viticulture, oenology, soil science, horticultural science, wine science, chemistry, food science, and food technology.
<i>Ngāti Raukawa</i>	2018 Houston	Pest Management: This projects intent was to safeguard New Zealand's agricultural economy and native biodiversity from the ravages of exotic pests using specified phytosanitary conditions (e.g., disinfestation with fumigants). This internship included insect rearing and method development to harvest mites from the colony and looked at the pest mortality response under the treatment conditions. A typical fumigation procedure was demonstrated to [ ] at the fumigation facility, Palmerston North. She also had the opportunity to learn some chemistry knowledge relevant in designing a fumigation trail.

<p>Ngāti Raukawa</p>	<p>2018 Houston</p>	<p>This project was based in Taranaki, where [redacted] worked on a number of TODD energy objectives which included developing and supporting the implementation of Todd's Emissions Reduction plan and low emission initiatives, developing internal and external stakeholder engagement plans, supporting the environment team with consenting projects, environmental sampling and monitoring, and supporting the design and development of a school engagement programme (educational field trip / site tours).</p>
<p>Kāi Tahu Rangitāne Ngāti Kuia Ngāti Apa</p>	<p>2018 Houston</p>	<p>Gastrointestinal Disorders: Looking at the prevalence of functional gastrointestinal disorders in Māori in Waitaha. This project aimed to understand how widespread puku issues (such as bloating, constipation, diarrhoea, or heartburn) are in Māori whanau in Waitaha/Canterbury. [redacted] worked closely with primary health care providers to evaluate the prevalence of these issues. [redacted] had the opportunity to do this internship in Palmerston North and also in Christchurch - returning to her whānau rohe.</p>
<p>Ngāti Kauwhata Ngāti Kahungunu Ngāti Raukawa</p>	<p>2018 Houston</p>	<p>TBI Health: This internship explored a case study on Māori access to spinal cord injury care. It supported [redacted] understanding of the role of TBI health and provide opportunities for her to understand the TBI health team, their different roles and the important work they provide.</p>
<p>Ngāti Kahungunu ki Wairarapa Muaūpoko</p>	<p>2018 Houston</p>	<p>Food HQ: FoodHQ secured 4 different internships for rangatahi and provided opportunities to explore Karaka tree nut processing, the refrigeration of foods, exploring the state of alternative proteins around Aotearoa, NZ, and a project in collaboration with the Palmerston North City Council.</p>
<p>Ngāti Kahungunu ki te Wairoa Ngāti Porou</p>	<p>2017 Hawai'i</p>	<p>Floral Fertility: Plant &amp; Food Research (PFR) is a New Zealand science company delivering research and development designed to grow competitive advantage for clients in the horticulture, wine, cropping, seafood and associated high value food sectors worldwide. Our research team, together with Kāi Tahu have been exploring <i>Gentianella</i> as a potential new potted and landscape plant for the international and domestic markets. Grace investigated the natural fertility of flowers derived from species and hybrids of indigenous <i>Gentianella</i> as well as <i>Gentiana</i>. The activities included hands-on use of microscopy in the lab as well as growing and pollinating plants at greenhouse and field facilities in Palmerston North, with methodologies and interpretations based on scientific literature</p>

Ngāti Porou	2017 Hawai'i	Antibiotic resistant <i>Escherichia coli</i> was isolated from local waterways and compared with resistant <i>E. coli</i> previously isolated from livestock and humans. The project involved sampling from waterways, and laboratory work including bacterial culturing and identification, antibiotic susceptibility testing, DNA extractions and identification of the genes responsible for resistance using PCR (polymerase chain reaction) techniques.
Ngāti Hauiti Te Āti Haunui-a-Pāpārangī	2017 Hawai'i	Food HQ: FoodHQ secured 4 different internships for rangatahi and provided opportunities to explore Karaka tree nut processing, the refrigeration of foods, exploring the state of alternative proteins around Aotearoa, NZ, and a project in collaboration with the Palmerston North City Council.
Ngāti Kauwhata	2017 Hawai'i	Food HQ: FoodHQ secured 4 different internships for rangatahi and provided opportunities to explore Karaka tree nut processing, the refrigeration of foods, exploring the state of alternative proteins around Aotearoa, NZ, and a project in collaboration with the Palmerston North City Council.
Sha Ngāti Raukawa Ngāti Porou	2017 Hawai'i	Functional Properties of Mamaku Pith: This internship was designed to determine the potential of mamaku pith as a functional food ingredient by measuring its effects in the gut using a rat model, and by determining the expression of its properties as an ingredient in bakery products.

### Cost Benefit Analysis Graphic Update

Two years ago, the Institute for Environmental and Scientific Research commissioned a cost benefit analysis (CBA) of the Pūhoro programme. This outlined the impact of the Pūhoro Academy on the lifetime earning of Māori students through continued engagement in the programme. Another CBA has been commissioned and is currently underway. More information will follow when those findings are released, meanwhile the link to the findings of the 2019 CBA is displayed below:

<https://www.sustainablewellbeing.nz/puhoroacademy>

## **Overall Summary**

- Āmua Ao continues to support rangatahi transitions into the sciences at high school and also tertiary levels
- EYM is an incredible asset that allows for seamless rangatahi transitions into Pūhoro, which further wraps around taura the relevant supports required to help them into STEM pathways
- The Āmua Ao international experience positively influences students, and even just being selected has a positive impact on students' aspiration, confidence and mindset
- Āmua Ao is a valuable collaboration between NZQA and Pūhoro, and this relationship continues to support Pūhoro in impacting Māori achievement and participation in STEM.



ANNUAL REPORT  
**PŪHORO & NZQA PARTNERSHIP**  
2021 - 2022

## Naomi Manu - Pūhoro STEM Academy Director



*Over the 2021 – 2022 year we have continued to experience dynamic challenges that have centred around Covid-19 and the effects of the pandemic on business as usual. Accordingly, we have been able to pivot and through the consistent and incredible support of the New Zealand Qualifications Authority continue to provide meaningful opportunities to support our rangatahi as they actively engage in STEMM pathways albeit at times in an adjusted format according to the traffic light settings in place at the time.*

*Over the years, our partnership with NZQA holds in my mind as a shining example of how through key partnerships, we can move forward, accelerate and achieve positive outcomes for rangatahi Māori .*

*Our partnership with NZQA and the desire to support, sustain and empower our programme, and realise the aspirations and potential of our rangatahi Māori and their whānau cannot be understated. Your generous support breathes further life into the creation of meaningful opportunities in science for our rangatahi that connect to a line of sight towards pathways and potential future employment in the areas within STEM (Science, Technology, Engineering and Mathematics).*

*This investment for our programme is significant, and the effects and impact it has had on our rangatahi and their whānau is powerful! It gives voice to the whakataukī, Nāu te rourou, nāku te rourou, ka ora ai te iwi.*

*From all of the team here at Pūhoro, we look forward to working together in the years ahead and we thank you humbly for your support thus far. We look forward to seeing our partnership continue to blossom through our important mahi together for the benefit of our rangatahi.*

***Pūhoro ki te hoe!***

***Naomi Manu - Pūhoro Director***

# **ANNUAL REPORT**

This report completes Pūhoro reporting requirements to the New Zealand Qualifications Authority (NZQA) for the 2021-2022 period of our agreement.

The report summarises information regarding:

- a. Overview including feedback narrative of delivery for the STEMM Haerenga (Wānanga Pūrau – Mini STEMM Wānanga)
- b. STEMM Poster series overview and design and distribution progress/status
- c. STEMM bus business case general overview and progress
- d. Communications offerings as jointly agreed between Pūhoro and NZQA.

# STEMM HAERENGA WĀNANGA PŪRAU OVERVIEW AND FEEDBACK

## **Pūhoro STEMM Academy**

Activity name: Wānanga Pūrau

Dates of activities: Wednesday 20 April – Friday 29 April 2022



In the Term 1 holidays of 2022, the Wānanga Pūrau events were created and implemented in response to the cancellation of the Term 1 Wānanga due to Covid19. These were day events that were carried out in the regions by kaihautū and encompassed mātauranga Māori learnings, digital technology, and an array of broader science learnings. These Wānanga were supported by NZQA and replaced the previously agreed delivery of EYMM events.

A total of twenty (21) Wānanga Pūrau were held across five regions and attended 214 times by rangatahi from Y11-13. These events included the following:

### **MANAWATŪ**

Taupo Day Out.....Thurs 21 April

Pūkaha Wildlife.....Fri 22 April

Kura Matahiko.....Tues 26 April

Kāpiti Island.....Tues 26 April

UCOL Simulations & Escape Room.....Wed 27 April

### **TĀMAKI MAKĀURAU**

Auckland Zoo.....Thurs 21 April

Kura Matahiko.....Fri 22 April

VR Voom.....Wed 27 April

Whakairo.....Fri 29 April

### **TE MATAU A MAUI**

Waitangi Park & Escape Room (HB & Wairoa).....Wed 20 April

Waimarama Beach.....Thurs 21 April

Kura Matahiko.....Wed 27 April

### **WAIKATO**

Digital Natives Academy.....Wed 20 April

Taonga Puoro.....Tues 26 April

Genesis Energy & Escape Room...Thurs 28 April

Kura Matahiko.....Fri 29 April

### **ŌTAUTAHI**

Kura Matahiko.....Wed 20 April

Waka on Ōtakaro.....Fri 22 April

Antarctic Centre.....Tues 26 April

Escape Room.....Thurs 28 April

## MANAWATŪ | Taupo Day Out – Thurs 21 April

On this haerenga, \_\_\_\_\_ took six (6) rangatahi from Ruapehu College out to Taupo for their day out. The first activity of the day was a Rock'n'Ropes confidence course where instructors first went through a safety briefing with everyone and then they were split into groups of 4 to work through the course together. With plenty of encouragement, rangatahi were able to tackle the activities in the course and ended up spending two and a half hours there. After that everyone headed down to Huka Falls to relax before KFC for lunch. For the afternoon activity, rangatahi and kaihautū checked into the scenic cruise at the marina and boarded a boat. There they travelled out to Mine Bay to view the Ngātoroirangi Rock Carving and learn the story behind it from their tour guide, including a fishing demonstration to end the day.

*"[It was] my first time being over by the carvings and learning about who carved them and why and the reason behind it" – Y11 Ruapehu taurira*

*"I learnt that the last eruption, 2000 years ago blew up at least one third of the lake" – Y11 Ruapehu taurira*

*"Today was a great experience for me because I learned about the Māori carving on the lake as well as why it's really important for us as Māori to know its meaning. I also loved the high ropes - that was a new experience for me & I loved it" – Y11 Ruapehu taurira*

*"I think it was valuable because it was full of bonding activities - that's one thing I noticed and I reckon it was good because I made some good connections" – Y12 Ruapehu taurira*

*"This awesome trip I experienced has had a huge impact on me. As early as it was in the morning to start this.. I'm so keen to do it again! Early morning, late nights whatever I want to show my commitment for the future trips that await" – Y11 Ruapehu taurira*

*"It was an impact of an experience because I overcame one of my fears which was heights & learning about the carving because I've actually always wanted to visit it" – Y11 Ruapehu student*



100% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'highly effective'**.

## MANAWATŪ | Pūkaha Wildlife – Fri 22 April

\_\_\_\_\_ accompanied *thirteen (13)* rangatahi to Pūkaha Wildlife. \_\_\_\_\_ were their tour guides for the day and \_\_\_\_\_ was able to weave into the tour, tuakiri and mātauranga Māori stories related to Pūkaha and the taiao. Taura found her stories inspiring and enjoyed learning about their Māoritanga. Additionally, they asked plenty of questions and enjoyed whakawhanaungatanga with each other and staff. Taura were also shown the carving house and given a forest guided tour, including the bird aviaries and kiwi house. After a lunch break, their tour concluded with checking in on the raupo harvest, performing clear water tests at a stream where taura caught a little koura, and finally watching the eels be fed.



*"I really enjoyed the first part due to the amount of passion you could see on the tour guides kupu and face. Everyone was very lovely and sweet. It was a nice educational experience learning knowledge about the water ways and whenua" – Y11 Freyberg taura*

*"One highlight was seeing the Kiwi House and watching the Kiwis jump around, another high light was the cultural guide showing us what the culture of Pūkaha was, another was the water testing, she let us get involved and interact with the river" – Y12 Feilding taura*

*"Makes me want to be a scientist" – Y11 Feilding taura*

*"It exposed me to another possible career path and made more passionate about the Māori science and knowledge. I want to learn more. Will be coming back" – Y13 PNGHS taura*

*"[My highlights were] listening to all the stories, feeding the eels, gaining new knowledge, food, good people and made new friends" – Y11 Tu Toa taura*

*"[My highlights were] eel feeding, kiwi house, trail walk, learning about iwi, learning about nature" – Y11 Awatapu taura*



100% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'highly effective'**.

## MANAWATŪ | Kura Matahiko – Tues 26 April

Kura Matahiko was run by Pūhoro staff members \_\_\_\_\_ and aimed to teach tauira how to build websites and edit videos. *Eight (8)* tauira attended this session held at UCOL in Palmerston North with \_\_\_\_\_. The day began with a quick computer game to break the ice after which everyone introduced themselves and the session kicked off with coding on the Code Avengers website where they learnt how to build a website. Tauira were then tasked to research their pepeha and develop a video plan for recording and uploading it to on the internet. After lunch the tauira executed their video plan, unleashing their creativity and recording and editing their video which everyone was able to watch. Tauira were also given exclusive merchandise, a Pūhoro t-shirt with a green-screen design that allowed their pepeha video to be played onto their t-shirts!



