



PŪNIU RIVER CARE INC.
A REGISTERED CHARITY

TE AUKAIAO

CERTIFICATE IN INTRODUCTORY RIVER ENHANCEMENT (APPLIED)

Student Workbook

Kōnae Ako 3 – *Whanaungatanga*

Ingoa:

STUDENT WORKBOOK

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STUDENT WORKBOOK

PEPEHA

Mōkau ki runga, Tāmaki ki raro

Pare Waikato, Pare Hauraki

Te Kaokaoroa o Pātetere

Mangatoatoa ki waenganui

Ā muri i a au

Kia mau tonu ki tēnā

Kia mau ki te kāwau mārō

Whanake ake, Whanake ake!

E kore au e mate

He kākano i ruia mai i Rangiātea

Mai te wāhi ngaro ki te mata o te whenua

Ko au te maunga, ko te maunga ko au

Ko au te moana, ko te moana ko au

Ko au te ngahere, ko te ngahere ko au

Ko au te awa, ko te awa ko au

He kaitiaki tūturu ahau arā Te Kāhui ā Hiwa

Tihei Mauriora!

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THE NAME: TE AUKAIAO

The name of the programme Te Aukaiao was given to this kaupapa by Paraone Gloyne.

'Te au' refers to the current in any body of water. In this case, the current of the Pūniu river and all the other smaller streams and waterways that lead to the Pūniu river.

Similarly, each individual person also has a current flowing within them and as kaitiaki, we have an obligation to care for and contribute to the mauri of our waterways. Our individual mauri combines with that of the river to bring and sustain life to the individual, the river and the wider taiao landscape.

'Kaiao' is another word for ora (living) and together the name encapsulates the kaupapa of this programme and represents the interdependence of kaitiaki and taiao alike.

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NGĀ UARA

Tupu te kākano
Tupu te taketake
Tupu te pihinga
Tupu te māhuri
Tupu te rākau
Ko au ko koe, ko koe ko au
Tihei Mauriora



Koha – *Limitless generosity acknowledging the celebration of life*

Is about celebrating life, acknowledging life and being grateful for the opportunities that arise. To Pūniu River Care it is to give without receiving, to contribute with endless generosity and to nurture all that is life.

Mauri – *Boosting a new life force into a sustainable world*

Kākano – literal translation is seed. This can also mean a provider of new growth. We are also trying to clean up our rivers and our waterways. Water is life, or a life force and we as people, and everything breathing has a life force. It is an interdependent relationship that affords mutual respect.



Whanaungatanga – *Strategic relationships and empowering whānau*

Pihinga are seedlings and as seedlings come into the world, with it comes a colony of whatever species they are. As we grow as people we find ourselves surrounded by whānau and then we find more whānau. We find new relationships and make new friends and before we know it, we find ourselves in partnerships we might never have thought possible.

Māramatanga – *To know your place in a sustainable world*

Māhuri is a young tree at an adolescent stage of life. This is a stage of life where youth are trying to find themselves and where they think they can contribute to life. We also need to figure out some things in life and in what we do to be sure of why we do what we do and understand the significance of what you do in life is also understood by those in and around your circle.



Rangatiratanga – *Self-determined to take the lead for a sustainable world*

Rākau is the fully established tree that has stood its ground from the humble seed. A giant kauri tree that stands in awe is a sight of pride and power and has an establishment of control and self-governance. For people to become and feel the same as this rākau will only know that feeling when a challenge in front of them has been met to the best of their ability. Whether it be buying food for the cupboards to buying their own home. Having a sense of ownership, knowing and understanding who you are and where you fit in this world by being self-governed will give you a sense of rangatiratanga.

Kaitiakitanga – *Keepers of our waterways, rivers, whānau and home*

Taketake – is the root of all things growing. For the life of a tree to thrive, it needs a good root system and needs to be carefully nurtured from inception. This can also be reflected within the homes of where if we want the best for our younger ones, we must ensure they are grounded first and with the right caring and nurturing we can ensure they will strive to be all they can be in a safe and healthy upbringing. We also do what we need to do to ensure we lead by example and show we can be guardians of our waterways, our families and homes.



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PROGRAMME INFORMATION

Programme Name	Te Aukaiao - Certificate in Introductory River Enhancement (Applied)			
Level	4			
Credits	120			
Length	36 weeks			
Total hours	Teaching hours (on the job)	800 hours	Self-directed hours	400 hours
Graduate profile outcome statement	A graduate of this programme will be able to: Be a Pūniu River Care Kaitiaki that is: • Humble and respectful • Professional and reputable • Connected to the taiao • Strong in their identity • Competent in their mahi as an individual and as a team player Be a Pūniu River Care Kaitiaki that knows relevant: • Tikanga practices • Maramataka knowledge • Kaitiakitanga practices • Sustainable taiao practices Be a Pūniu River Care Kaitiaki that can [do]: • Apply knowledge of seed collection processes from a taiao worldview. • Apply knowledge of seed sowing processes from a taiao worldview • Apply knowledge of potting up processes from a taiao worldview • Apply knowledge of preparing planting sites from a taiao worldview • Apply knowledge of planting processes from a taiao worldview • Apply knowledge of maintaining plant processes from a taiao worldview.			
Programme outcome statement	At the end of this programme, graduates will be able to: 1. Demonstrate broad operational and technical knowledge in a values based planting approach towards a rākau Māori industry. 2. Select and apply relevant solutions to various stages of the planting process. 3. Select and apply relevant processes specific to Pūniu River Care that is relevant to the planting process. 4. Select and apply a range of communication skills relevant to the rākau Māori industry.			

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KŌNAE AKO 3 – WHANAUNGATANGA

Programme Name	Te Aukaiao - Certificate in Introductory River Enhancement (Applied)			
Kōnae Ako name	Whanaungatanga			
Level	4			
Credits	20			
Length	6 weeks			
Total hours	Teaching hours (on the job)	150 hours	Self-directed hours	50 hours
Overview (aim)	The value of whanaungatanga represents strategic relationships and empowering whānau. Pihinga are seedlings