*"This will be very valuable in this modern world where everything is digitised, this will help me if I'm trying to promote digitally" – Y12 Feilding tauira*

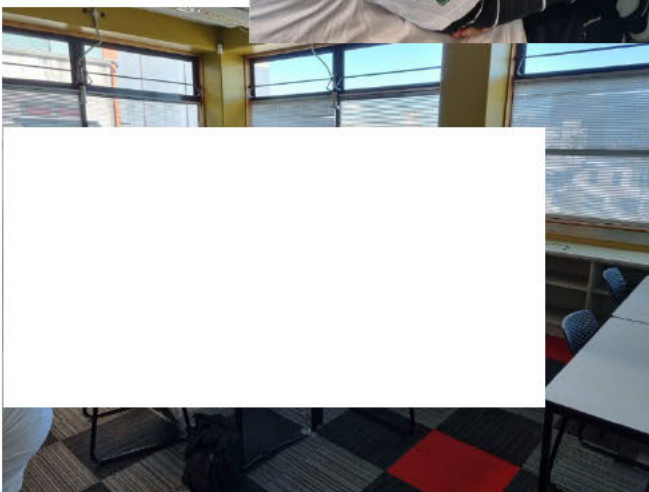
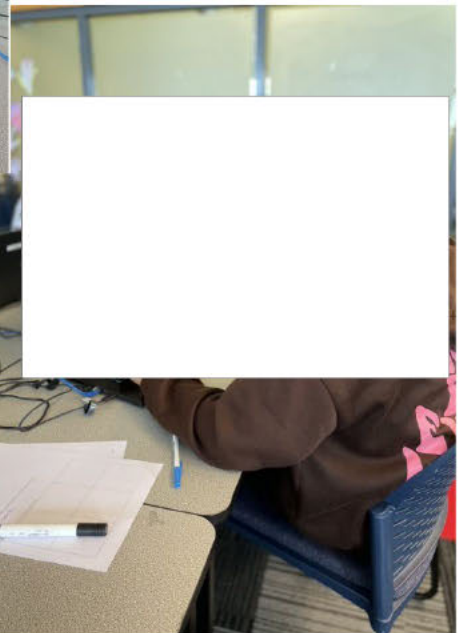
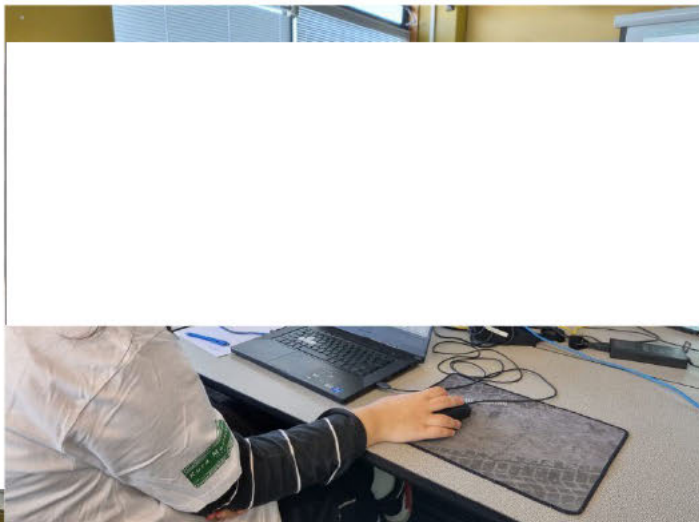
*"Making the montage was a different experience and was definitely fun" – Y11 Tu Toa tauira*

*"I enjoyed being able to code and learn more in depth for green screens and code avengers seems like a good website" – Y13 Feilding tauira*

*"How to make a website was very intriguing. It helped me gain vital knowledge for my future dream career path" – Y11 Freyberg tauira*

*"Learning how to code a website and edit a video from scratch and playing games" – Y11 Tu Toa tauira*

*"I learnt how to make a website by using codeavengers" – Y11 Freyberg tauira*



86% of rangatahi respondents *'strongly enjoyed'* this wānanga pūrau experience; rubric measurement suggests this session was *'effective'*.

## MANAWATŪ | Kāpiti Island – Tues 26 April

Fourteen (14) taura had the opportunity to travel to Kāpiti Island with [redacted]. They were hosted by [redacted] and upon arrival to the island, they went straight to the shelter for a whakatau hosted by [redacted]. Following the whakatau, [redacted] gave a brief history of the island including bird life, iwi affiliations, and whaling stories of Kāpiti. [redacted] and [redacted] then hosted a brief kai at their home before Pūhoro staff and taura embarked on a hikoi up the hill on the northern side. [redacted] used this opportunity to share his mātauranga of the area by talking about Te Rauparaha and the haka "Ka Mate Ka Mate" with the hononga being Kapiti Island and linking students whakapapa/pepeha into it as well. Upon return from their hikoi, taura finished off with a swim and snorkel in the moana; for those who had not done anything like this before, it was a great opportunity for them to see what kina and paua looked like in the ocean as well as other sea life. After a poroporoaki, taura and staff safely returned to the mainland by the afternoon.



*"One of the main highlights of the day was climbing to the lookout on Kāpiti Island, although it was a steep climb it was rewarding to see such majestic sea views, from there we had a kōrero about some Māori stories. It was interesting to hear the stories about past ancestors who lived off the land" – Y13 Feilding taura*

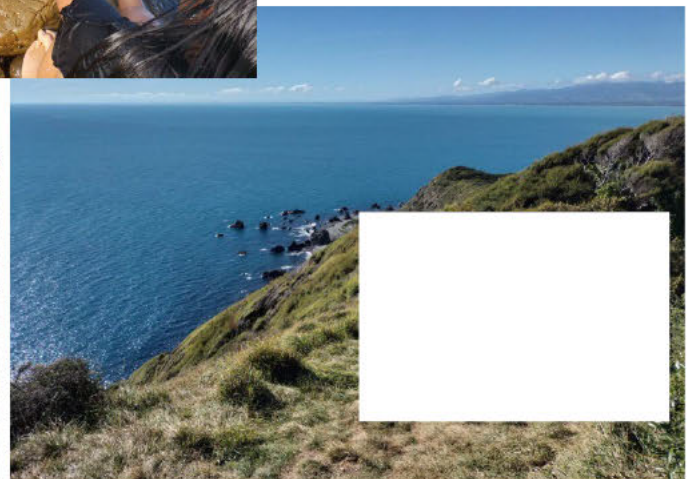
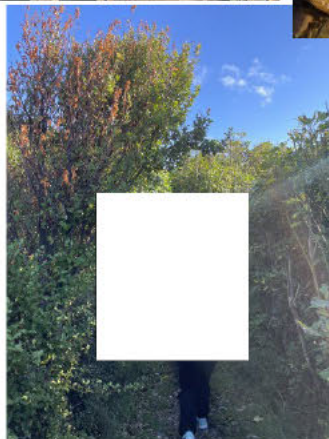
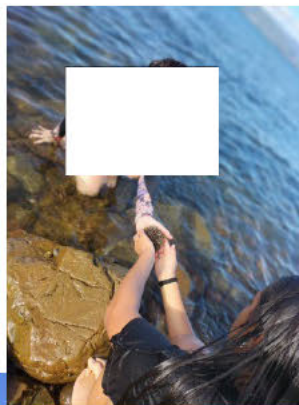
*"History of Kāpiti island such as the Māori tribes that've thrived on the island. Especially the fact the whales used to travel through the strait. Also of Te Rauparaha and the Nga Tino Rangatira" – Y12 Awatapu taura*

*"It was impactful, because learning about how much we affect the land was really sad and inspirational on how to treat our land better" – Y11 Awatapu taura*

*"This was really valuable because it's one thing to hear about these events in social studies classrooms but to actually see what transpired and to feel the life of land and how it adapted is completely different and really helps to solidify all that stuff" – Y13 Feilding taura*

*"It was a very precious experience, and I will treasure it for the rest of my life" – Y11 PNBHS taura*

*"SUPER VALUABLE, because it allowed me to have more thought for my future" – Y11 Tu Toa taura*



100% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'highly effective'**.



## MANAWATŪ | UCOL Simulations & Escape Room – Wed 27 April

For this event, sixteen (16) Y11-13 rangatahi were taken to UCOL by [redacted]. There, tauira were given a backstage pass to UCOL facilities and tutors and began the day with the nursing simulation labs, run by two UCOL tutors. Tauira got hands-on learning proper hand washing, taking blood pressure, using a pulse oximeter, taking temperatures, listening for pulses with stethoscopes, blood sugar testing, testing urine and wound dressings. The next station was the MIT (Medical Imaging Technology) department run by two other UCOL staff members. One activity involved looking at x-rays, one was taking x-rays on Debbie (the dummy), and the third was VR radiography. Following this, rangatahi moved onto the Sports and Exercise department where they measured their lactate levels using a finger prick method. Next up in the science lab, rangatahi were shown how to use pipettes to test water for traces of E-coli. Following UCOL, the group travelled to an escape room for a fun finish to the day where tauira worked together to solve clues and escape their room.

*“Pretty impactful, seeing before this I wasn’t keen at medical school but now I am considering that as a future job” – PNBHS Y12 tauira*

*“When we went to the room with all the beds and the ladies. Pretending to be nurses and testing “patients”. Was cool to see what it was like to be a nurse and was fun” – PNBHS Y12 tauira*

*“Medical imaging was really cool and gave me a good idea of what it will be like to study that, the nursing simulation was awesome too, using the beds to go up and down, pricking my finger and seeing my oxygen level was fun” – Y13 Otaki tauira*

*“It was an amazing experience as it made me consider different career options and mixed in fun” – Y11 PNBHS tauira*

*“Very valuable, had fun winning the escape room and learning about the sciences” – Y13 Otaki tauira*

*“[My highlights were] the nursing simulation and how that operates. The other activities like the x-rays with the vr headset. The sports and exercise part was rushed, and the biology” – Y13 Awatapu tauira*



100% of rangatahi respondents **‘strongly enjoyed’** this wānanga pūrau experience; rubric measurement suggests this session was **‘highly effective’**.

## TĀMAKI MAKĀURAU | Auckland Zoo – Thurs 21 April

On this trip, *nine (9)* rangatahi were given a behind-the-scenes look at Auckland Zoo with some of the zookeepers and \_\_\_\_\_ . Within their tour they were shown Te Wao Nui which is the zoos dedicated area for Te Ao Māori (with a carving of Tāne Māhuta), and native trees and birds. Taurira also learnt about the goal of rodent eradication by 2050 and taught about kauri dieback, including a close up with Tipua the Tuatara. Taurira asked plenty of questions and were able to use their own knowledge identifying the native trees in Te Wao Nui a Tāne as well as linking aspects of mātauranga Māori to the things they had learnt. After the tour, rangatahi were given free time to explore the zoo together.

*"I liked the experience overall because our activities were fun and I got to interact with new people" – Y11 AGGS taurira*

*"Learning about how our some native animals were nearly killed off to predators from colonization" – Y13 Alfriston taurira*

*"We learnt about the forest area and how pest are killing our native animals or reptiles and we also learnt about how we are getting rid of them" – Y11 AGGS taurira*

*"Very valuable because it gave me a wider perspective on our taiao" – Y13 Alfriston taurira*

*"First time at zoo I loved it" – Y12 Alfriston taurira*

*"Learning about our native kararehe and meeting the barn" – Y13 Alfriston taurira*



100% of rangatahi respondents *'strongly enjoyed'* this wānanga pūrau experience; rubric measurement suggests this session was *'highly effective'*.

## TĀMAKI MAKĀURAU | Kura Matahiko – Fri 22 April

Kura Matahiko was run by Pūhoro staff members [REDACTED] and aimed to teach taura how to build websites and edit videos. Four (4) taura attended this session held at [REDACTED] with [REDACTED]. The day began with introductions/whakawhanaungatanga before taura were taught about computer coding using Code Avengers and given the tasks of creating a 2-page website and video creation. Taura had to research their pepeha and develop a video plan for recording and uploading it to on the internet. The video creation gave taura the chance to use a green screen which was available through the exclusive merchandise they were given, a Pūhoro t-shirt with a green-screen design that allowed their pepeha video to be played onto their t-shirts!

*"I enjoyed making and developing a website and playing quake 3" – Y12 Manurewa taura*

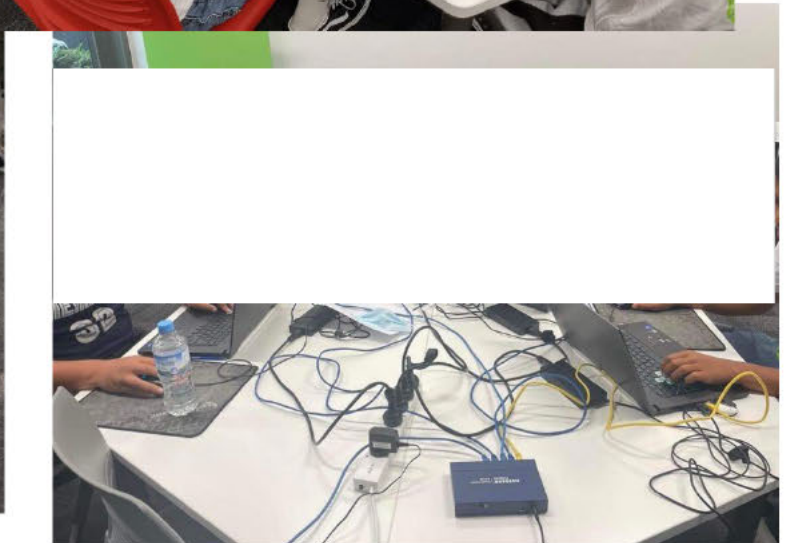
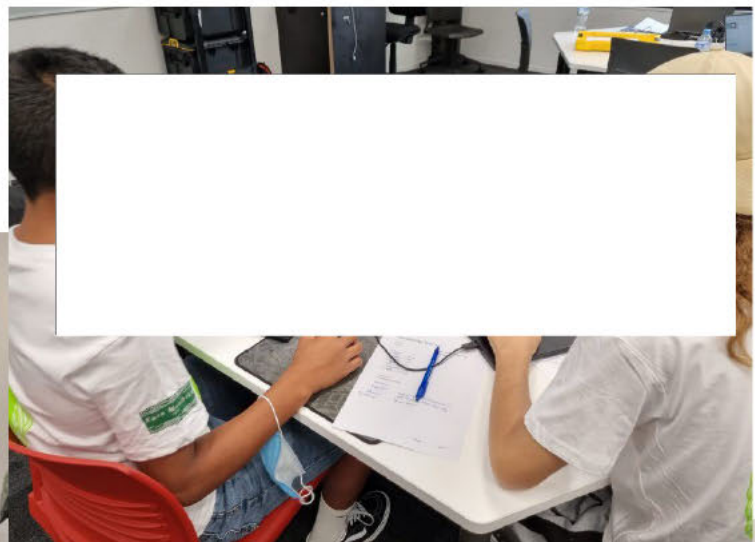
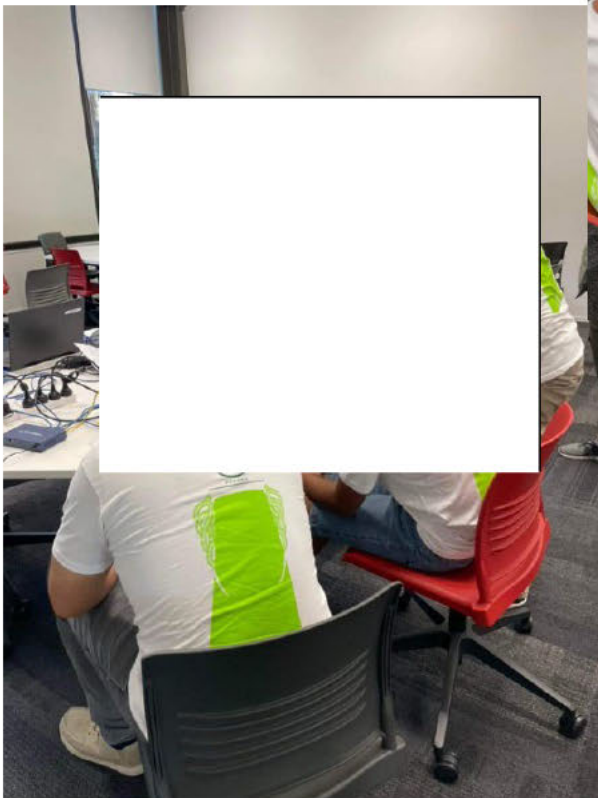
*"Something that I learnt how to do today was develop a website and edit videos" - Y12 Manurewa taura*

*"I need to connect to my Māori side more" – Y12 Alfriston taura*

*"This was nice this has really changed my perspective of a computer and it was nice" - Y12 Alfriston taura*

*"This was fun because I learnt new things" – Y11 Otahuhu taura*

*"This was a very good experience and [can't] wait to do it again" – Y12 Manurewa taura*



100% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'highly effective'**.

## TĀMAKI MAKAURAU | VR Voom – Wed 27 April

For this experience, *eight (8)* taura were taken to VR Voom with \_\_\_\_\_ . There they got to enjoy whanaungatanga and had fun playing with VR gear and exploring a digital aspect of the world we live in. Taura also had to use their hinengaro to escape a room and their enjoyment was evident in their participation and engagement. Additionally, some of the taura were able digitally beat \_\_\_\_\_ which only added to the experience!

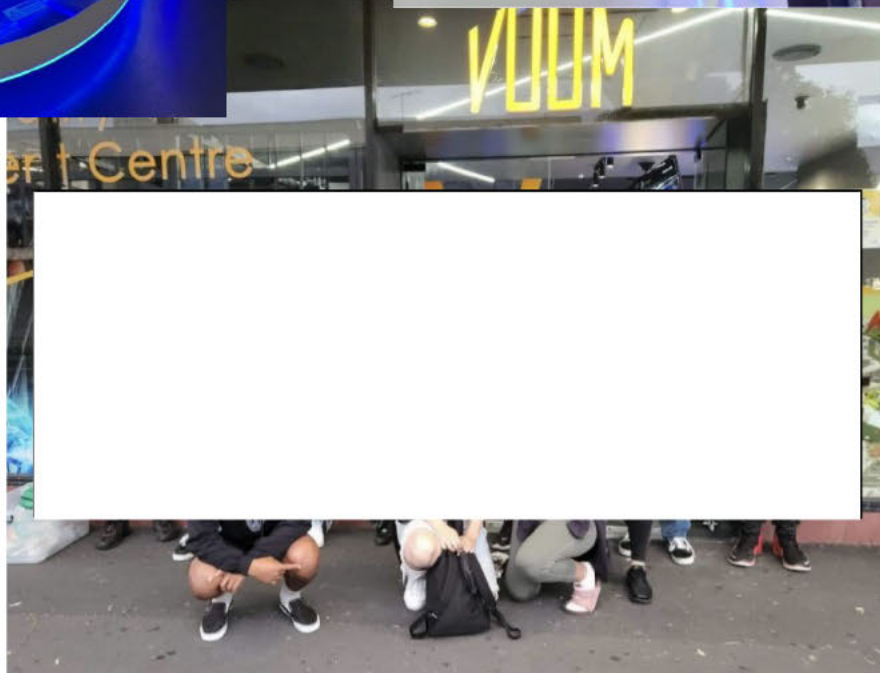
*"I liked the interaction with the people that came and I liked all of the different VR activities"* – Y11 AGGS taura

*"Being able to connect with taura from other kura such as MH, Sacred Heart, and Ōtāhuhu"* – Y13 Alfriston taura

*"My highlight was being able to experience VR for the first time and I played an escape room with an Alice in the Wonderland theme and it was AMAZING. That would definitely be the highlight of my experience"* – Y13 Alfriston taura

*"I liked that I was able to interact with people that I have never met before"* – Y11 AGGS taura

*"Very valuable, testing my mind and how I think. And to think outside the box"* – Y13 Alfriston taura



100% of rangatahi respondents *'strongly enjoyed'* this wānanga pūrau experience; rubric measurement suggests this session was *'highly effective'*.

## TĀMAKI MAKĀURAU | Whakairo – Fri 29 April

At this event, *fifteen (15)* taira were introduced to whakairo by \_\_\_\_\_ and supported by \_\_\_\_\_. They started with some workbook learning and drawing, where they began to build up their knowledge of mātauranga whakairo, patterns and karakia. Next, they each developed their own whakairo drawings to the highest degree of excellence and then worked hard to complete their carved boards by the end of the day. All the taira thoroughly enjoyed their day and were keen to try it again.



*“My highlight for today was really being able to learn more about Māori carving and being able to meet Tā because he’s cool and chill and really awesome at teaching” – Y13 Alfriston taira*

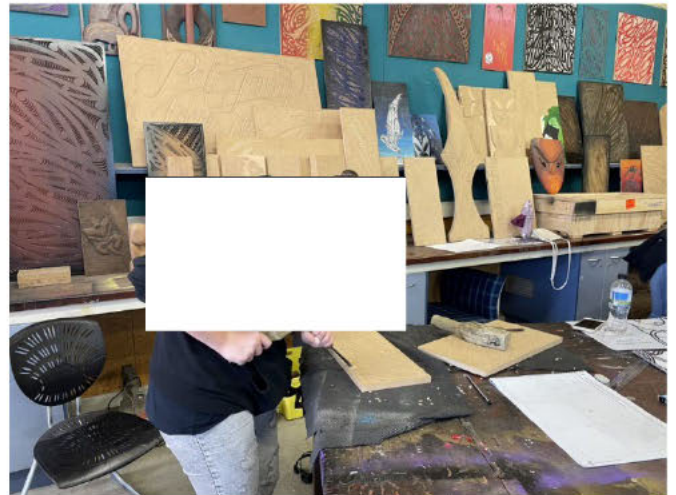
*“This was very valuable because it made me feel connected to my ancestors and family more” – Y12 Botany taira*

*“Mauri Ora, mean as day/experience. Especially for me starting my own whakairo journey outside of Kura” – Y12 Tuakau taira*

*“This was an extremely valuable experience. Being in a Mātauranga Māori space where others are keen to learn too is tons of fun” – Y12 Alfriston taira*

*“Te whakahirahiratanga o te whakairo. Te Ao Māori is not wrong, it is just different” – Y13 TKKM a Rohe o Mangere taira*

*“This was valuable to me because I got to learn more about my culture” – Y12 Manurewa taira*



100% of rangatahi respondents *‘strongly enjoyed’* this wānanga pūrau experience; rubric measurement suggests this session was *‘highly effective’*.

## TE MATAU A MĀUI | Waitangi Park & Escape Room – Wed & Thurs 20-21 April

This excursion began on Wednesday with *eleven (11)* taura from Wairoa and *one (1)* from Napier. \_\_\_\_\_ took these taura to Enigma Escape Rooms in Napier where they had to work together to solve clues using the available resources and technology at their disposal and drawing upon their teams expertise and skills to overcome the challenge to exit the escape room in a set amount of time. This excursion was a fusion of soft skills and hard skills, plus utilising tech to their own advantage. After which they all stayed overnight at Havelock Motel. The following day they were joined by a further *thirteen (13)* taura from Hastings and Napier which allowed for the whakawhanaungatanga of everyone and after a mihimihi session, they were taken to Ocean Spa where they enjoyed a swim, rugby and volleyball. After morning tea, taura were taken to Waitangi Wetlands to hear two separate kōrero about the Waitangi Park and the Ātea-A-Rangi. \_\_\_\_\_ from the Waitangi Trust led the kōrero at the park. He demonstrated the restoration work that had been happening at the wetlands and the positive effect this has had on native manu and water life. At the Ātea a Rangi, \_\_\_\_\_ shared his mātauranga by giving an in-depth kōrero on how Māori navigate by the stars. He created the Ātea-a-Rangi where he placed pou in specific spots and he showed taura how to use the pou to read East, West, North, South through mātauranga Māori.

*“Today was very exciting with a new thing getting learnt every second. I enjoyed the compass trip where we looked over the wet lands. It was a very nice and new adventure” – Y11 Wairoa taura*

*“This was very impactful because I struggle to talk to and make new friends. This trip pushed me out of my comfort zone and I was able to make new friends from the kura” – Y11 Wairoa taura*

*“It was a fun learning and swimming experience, I learned how to tell where the east is, and how where the sun affects different seasons” – Y11 Karamu taura*

*“The names of North, East, South and West. Learning about the Gods and what part they played”. – Y11 Sacred Heart taura*

*“It was a very good experience as I’ve never been to the compass or the wet lands” – Y11 Karamu taura*

*“This was an amazing experience it was different and I learned about different schools and many other different things. I would love to go next year, I just hope there are more boys” – Y11 Karamu taura*



100% of rangatahi respondents *‘strongly enjoyed’* this wānanga pūrau experience; rubric measurement suggests this session was *‘highly effective’*.

## TE MATAU A MĀUI | Waimarama Beach – Thurs 21 April

This trip saw *twelve (12)* taura from Hastings and Napier taken by \_\_\_\_\_ to Waimārama Domain for a Surf Session with Sea Sisters Hawkes Bay. Their instructors for the day were \_\_\_\_\_ who began with a land instruction session, teaching the foundations and skills of surfing, and also health and safety. From here taura moved to the beach and got into the 'getting up' session. Then taura moved into the ocean to put all their new skills into action. Taura responded positively to this activity, with all showing determination as they managed to stand and surf, and for the next 90 mins taura got to catch as many waves as possible. A BBQ lunch with games and whanaungatanga followed, wrapping up the day.



*"I loved the surfing and the whanaungatanga, I loved the singing a swell" – Y11 Karamu taura*

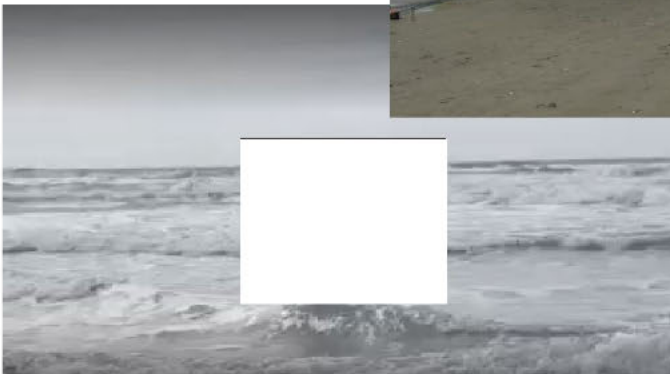
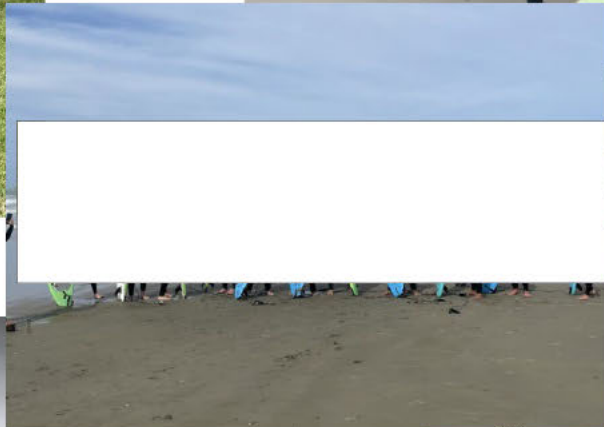
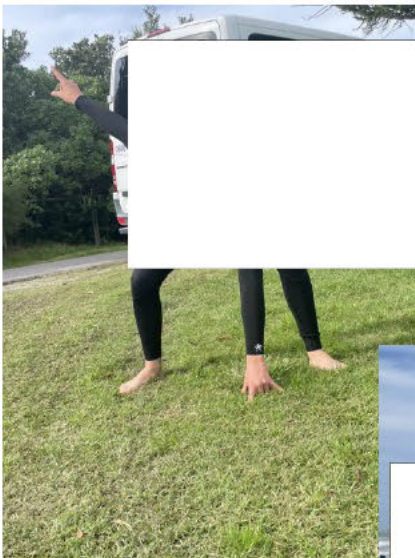
*"Definitely just hanging out with all my friends and our kaiako made it so much funny, and I liked getting up on the board" – Y11 Karamu taura*

*"I learned that there's some waves you don't wanna catch and some you do and what to look for" – Y11 Karamu taura*

*"It was very valuable; I loved this experience so I guess it was pretty impactful" – Y11 Karamu taura*

*"It was great to meet new people and learn a new skill as a collective and enjoy the day together" – Y11 Karamu taura*

*"Everything was amazing and I had such an amazing time" – Y11 Karamu taura*



100% of rangatahi respondents *'strongly enjoyed'* this wānanga pūrau experience; rubric measurement suggests this session was *'highly effective'*.

## TE MATAU A MĀUI | Kura Matahiko – Wed 27 April

At the Hastings HIVE office, \_\_\_\_\_ hosted six (6) tauira for a Kura Matahiko workshop with \_\_\_\_\_. After a mihi session, tauira were given a coding task and learnt how to code and use tags to create their own personal websites. After lunch, tauira moved onto their movie making and editing where they filmed a video of their pepeha. They then learnt how to use green screens and, in this case, their exclusive Pūhoro t-shirts acted as their green screen for projecting their pepeha video.

“Everything, I loved the whole day and enjoyed everything we did” – Y11 Karamu tauira

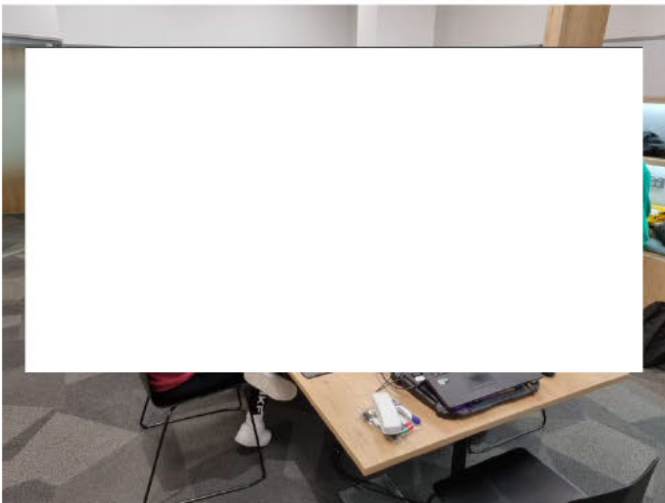
“I learnt how to do heaps of different things like coding my own website, and finally learning how to edit my own videos” – Y11 Karamu tauira

“I learnt a lot of stuff like coding, editing and loads more” – Y11 Karamu tauira

“Was valuable because I want to make me a YouTube video and also make a website for my business” – Y11 Karamu tauira

“It was amazing, definitely would do it again” – Y11 Karamu tauira

“This whole experience was so amazing and enjoyable even though I'm not a very techy person. I enjoyed working with my peers to create a website and videos. It was so amazing” – Y11 Karamu tauira



100% of rangatahi respondents ‘strongly enjoyed’ this wānanga pūrau experience; rubric measurement suggests this session was ‘highly effective’.



## WAIKATO | Digital Natives Academy – Wed 20 April

In this session, *ten (10)* taura participated in a workshop run by Digital Natives Academy, supported by \_\_\_\_\_  
\_\_\_\_\_. They started with learning about well-being in the digital space, discussing issues around online health and safety, online bullying, what's appropriate or not, and what can be done when in unsafe situations online. Taura then participated in an animated game and got to have a VR experience which was all thoroughly enjoyed.



*"This was cool and I found it valuable to me because there are a lot of things there I'm interested in and possible pathways to take"* – Y11 Tai Wananga taura

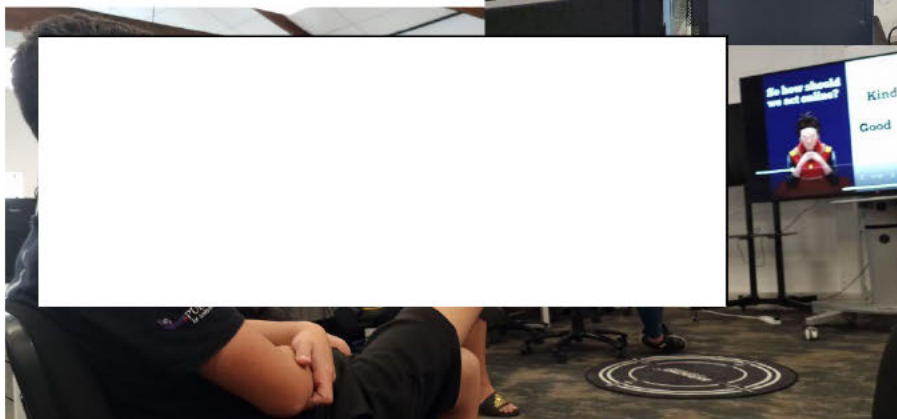
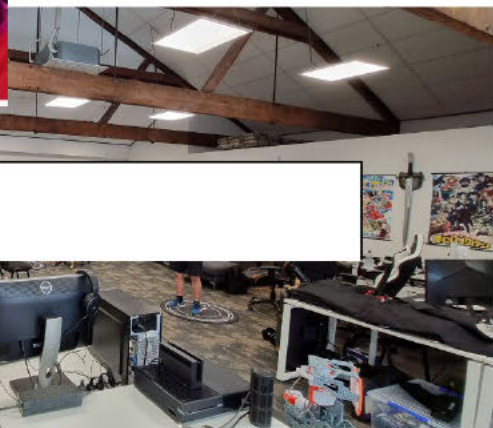
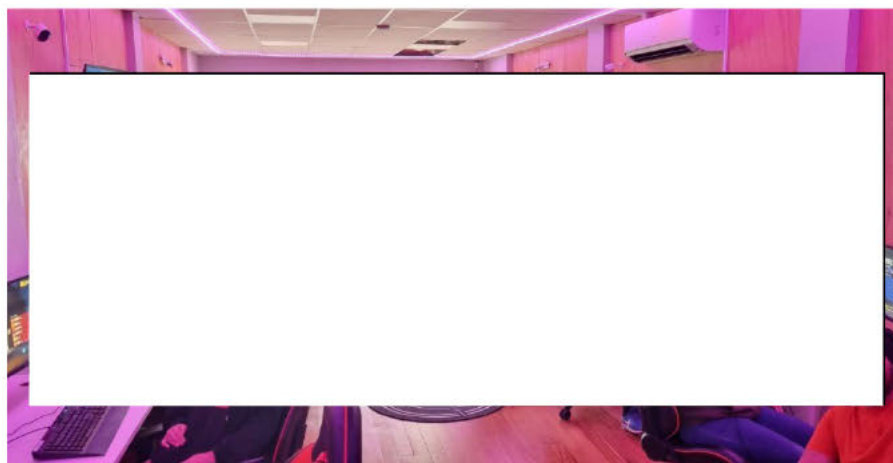
*"Playing beatsaber and competing with everyone. It gave me a chance to move around and have fun"* – Y11 Hillcrest taura

*"I found this experience very fun and teaching new skills and safety precautions about social media"* – Y11 Te Kauwhata taura

*"We were taught about cyber bullying, that it is everywhere and it can't be escaped"* – Y11 Tai Wananga taura

*"Today we learnt about cyberbullying and also how we still need to keep our wellbeing even online"* – Y11 Tai Wananga taura

*"I think it was pretty valuable as me and my friends developed a sense of camaraderie by playing together"* – Y11 Tai Wananga taura



100% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'highly effective'**.

## WAIKATO | Taonga Puoro – Tues 26 April

At this event, *nine (9)* taura were taken onto Te Kuirau Marae in Rotorua to learn about, play, and make their own taonga puoro. For some taura, this was their first time onto a marae but they loved it and were well supported by \_\_\_\_\_ led the session and taught rangatahi the basics of what the koauau is, and how it was played in the traditional way. He shared the love story of Hinemoa and Tutanekai - weaving in pūrākau from Te Arawa – to share this. Then taura learnt how to make sound, to familiarise themselves with handling the taonga and then went about designing their own koauau. A current carving student from NZMACI attended and gave examples of designs that could be utilised from around the whareniui, to be incorporated into their koauau. Rangatahi then practised making sound in groups and customised their koauau based on their own hand measurements. After lunch, taura learnt how to blow the pūtatara and pūmoana. The use of reo Māori and mātauranga Māori woven through the session meant that students were absorbing kupu, taonga, hītori, and pūrākau all in the space of 2.5 hours.



*“Being able to visit a Marae that I wasn’t familiar with, being on land with an extremely warm welcoming, I felt privileged to use a Pū Moana on my own, playing & making a Koauau” – Y11 Te Kauwhata taura*

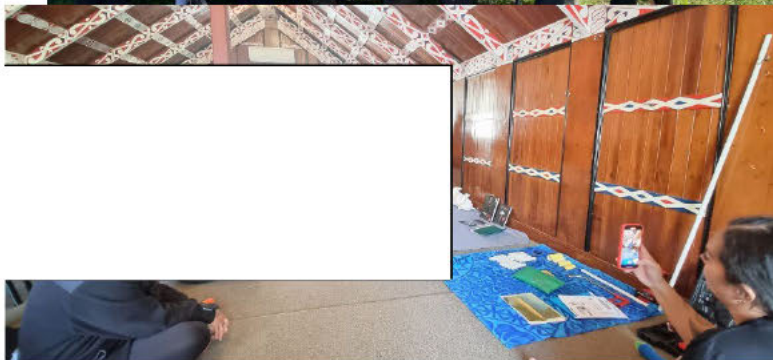
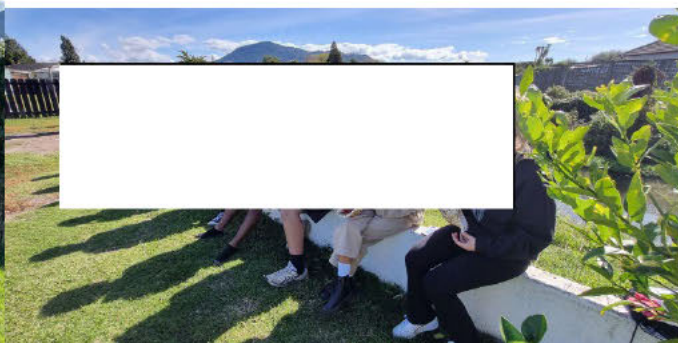
*“Yesterday my highlights were meeting different people from different schools, making new friends and learning the history of the koauau, and being able to learn how to play them” – Y11 Fraser taura*

*“At the start of the day I had a lot of doubts but as we went through the day I enjoyed it. The whole experience, all of it was cool and fun” – Y11 Tai Wananga taura*

*“Being welcomed onto the Marae. Learning the history of the Pūmoana. Making my own to take home and show my whānau. Meeting new likeminded friends. Yummy kai for lunch and snacks” – Y11 Hillcrest taura*

*“Marae welcome – pōwhiri, karakia before travel, kai and end of day. When it was appropriate to use the Māori puoro, the Māori myths and history behind the taonga puoro. How to play and make. Meeting new whānau and friends, making whakapapa connections” – Y11 Hillcrest taura*

*“I learnt loads! Like I mentioned, I played a big shell & a koauau before my own Nan did” – Y11 Te Kauwhata taura*



100% of rangatahi respondents *‘strongly enjoyed’* this wānanga pūrau experience; rubric measurement suggests this session was *‘highly effective’*.

## WAIKATO | Genesis Energy & Escape Room – Thurs 28 April

For this excursion, *nine (9)* taira were taken by \_\_\_\_\_ to the Genesis Power Station in Huntly where they were hosted by Genesis Energy. Here, they were given a tour of the inner workings of the power station by tour guide \_\_\_\_\_ and all the work that goes into generating power. He explained that the grounds upon which the power stations now sits, used to be a Kura (Rakaumangamanga) but then needed to be moved to its current location to make way for the Station that would later help to power the country using coal and natural gas to generate electricity. Following this tour, taira were taken to an Escape Room activity where they worked together to solved clues and escape a room.

*“Going to Genesis was awesome, I loved walking around and seeing all of the big, massive scenery and I never knew that it took so much work to just turn on a simple light at home” – Y11 Te Kauwhata taira*

*“The escape room was our first activity we did that had something to do with communicating, I got to learn a little bit about everyone else and I feel like I made some actual solid friends” – Y11 Te Kauwhata taira*

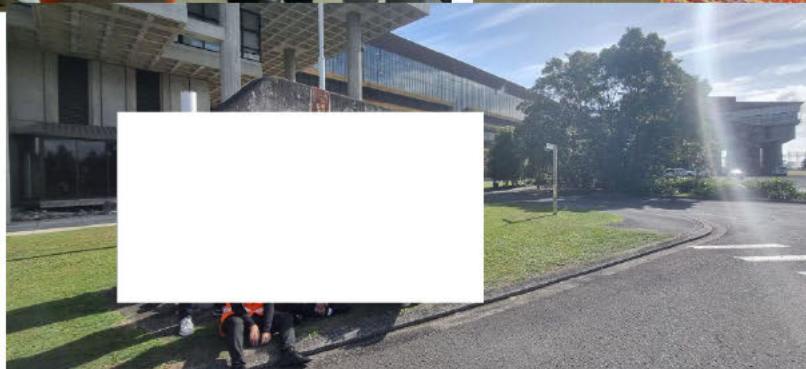
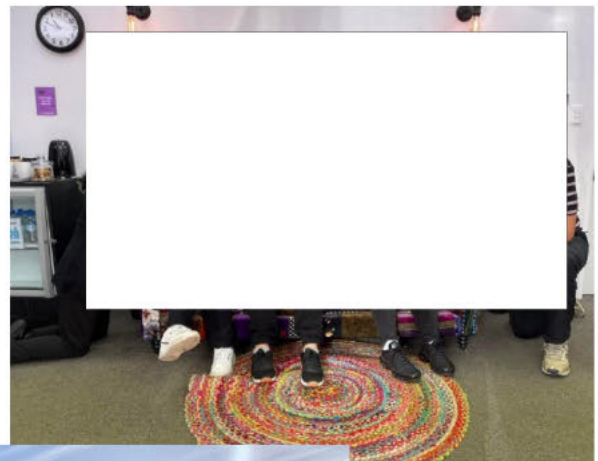
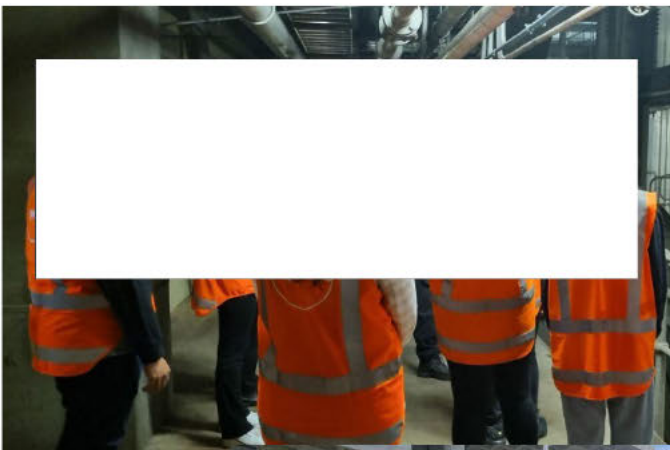
*“Today my highlights were facing my fear (heights), learning and having a tour around the power station, getting frustrated in the escape room, oh meeting two more people, and learning about different ways to make energy from our simple environment” – Y11 Fraser taira*

*“Genesis Energy - it was pretty cool going through the power station, it was like a whole new world in there, not something that I would be interested in but overall it was a cool experience and cool to gain some knowledge. The Escape room was pretty cool it showed our strengths and weaknesses. It was my first time and even though we didn't make it, it was cool to work out with our team” – Y11 Tai Wananga taira*

*“Getting VIP access to floors in the energy station that public don't get to see. Taking photos to show my whānau and friends. Seeing for myself how the adults work and what I need to do at school to get to their position or higher” – Y11 Hillcrest taira*

*“I noticed that I was really interested in the whole genesis thing as well. The Huntly power station has always been a big question for me, I always had so many questions to ask but I never got answers until today and I appreciate it” – Y11 Te Kauwhata taira*

*“Would be super grateful for funding to participate in these opportunities or opportunities like this again” – Y11 Hillcrest taira*



100% of rangatahi respondents **‘strongly enjoyed’** this wānanga pūrau experience; rubric measurement suggests this session was **‘highly effective’**.

## WAIKATO | Kura Matahiko – Fri 29 April

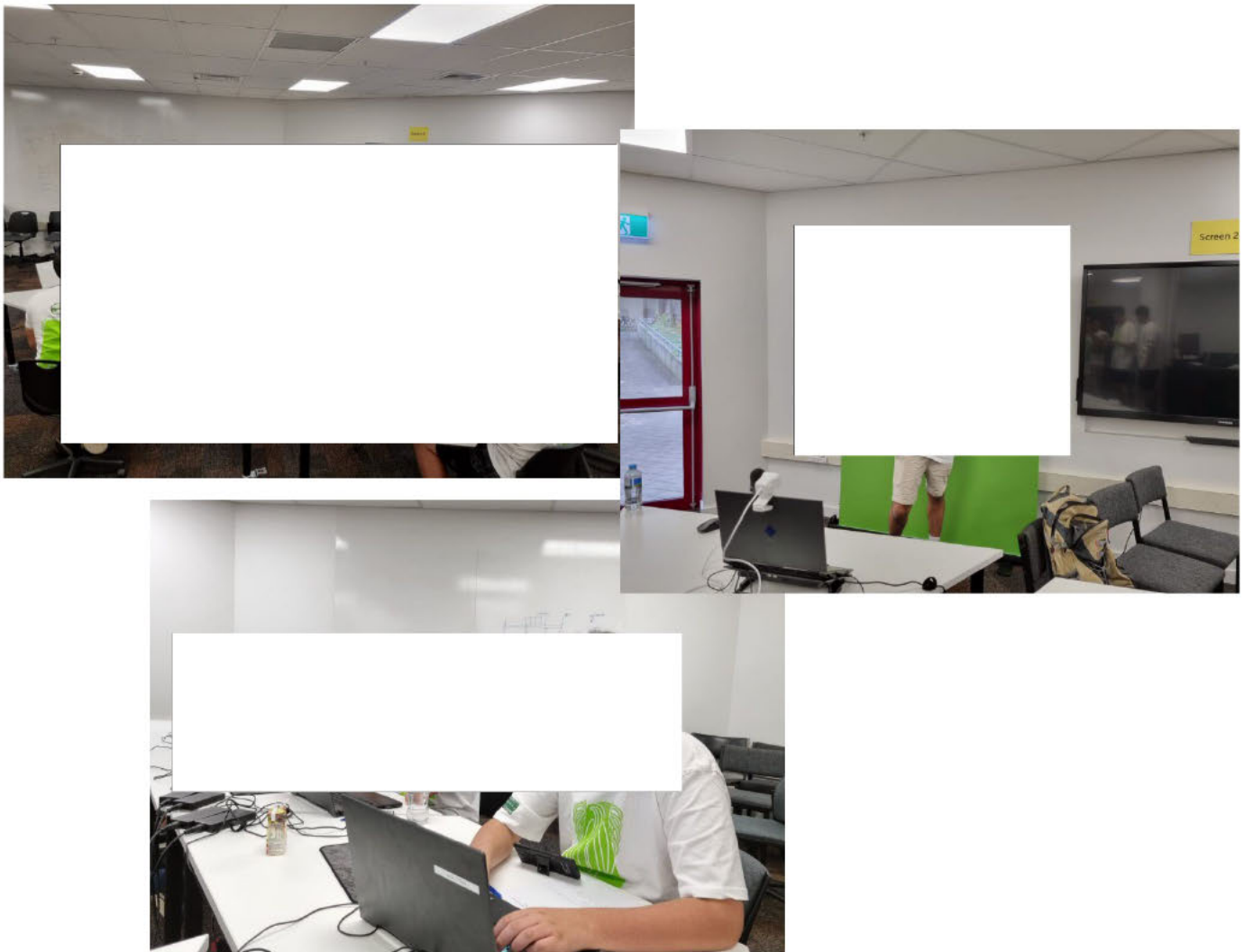
Kura Matahiko Waikato was held at \_\_\_\_\_ and was attended by *eight (8)* taura. This session was again run by \_\_\_\_\_ and supported by \_\_\_\_\_. Taura began with a little introduction to coding through the CODE AVENGERS platform, writing code in both HTML and CSS languages to create their own personal 2-page website that included their pepeha and some interesting facts about themselves. They were also introduced to content creation and a few aspects that come with it, such as recording (using camera and green screen etc.), editing (using Da Vinci Resolve) and learning how to code it into their website. Taura then got creative with their content, filming videos of themselves sharing their pepeha and projecting it onto their green screen Pūhoro t-shirts. A number of taura who were shy or culturally uncertain were supported to express themselves in this workshop and ended up making great videos.



*“My highlights today was learning how to code, make videos, editing and making some more friends 😊. And learning to play a game at the end of the lesson” – Y11 Fraser taura*

*“Today I discovered that it had a little bit of Māori in it because in the first half it was about our pepeha and how we connect with it. And technology because we used it to help us create our videos and help edit them” – Y11 Fraser taura*

*“This experience had a lot of impact for me because I got to learn something I have never done before and learnt how to edit them. It was really easy” – Y11 Fraser taura*



100% of rangatahi respondents **‘strongly enjoyed’** this wānanga pūrau experience; rubric measurement suggests this session was **‘highly effective’**.

## ŌTAUTAHI | Kura Matahiko – Wed 20 April

Kura Matahiko Ōtautahi was held at \_\_\_\_\_ and attended by nine (9) *taura* accompanied by \_\_\_\_\_ again ran this session where *taura* began with an introduction to coding through the CODE AVENGERS platform. Despite many of the *taura* not having any experience in coding, they all learnt to write code in both HTML and CSS languages to create their own personal 2-page website that included their pepeha and some interesting facts about themselves. They were introduced to content creation and other related aspects, such as recording (using camera and green screen etc.), editing (using Da Vinci Resolve) and learning how to code it into their website. *Taura* then got creative with their content, filming videos of themselves sharing their pepeha and projecting it onto their green screen Pūhoro t-shirts.



*"Today was good learning ways to code it was cool getting to know and getting used to doing it"* – Y12 SBHS *taura*

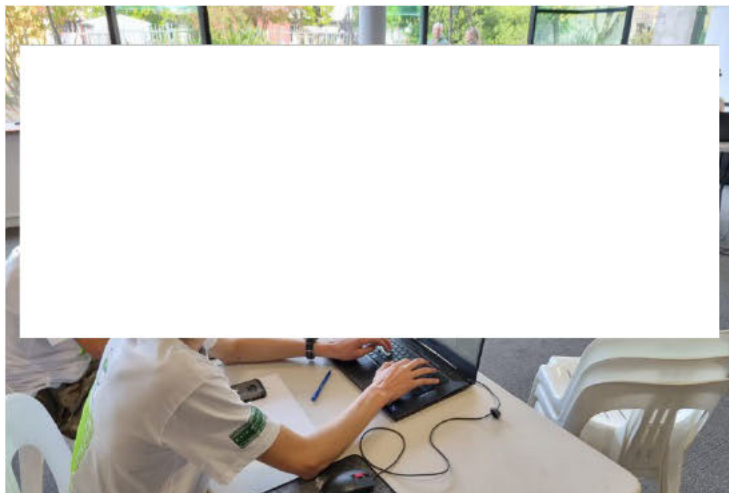
*"This is my first time coding and I really enjoyed learning something new. It was fun to learn how to make a site and I will definitely try this at home"* – Y11 Te Pā *taura*

*"I learnt some more about my heritage in the Te Ātiawa iwi"* – Y12 Cashmere *taura*

*"I am definitely glad I did this and I would do it again. Overall I think this experience will have some sort of impact because I will pass on this knowledge to other people like my friends"* – Y11 Te Pā *taura*

*"Quite valuable as I may have found something I'm somewhat interested in"* – Y12 Avonside *taura*

*"I track on going into the future and knowing this is really good so when I go to create one I can make it myself"* – Y12 SBHS *taura*



86% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'effective'**.

## ŌTAUTAHI | Waka on Ōtākaro – Fri 22 April

On this excursion, *ten (10)* taura accompanied \_\_\_\_\_ to Waka on the Ōtākaro (Avon River), a business that offers waka paddling and mātauranga Māori experiences. Before getting on board the waka, taura were given some history of who Ōtautahi was, including some history of Ōtautahi the city. Next they learnt the different sections of the waka and how to paddle correctly before finally getting into the waka. Taura then spent about half an hour on the water paddling up and down the Ōtākaro. After their experience, taura headed back to the Pūhoro office for lunch and whanaungatanga.

*"It was good to be out on the waka learning the rangatira o Ōtautahi" – Y12 SBHS taura*

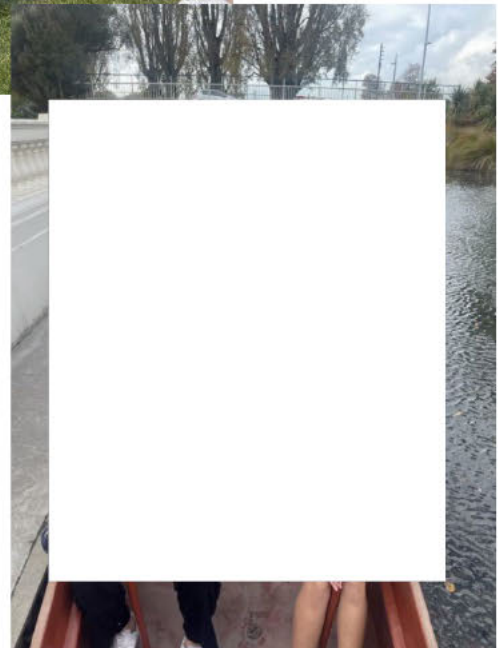
*"Learnt more about the river, areas of the waka and ancient history of Māori tribes – Y12 Burnside taura*

*"My first time on a Waka which is definitely significant and something I'll remember. A little cold but had lots of fun" – Y12 Burnside taura*

*"It is good to be in te ao Māori" – Y12 SBHS taura*

*"It was good learning about the whakapapa of the area. Learning new kupu and learning what they mean" – Y12 SBHS taura*

*"That tautahi was the person that Ōtautahi is named after" – Y12 Cashmere taura*



80% of rangatahi respondents *'strongly enjoyed'* this wānanga pūrau experience; rubric measurement suggests this session was *'effective'*.

## ŌTAUTAHI | Antarctic Centre – Tues 26 April

For this experience \_\_\_\_\_ took *fourteen (14)* taura for a jam-packed experience at the Antarctic Centre. For many taura, this was their first time visiting the centre and their tour guide \_\_\_\_\_ ensured they were well taken care of, giving a presentation of kaitiakitanga in Antarctica, and a history of Māori going to Antarctica. They then received great hands-on experiences meeting the huskies, learning about sciences in Antarctica, going on the Hagglund, experiencing the 4D theatre and storm room and spending time doing a STEM activity where they had to craft their own small parachute. Additionally, taura and kaihautū were able to enjoy whanaungatanga and strengthening those bonds.

“Getting to see the penguins and huskies and learning all about the Antarctic” – Y12 Avonside taura

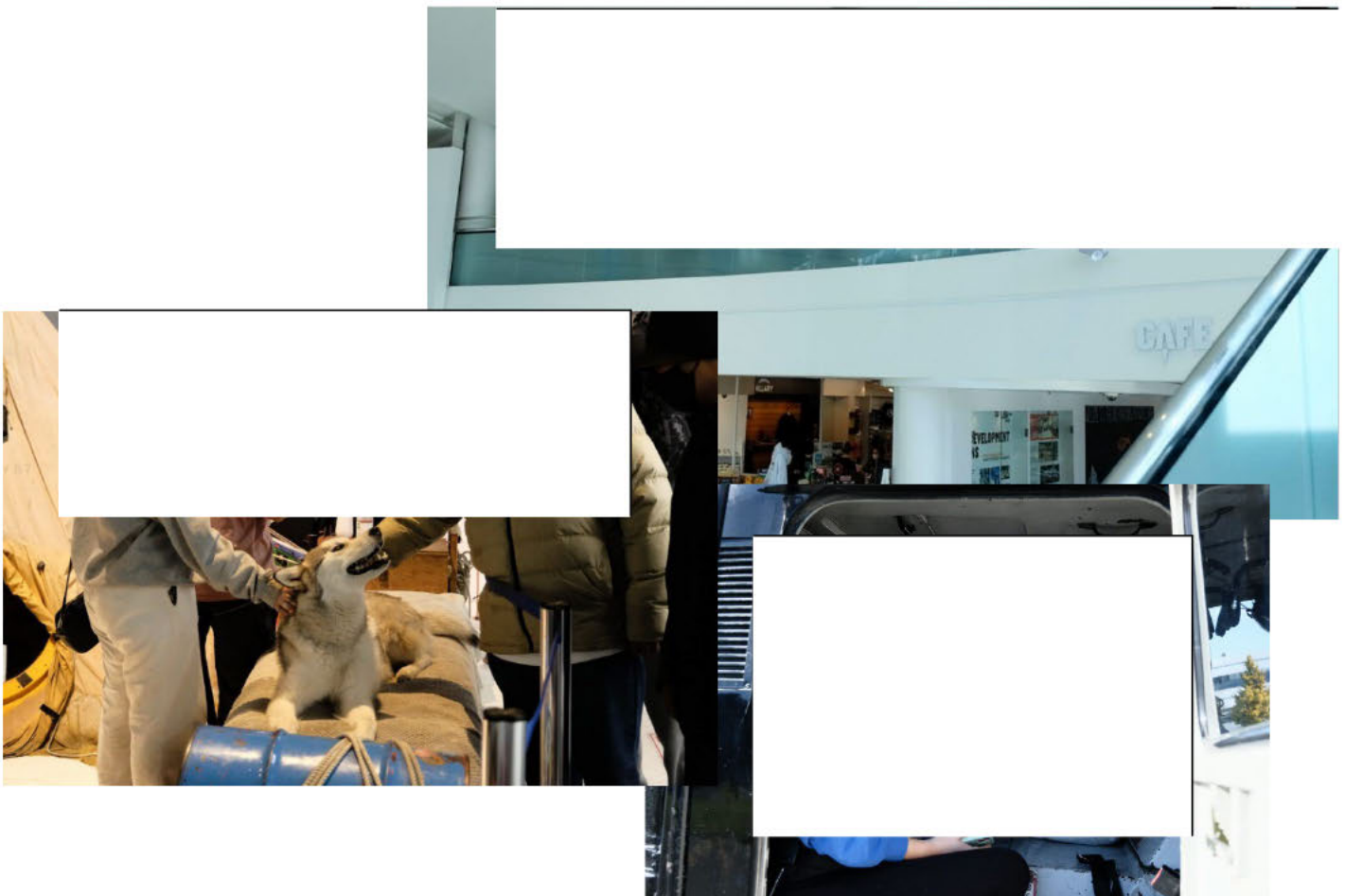
“It was good learning new things about penguins and what the scientists do over in Antarctica” – Y12 SBHS taura

“I love the environment of the people I was with. We had really cool experiences like the Haglan, Storm room. We learnt heaps about penguins and survival” – Y12 Hagley taura

“How kaitiakitanga affects what they do over in Antarctica and how they have a treaty with different countries for research” – Y13 Cashmere taura

“Learning about that they use the values of te ao Māori, kaitiakitanga, rangatiratanga” – Y12 SBHS taura

“It was valuable because I learnt things that I don’t think I’d ever learn at school” – Y12 Avonside taura



100% of rangatahi respondents *‘strongly enjoyed’* this wānanga pūrau experience; rubric measurement suggests this session was *‘highly effective’*.

## ŌTAUTAHI | Escape Room – Thurs 28 April

For this experience, \_\_\_\_\_ took *nine (9)* taura for an escape room experience. The group split into two, where five taura did a VR escape room and the other four did an in-person real life escape room. This was a great team bonding activity for taura and kaihautū where everyone had to mix and mingle with other students and schools, and they had to communicate and collaborate together to solve the puzzles and escape the room. By the end of the activity everyone had become a lot closer and had bonded well together.



*"The escape room was fun, I enjoyed doing it with my friends as a group and the food provided was also a plus" – Y11 Cashmere taura*

*"Was a very new experience that was very intriguing to me, some highlights of it would be just the fact of being in virtual reality and feeling immersed in that fake world. I also enjoyed the team building component to it as we all communicated our way through all the challenges" – Y11 Cashmere taura*

*"My highlight was meeting a new person and making a new friend and trying to do the escape room and actually doing it" – Y12 Avonside taura*

*"There was a tree in the simulation that STEMed from our teamwork and communication" – Y11 Cashmere taura*

*"In this virtual world there are lots of science themed activities you have to complete in order to finish including mechanics and biology" – Y11 Cashmere taura*

*"I think this experience was good for me because I was hesitant at first to take this opportunity but I did it and enjoyed it so I will take many more in the future" – Y11 Cashmere taura*



100% of rangatahi respondents **'strongly enjoyed'** this wānanga pūrau experience; rubric measurement suggests this session was **'highly effective'**



## **STEMM POSTER SERIES OVERVIEW**

The following five posters have been designed by Pūhoro which will be distributed into Pūhoro schools. Through the support of NZQA these posters have been created which cover the five areas covered in STEMM (Science, Technology, Engineering, Mathematics and Mātauranga) and portray key messages to encourage, inspire and remind rangatahi of their inherent connection to STEMM. The intention being to celebrate and normalise Māori in STEMM and provide rangatahi with a visual representation of belonging in those environments.

The initial draft of these posters has been completed. Our visual artist \_\_\_\_\_ is currently fine tuning these posters to ensure that the standard of them once they are sent to print is of high quality and excellence.

**HE MĀORI TONU TE PŪKAHA**

**MĀ MURI TE ARA O MUA**

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • ENGINEERING IS IN OUR WHAKAPAPA

**OUR PEOPLE WERE ENGINEERS FROM THE BEGINNING  
STUDY ENGINEERING AND BECOME THE LEGEND YOU WERE BORN TO BE**

SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN ENGINEERING

**PŪHORO**  
HE WANGA EHO NOO

# HE MĀORI TONU TE PŪRAU

◦ MĀ MURI TE ARA O MUA ◦

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • STEM IS A PART OF WHO WE ARE



MĀORI HAVE ALWAYS BEEN SCIENTISTS AND INNOVATORS  
STUDY STEM AND BECOME THE LEGEND YOU WERE BORN TO BE



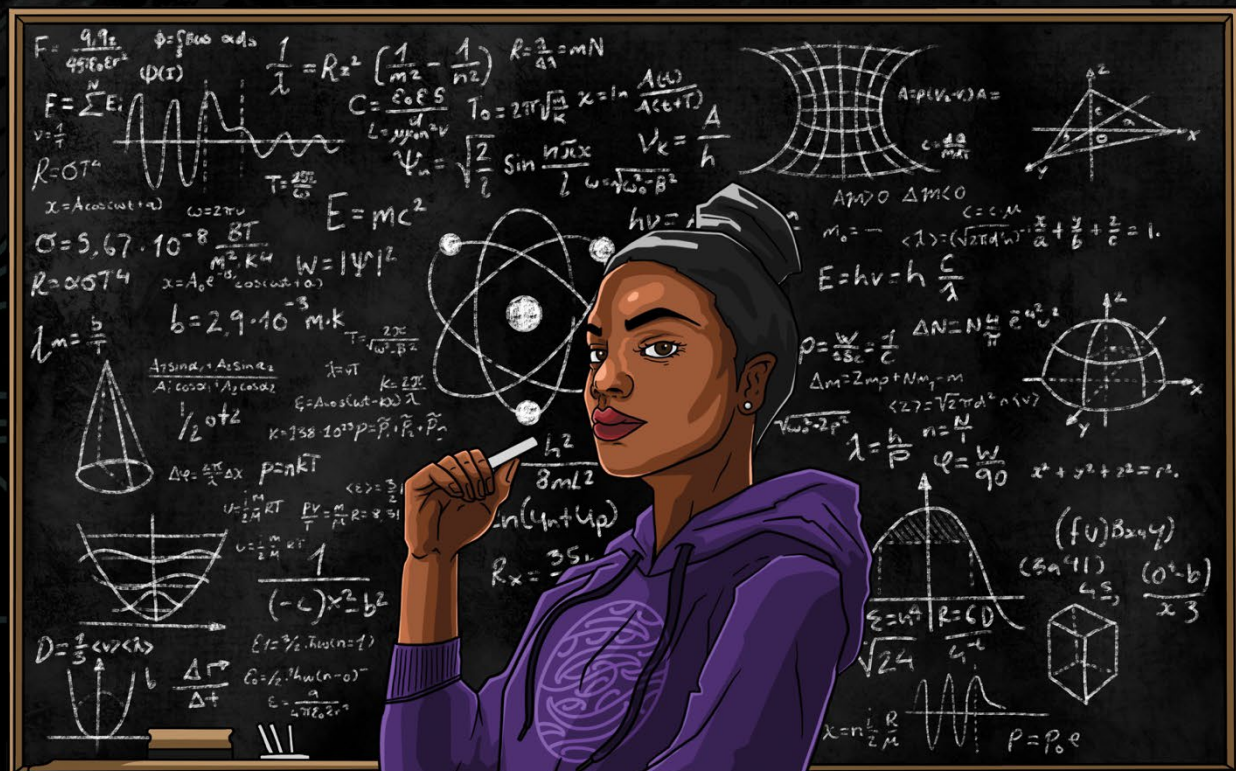
SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN STEM



# HE MĀORI TONU TE PANGARAU

## MĀ MURI TE ARA O MUA

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • MATHEMATICS IS IN OUR WHAKAPAPA



OUR PEOPLE WERE MATHEMATICIANS FROM THE BEGINNING  
STUDY MATHEMATICS AND BECOME THE LEGEND YOU WERE BORN TO BE



SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN MATHEMATICS



# HE MĀORI TONU TE PŪTAIAO

• MĀ MURI TE ARA O MUA •

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • SCIENCE IS IN OUR WHAKAPAPA



OUR PEOPLE WERE SCIENTISTS FROM THE BEGINNING  
STUDY SCIENCE AND BECOME THE LEGEND YOU WERE BORN TO BE



SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN SCIENCE



# HE MĀORI TONU TE HANGARAU

## MĀ MURI TE ARA O MUA

BY ACKNOWLEDGING THE PAST WE UNLOCK THE FUTURE • TECHNOLOGY IS IN OUR WHAKAPAPA



OUR PEOPLE WERE TECHNOLOGISTS FROM THE BEGINNING  
STUDY TECHNOLOGY AND BECOME THE LEGEND YOU WERE BORN TO BE



SCAN HERE TO FIND OUT  
WHAT IT MEANS TO BE  
MĀORI IN TECHNOLOGY



## **STEMM BUS BUSINESS CASE**

Through the support of NZQA and in response to the observations of the Pūhoro Charitable Trust and a desire to further bring impact to those affected by STEM inequity, Pūhoro had commissioned a business case for the establishment of a mobile Science, Technology, Engineering, Mathematics and Mātauranga Māori (STEMM) education unit in Te Tai Tokerau (Northland Region).

The business case proposes the establishment of a mobile unit in Te Tai Tokerau. It is the intention for Pūhoro Charitable Trust to provide this as a new service as part of an expansion of the Puhoro programme.

The objective of this new service would be to fill gaps in STEM provision in Te Tai Tokerau and support rangatahi in that region to get access to education options that may not yet be available to them. The unique feature of this new service would be that it would be conducted via a mobile unit. This is to ensure that provision can be provided to the students wherever they are and reduce the need to rely on schools to provide the facilities and resources.

The proposal will be that the service is tested over a three- and half-year period and be phased in over time to ensure that the service is fit for purpose and set up for success in a considered way and according to the personalised needs of the Te Tai Tokerau region and the particular considerations of that region.

Puhoro has a track record of success in STEM education for rangatahi and this business case will be able to articulate and set out an innovative and impactful unit to further

## **COMMUNICATIONS NZQA & PŪHORO**

### **Promotion**

Pūhoro was proactive in the promotion of joint initiatives with NZQA during the 2021-2022 contracted year.

Pūhoro maintained a high level of communication with partner schools around the requirement to cancel EYMM's in Term 1 due to the restrictions around group gatherings, furthermore, Pūhoro undertook a pro-active campaign on social media to promote the alternative offerings of STEMM Haerenga – Wānanga Pūrau.

Pūhoro continues to promote the NZQA and Pūhoro Charitable Trust relationship on the Pūhoro Website [www.puhoro.org.nz](http://www.puhoro.org.nz) This includes promotion of previous EYMM events and Āmua Ao initiatives. Pūhoro has taken to market a specific Communications and Marketing role the outcome being that once recruitment is complete, the website, social media platforms and communications with stakeholders will continue to be improved and regularly

updated accordingly. This should further support and shine a light on the partnership with NZQA in a positive way across Pūhoro social platforms, website and communications with partner schools.

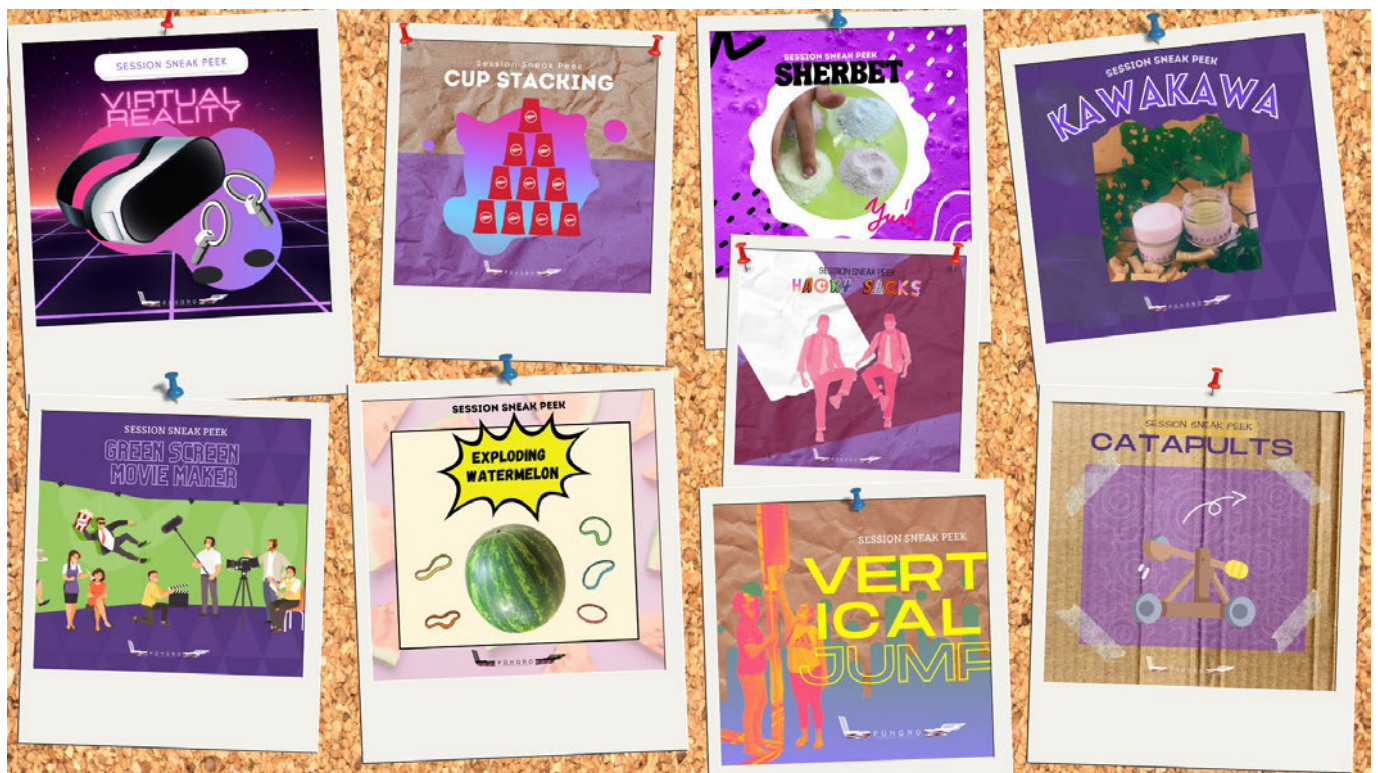
## Image sharing

Within the Pūhoro Charitable Trust, we are continuing to grow a file bank of images of rangatahi engaging in different Pūhoro activities and events. As part of this, Pūhoro ensures that relevant approvals are requested from rangatahi in the event that we would like to utilise these images, share them as appropriate with stakeholders and disseminate them over online platforms. As and when needed Pūhoro and NZQA will continue to work positively to share, promote and highlight positive images of rangatahi Māori engaging in STEM activities and events. The medium through which these will be shared will be via file transfer (e.g. drop box), email or any other relevant official channel.

## NCEA me te whānau and Kāhui Akonga

Over the course of this contractual year Pūhoro has provided opportunities for NCEA me te whānau workshops to be held during the Whānau STEM expo's (Whānau days) held at the beginning of the year (2022) in the Manawatū on 19<sup>th</sup> February, Hawke's Bay on 26<sup>th</sup> February, Christchurch on 5<sup>th</sup> March and Waikato on the 19<sup>th</sup> of March 2022. Due to circumstances around the red light settings, the Auckland Whānau STEM expo was not able to proceed.

As further context to these events, the following image features the different hands-on activities that rangatahi and their whānau were able to participate in at the STEM expos held across the country.



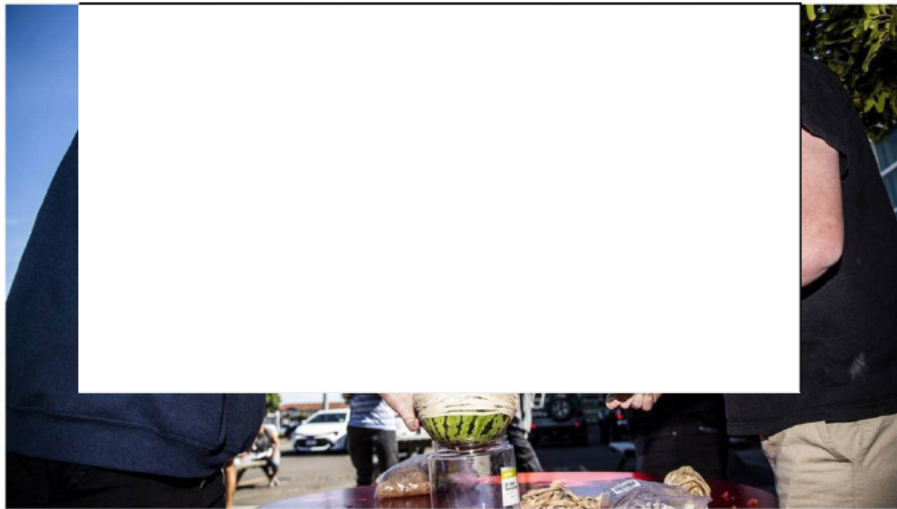
*From left to right: virtual reality, speed-cup stacking, the science of sherbet, making kawakawa balm, green screen movie maker, exploding watermelon, highest vertical jump and designing catapults. In addition to this but not mentioned is the dry ice station, the water- filtering station and the laser-timing gates (to test running speed).*

Pūhoro overall received positive feedback, and an article on the Manawatū Whānau STEM Expo was featured in

STUFF. <https://www.stuff.co.nz/pou-tiaki/300522110/phoro-work-gives-students-founding-essence-for-success>

## Pūhoro work gives students 'founding essence' for success

George Heagney · 10:29, Feb 20 2022



DAVID UNWIN/STUFF

Kahu Pomare, left, and Kiwa Pomare try to find out how many rubber bands it takes to burst a watermelon at a Pūhoro Stemm Academy whānau day at UCOL on Saturday.

These whānau expo are significant events that help Pūhoro capture new rangatahi but also their whānau, who play a pivotal role in the growth and development of their rangatahi throughout the duration of their Pūhoro journey. Furthermore, they provide meaningful opportunities for rangatahi in the programme to connect with NZQA staff and receive relevant guidance and direction in terms of understanding NCEA and how to navigate this with their rangatahi in ways that help rangatahi be able to achieve their potential.

Rangatahi from Pūhoro continue to engage in the Kāhui Akonga. These rangatahi are from across Pūhoro regions and are a dedicated Māori student voice who gain experience and contribute to NZQA kaupapa in varied ways such as for example, providing feedback, engaging in network opportunities and creating social content online. Kaihautū continue to support rangatahi who are engaged in the Kāhui Akonga initiative with NZQA providing valuable support and supervision to ensure rangatahi are able to achieve the desired outcomes required.

*Ka tuku mihi nunui ki te tima o NZQA mō tō koutou tautoko, mō tō koutou awhi hoki.*

*Mauri Ora.*

*We express again our thanks to the team at NZQA, for their support and on-going aroha towards us here at Pūhoro. We look forward with anticipation to the work ahead and the achievement of our shared objectives.*

*Ngā mihi,*

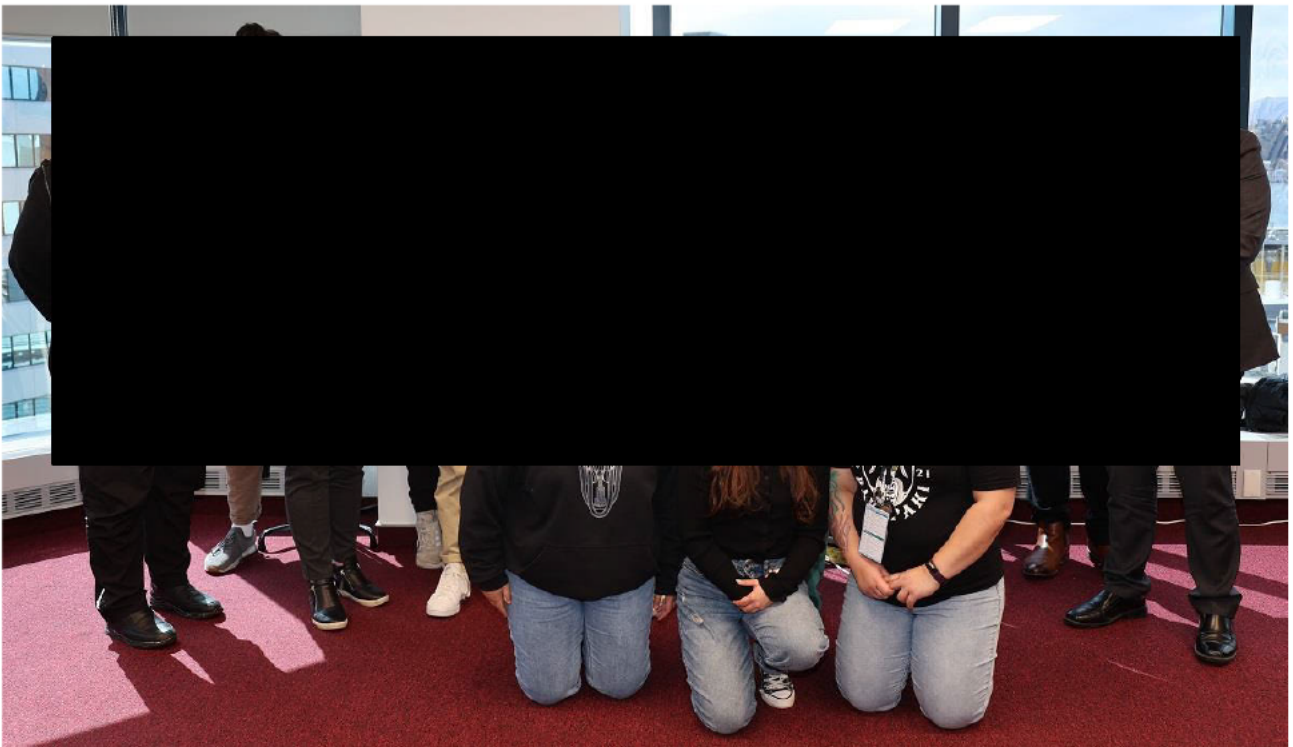
*Team Pūhoro*





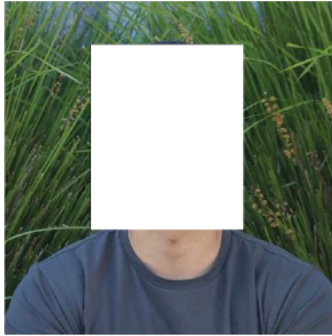
# NZQA

Pūhoro Report  
(July 2022 - June 2023)



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**Pou Hiranga: Senior Advisor Pūhoro**

*Ngāti Tūwharetoa*

*“Tai Timu, Tai Pari”*

*- The Tide Ebbs, The Tide Flows.*

*Pūhoro have moved through a number of significant events moving into 2023, and through the uncertain times, Pūhoro has continued to move from strength to strength thanks to the commitment and resilience of both our rangatahi and staff at the Pūhoro Charitable Trust.*

*With the departure of our Manahautū, Naomi Manu, our Chief Operations Officer, Kemp Reweti, has now taken the reigns as Acting Manahautū until we appoint someone to the role permanently. With this brings both joy and sadness, as we farewell Naomi whilst ushering in a new era with Kemp, who has been beside Naomi for many years and has been committed to the Pūhoro kaupapa since it was established in 2016.*

*This year has also experienced Cyclone Gabrielle and its devastation across the North Island, which left many whānau displaced and without support. Despite its harrowing effects, Pūhoro was proud of the resilience of our rangatahi, who despite the odds continued to move on with life as best as possible, with the unwavering support of their amazing Kaihautū.*

*With the many ebbs and flows, we have much to celebrate. Please find below a high-level summary of our deliverables over the 2022-2023 period.*

*He Waka Eke Noa!*

## **BACKGROUND**

The Pūhoro Charitable Trust (Pūhoro) and NZQA both have strategic objectives to lift ākonga Māori achievement in Science, Technology, Engineering and Mathematics (STEM) related subjects. It is this commonality that brought both parties together over the past seven years to explore initiatives that that fulfil our common commitment.

Pūhoro exposes secondary ākonga Māori to a breadth of NCEA choices and careers across the science and technology sectors, introduces them to role models, and facilitates weekly engagements and hands-on wānanga to support ākonga Māori success in NCEA.

## **2022-2023 DELIVERABLES**

Both Pūhoro and NZQA agreed to:

- work together and share information about how to increase ākonga Māori participation and achievement in STEM related areas
- maintain good relationships with each other at all times
- meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required
- act in good faith at all times
- be transparent with each other without breaching confidentiality, and
- acknowledge each party's priorities and use best endeavours to support them.

This report presents a high-level update on our agreed deliverables for the 2022-2023 period.

The agreed deliverables for the 2022-2023 period included:

1. Ākonga engagements at Wānanga
2. NCEA Workshops and Training
3. Te Kāhui Ākonga support, and
4. Communications.

## 2023 Ākonga Engagements at Wānanga

### ***Pūhoro agreed to:***

- *Schedule and coordinate the delivery of at least six NCEA me te Ākonga workshops and deliver to a minimum of 500 rangatahi*
- *Deliver STEM activities to rangatahi, and*
- *Recognise NZQA as a sponsor and include branding in wānanga promotions.*

Pūhoro delivered 19 Wānanga over the 2022-2023 period across the following regions:

- Auckland
- Waikato
- Rotorua
- Hawke's Bay
- Manawatū, and
- Christchurch

In each of those regions, we included the NCEA me te Ākonga workshops in our Year 11 programme and delivered to 737 ākonga, kaiako, and Pūhoro group leads.

Pūhoro also developed the following hands-on STEM workshops which were delivered to over 1,150 ākonga across Years 11 and 12:

**Science:** Climate Change - Water Pollution  
Catapults

**Technology:** Build a PC

**Engineering:** Waka Wars  
Robotics

**Maths:** Blockchain

NZQA continues to be promoted as a Pūhoro partner in the introduction sessions at all Wānanga and we would be happy to display an NZQA banner at future Wānanga should you want to entrust us with one.

## **NCEA Workshops and Training**

### ***Pūhoro agreed to work with NZQA to:***

- *Coordinate NCEA me te Whānau workshops for Pūhoro whānau, and*
- *Coordinate training in NCEA me te Ākonga for at least 15 Pūhoro Kaihautū.*

Pūhoro held whānau engagements in Manawatū, Christchurch and Hawke's Bay within the last six months. Pūhoro Kaihautū utilised the NCEA me te Whānau workshop tools and materials to engage parents and whānau to increase their knowledge of NCEA and to empower confidence to support their rangatahi to succeed. In total, 121 whānau participated.

More than 15 Pūhoro Kaihautū were trained to deliver the NCEA me te Ākonga workshop. This training has equipped them with the knowledge to further support our Pūhoro rangatahi to better understand and navigate the NCEA system.

## **Te Kāhui Ākonga support**

### ***Pūhoro agreed to:***

- *Work with NZQA to maintain 'Te Kāhui Ākonga' (TKA) representation to ensure NZQA has appropriate Ākonga Māori perspectives on service design and relevant messaging across our social media platforms, and*
- *Provide adequate Kaihautū supervision at 'Te Kāhui Ākonga' hui and engagements.*

There are currently 12 Pūhoro rangatahi engaged as members of Te Kāhui Ākonga. As agreed these members have a representative balance across secondary and tertiary, Māori-medium and mainstream, and gender and regional diversity.

There is regular engagement from these members throughout the year and a minimum of nine ākonga have attended recent in-person hui. These tauira are also supported by two Kaihautū that attend hui alongside them.

## **Communications**

### ***Pūhoro agreed to:***

- *Include NZQA brand in Pūhoro communications and social media promotions (as applicable)*
- *Provide access to and permissions for Pūhoro student photo library, and*
- *Coordinate interviews with Kaihautū, ākongā and their whānau for NZQA's reporting and publicity requirements.*

Pūhoro has promoted and acknowledged our NZQA partnership at Wānanga in each of our operating regions. NZQA has also been acknowledged and tagged into relevant social media comms where an NCEA me te Ākongā workshop has been delivered.

Pūhoro is happy to share student images with NZQA for reporting and promotional purposes but did not receive any such requests over the 2022-2023 period.

Ākongā interviews were coordinated and conducted in early 2023 and their stories were promoted on NZQA's corporate Facebook page.

## **HE MIHI: OUR THANKS**

Since the beginning of our partnership, we have witnessed the profound impact of our collaborative efforts in empowering our rangatahi to engage with STEMM. Because of our partnership, our rangatahi are growing an awareness of the vast array of opportunities within STEMM. Together, we are shaping a generation of innovative and diverse leaders who will drive technological advancements in Aotearoa and contribute to a sustainable future. As we move forward through 2023, we remain committed to strengthening this partnership, by continuing to inspire and equip rangatahi with the tools they need to excel in STEMM and make a meaningful impact in their communities and beyond. Again, Pūhoro extends our aroha and thanks to NZQA for your unwavering commitment to a STEM-led Aotearoa.

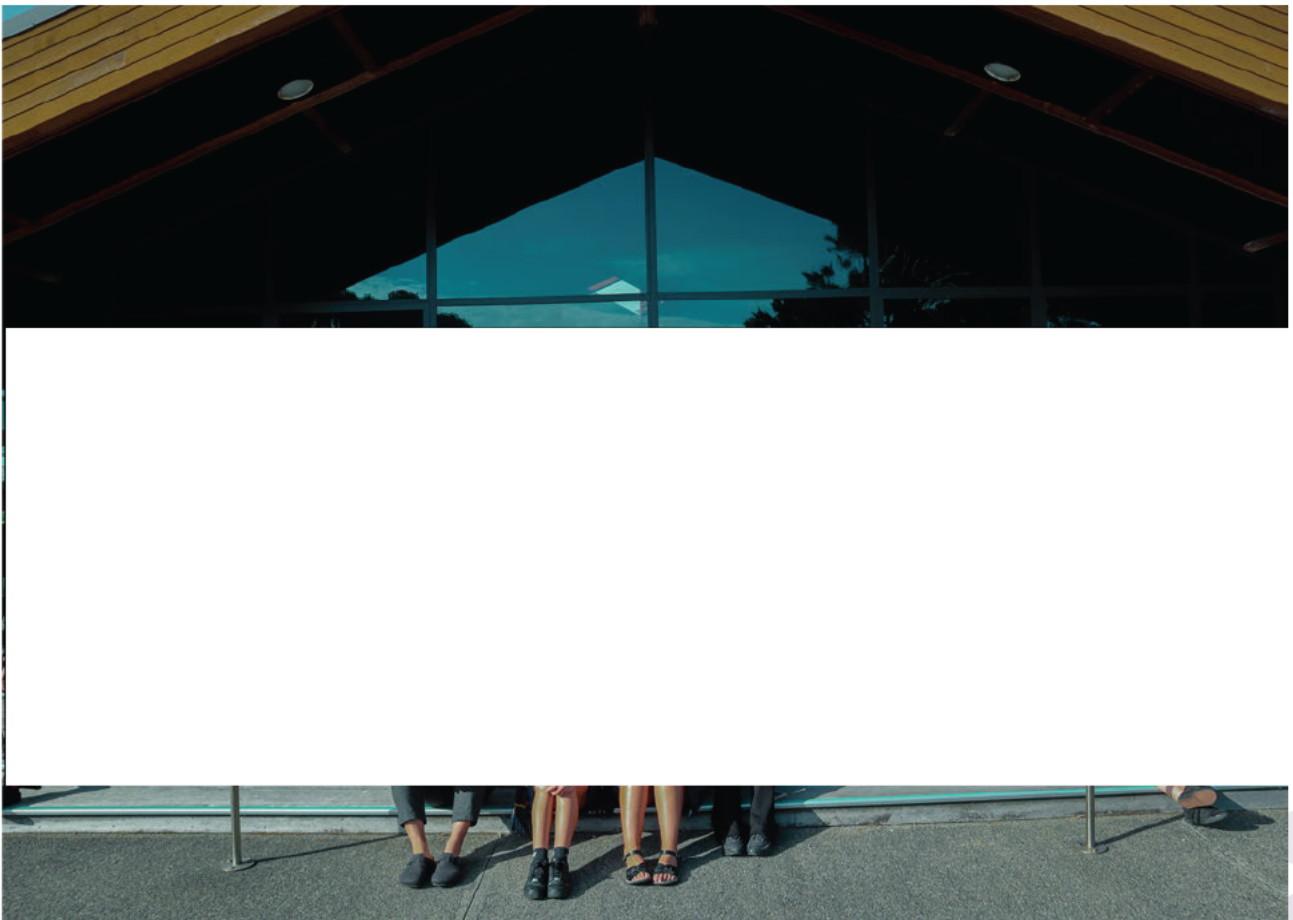
***He Waka Eke Noa – We're all in this together!***

**A11-OC01230**



**NZQA**

Pūhoro Report  
(July 2023 - June 2024)



Ākonga at the Horowhenua Term 2 Wānanga



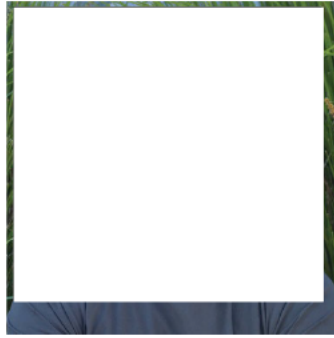
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— Pou Hiranga: Senior Advisor Pūhoro

*Ngāti Tūwharetoa*

*It is my pleasure to present this report on behalf of the Pūhoro Charitable Trust, highlighting our collaborative efforts over the past year. Pūhoro and NZQA share a strong commitment towards elevating rangatahi achievement. This shared vision has allowed us to explore and implement initiatives that support our collective goal of engaging more rangatahi and whānau in STEMM and NCEA.*

*In partnership with NZQA, Pūhoro have been dedicated to exposing ākonga to a wide range of NCEA and career opportunities within STEMM. Our shared kaupapa has introduced ākonga to inspiring role models, has given them necessary work experience through Te Kāhui Ākonga, and has provided them with regular engagements and hands-on wānanga designed to bolster their success in STEMM and NCEA. These touchpoints have in earnest, created a platform where rangatahi can share their voice and contribute meaningfully to an ever-evolving education system.*

*Since July 2023, we have continued to build on our previous achievements. This report outlines our progress in meeting the agreed deliverables, showcasing the impactful mahi we have accomplished together in our participating regions.*

*Please accept this provisional report, with a full report to be sent at the conclusion of our Term 2 Wānanga on 05 July 2024 as agreed.*

*He Waka Eke Noa!*

## 2023-2024 DELIVERABLES

As per the previous year both Pūhoro and NZQA agreed to:

- *work together and share information about how to increase ākonga Māori participation and achievement in STEM related areas; and*
- *maintain good relationships with each other at all times;*
- *meet quarterly as a minimum to discuss deliverables, how the agreement is working, and any amendments required;*
- *act in good faith at all times;*
- *be transparent with each other without breaching confidentiality; and*
- *acknowledge each party's priorities and use best endeavours to support them.*

To date our mutual relationship has been a success and this is reflected in the mahi that has been completed together across the country. The following presents an update on our agreed deliverables for the 2023-2024 period.

The agreed deliverables for the 2023-2024 period include:

- 1. Ākonga engagements at Wānanga**
- 2. NCEA Workshops and Training**
- 3. Te Kāhui Ākonga support, and**
- 4. Communications.**

## 2024 Ākonga Engagements at Wānanga

### ***Pūhoro agreed to:***

- *Schedule and coordinate the delivery of NCEA me te Ākonga workshops in at least six (6) Pūhoro wānanga, and deliver to a minimum of 500 ākonga*
- *Deliver STEM activities to rangatahi, and*
- *Recognise NZQA as a sponsor and include branding in wānanga promotions.*

Pūhoro delivered fourteen (14) wānanga from July 2023 – June 2024 across the following regions, with **three wānanga to be completed** during the first week of July 2024 to see out the Term 2 wānanga series:

### **Completed:**

- ***Te Tai Tokerau***
- Waikato
- Rotorua
- Hawke's Bay
- ***Manawatū x 2***
- Wanganui
- ***Horowhenua***

### **To be completed by 5 July 2024:**

- ***Auckland x 2***
- ***Christchurch***

In each of the above regions in ***bold italic***, we included the NCEA workshops in our Year 11 programme and have so far engaged **865 ākonga** through wānanga. These numbers do not include NCEA engagement in schools (see *NCEA Workshops and Training*). As previously agreed via email, we have completed **four NCEA workshops**, with the remaining three to be completed by 5 July 2024, bringing the **total workshops completed at wānanga to seven (7)**. This metric upon completion will have fulfilled the requirement of 6 as per our *2024 Akonga Engagements at Wānanga* deliverables.

Pūhoro also developed the following hands-on STEM workshops which were delivered to over 1,500 rangatahi from July 2023 – June 2024:

**Science:** Te Mauri o te Taiao – Reforestation  
Climate Change (water testing)

**Technology:** Genetics (reproduction)  
Ngā mata o te Ariki (Robotics)  
Solar Cars

**Engineering:** Rona me te Marama (hydraulics)  
Catapults

**Maths:** Ngā hau o Tāwhirimātea (wind-powered *Strandbeest* model design)

NZQA continues to be promoted as a Pūhoro partner in the introduction sessions at all Wānanga and we would be happy to display an NZQA banner at future Wānanga should you entrust us with one.

## **NCEA Workshops and Training**

***Pūhoro agreed to work with NZQA to:***

- *Coordinate 6 NCEA me te Whānau workshops for Pūhoro whānau, across Pūhoro regions and*
- *Coordinate training in NCEA me te Ākonga for at least six (6) Pūhoro Kaihautū.*

In January of this year **eight (8) Kaihautū**, and rangatahi from Te Kāhui Ākonga engaged with NZQA in a series of NCEA workshop redesign sessions focused on engaging whānau in 2024. Pūhoro are pleased to report that **eight (8) NCEA me te Whānau workshops** have been successfully delivered to **sixty-seven (67) whānau** across our participating regions. These workshops were delivered as part of our *Pūhoro Whānau Day*, with some of the sessions delivered during whānau engagements across the 2023-2024 school terms.

As an additional deliverable, Pūhoro leveraged from the NCEA redesign development workshops to create bespoke, *NCEA me te Ākonga* sessions. These student-focused sessions had similar messaging to *NCEA me te Whānau*, but were uniquely pitched to ākonga and were delivered in schools across the participating regions. Pūhoro Kaihautū led these sessions, and in collaboration with NZQA, used each opportunity to gather NSN numbers from ākonga.. Pūhoro are pleased to report that a total of **nineteen (19) *NCEA me te Ākonga* sessions** were successfully delivered.

## **Te Kāhui Ākonga support**

### ***Pūhoro agreed to:***

- *Work with NZQA to maintain 'Te Kāhui Ākonga' (TKA) representation to ensure NZQA has appropriate Ākonga Māori perspectives on service design and relevant messaging across our social media platforms*
- *Provide adequate Kaihautū supervision at 'Te Kāhui Ākonga' hui and engagements.*

TKA continues to be a great opportunity for ākonga to actively engage with Liaison \_\_\_\_\_ and the wider team at NZQA, provide valuable feedback on NZQA service design and contribute to the creation and review of educational content. Although TKA have reverted to online hui with NZQA, ākonga in TKA continue to value the experience. Of note was the Te Tiriti session run at the last meeting by \_\_\_\_\_ whom rangatahi found highly beneficial.

Furthermore, Pūhoro facilitated the placement of two new ākonga in TKA, succeeding the two outgoing ākonga who completed their tenure. Their input, alongside their fellow ākonga has ensured that the rangatahi voice and perspectives remain integral to NZQA's initiatives. By fostering a collaborative environment for educational innovation and development, TKA not only gain relative work experience, but rangatahi across the country get to benefit from innovative, ākonga voices.

## **Communications**

### ***Pūhoro agreed to:***

- *Include NZQA brand in Pūhoro communications and social media promotions (as applicable)*
- *Provide access to and permissions for Pūhoro student photo library*
- *Coordinate interviews with Kaihautū, ākongā and their whānau for NZQA's reporting and publicity requirements*

As per the previous year Pūhoro has promoted and acknowledged our NZQA partnership at Wānanga in each of our operating regions. NZQA has been acknowledged and tagged into relevant social media comms where applicable. Pūhoro ākongā have also been active on the NCEA me te Whānau Facebook and Instagram pages. Of note is the interviews completed alongside ākongā promoting the Pūhoro kaupapa.

Do date there have been no requests from NZQA to use student images for reporting and promoting purposes, however Pūhoro will continue to communicate with NZQA should the need present itself. Pūhoro is happy to share student images with NZQA for reporting and promotional purposes but did not receive any such requests over the 2022-2023 period.

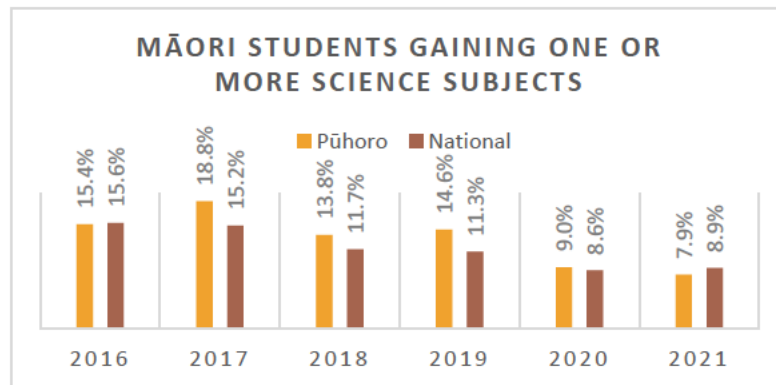
## **HE MIHI: OUR THANKS**

Our partnership has successfully advanced our shared goal of enhancing ākongā engagement in STEMM and NCEA. On the provision of the update report in July, we will have met all our deliverables but more importantly, we will have collectively impacted rangatahi and whānau through wānanga, NCEA workshops and support through Te Kāhui Ākongā. These efforts to date have provided valuable learning experiences and ensured ākongā perspectives are central to the advancement of the NZQA kaupapa. We look forward to continuing this productive partnership and creating more opportunities for ākongā moving forward.

Ngā mihi nui ki a koutou, Manawatia a Matariki!

7. NZQA continues to provide data and data analysis to support Pūhoro to understand the impact of its programme, and how they can further develop the Pūhoro programme to ensure better student outcomes.

The graph below shows that between 2017 and 2020 ākonga Māori attending schools working with Pūhoro were more likely to gain one or more Science subjects, compared to Māori nationally.



8. In summary Pūhoro is making an impact. Despite Pūhoro needing to adjust its programme delivery due to restrictions, this did have an impact on its 2021 results.



(Bxx/xx/xxx)

HE MANATU/MEMORANDUM

RĀ/DATE: 26 Noema 2020  
KI/TO: NZQA Board (the Board)  
KAITUKU/FROM: Alex Bidois, Deputy Chief Executive Māori  
KAUPAPA/SUBJECT: Māori and Pasifika in STEM

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Te Taunaki/Recommendation

- It is recommended that the Board:
  - a) **note** the update provided.

[Redacted content]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

#### Pūhoro STEM Academy Partnership

- We continue to partner and work with the Pūhoro STEM Academy to offer STEM inspired initiatives. The Academy is delivering four Engineering Young Māori Minds workshops to almost 500 Māori students in Palmerston North, Auckland, Hastings, and Christchurch and Auckland in 2020. A message from a Mum following the Hastings event was “Cruz went to your event today and loved it! First time ever he’s enjoyed science. I’m so happy he went. He goes, we went to this science thing for Maoris today. It was cool as. Way better than our science. Honestly, my son hated science... He’s still talking about it he’s buzzing. So grateful for Pūhoro igniting my sons inner learning excitement”. With NZQA’s support over the last three years, Pūhoro has supported approximately 1,400 young Māori learners.

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

## HE MANATU

<b>RĀ:</b>	29 Hepetema 2022
<b>KI:</b>	NZQA Board (the Board)
<b>KAITUKU:</b>	Alex Bidois, DCE Māori
<b>KAUPAPA:</b>	<b>Pūhoro STEM Academy</b>

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### Te Taunaki

1. It is recommended that the Board:
  - a) **note** the Board requested further information if available on the outcomes and impact of the Pūhoro STEM Academy at the August 2022 Board hui.

### Te Horopaki

#### ***Independent Research***

2. Independent research company, Ihi Research, conducted an evaluation of Pūhoro the 2016 year 11 Māori rangatahi cohort. The report identified the key enablers of engagement were tied to important cultural values such as whānau, whakapapa, whanaungatanga, tuakana-teina, ako and manaakitanga that are deeply embedded in the programme.
3. Ihi Research reported the culture of Pūhoro, and its leadership was unique in creating and sustaining a whānau approach within STEM; one that was committed to achieving its vision. Evaluation analyses demonstrated the many positive impacts the programme has had for participating Māori rangatahi, teachers and whānau.

#### ***Other Impacts***

4. Other impacts included increased learning and confidence through ako (reciprocal teaching and learning). Evidence highlighted how Pūhoro created a bridge between university/tertiary resources and experts and secondary curriculum contexts. This access to expertise and its practical relevance was motivating to rangatahi and teachers and made it easy for them to engage.

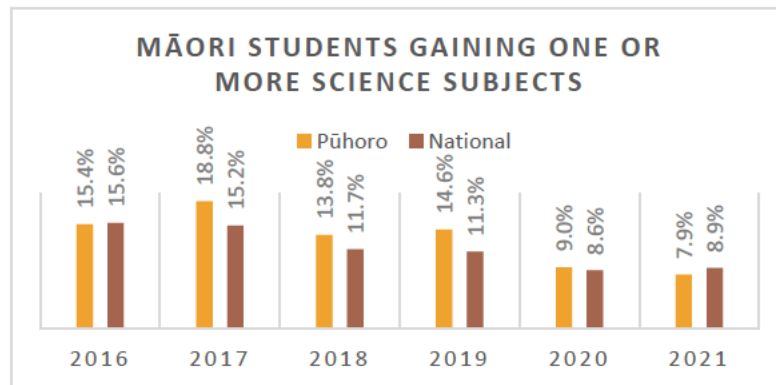
#### ***What the analysis tells us***

5. Pūhoro analyses revealed ninety-two percent of the Pūhoro cohort continued with sciences at NCEA Level 2 – despite the highest national drop-out rate for Māori rangatahi in science occurring between NCEA Level 1 and Level 2. In addition, a high-level of achievement, including merit and excellence endorsements for individual external achievement standards, was noted.
6. In 2017, 92 percent of Pūhoro Year 12 rangatahi achieved at least one science external achievement standard. There is clear evidence that Pūhoro had a positive impact by increasing Māori student participation and engagement in science supporting a change in academic trajectory for over two thirds of Pūhoro students.

#### ***NZQA Data and Data Analysis***

7. NZQA continues to provide data and data analysis to support Pūhoro to understand the impact of its programme, and how they can further develop the Pūhoro programme to ensure better student outcomes.

The graph below shows that between 2017 and 2020 ākonga Māori attending schools working with Pūhoro were more likely to gain one or more Science subjects, compared to Māori nationally.



8. In summary Pūhoro is making an impact. Despite Pūhoro needing to adjust its programme delivery due to restrictions, this did have an impact on its 2021 results.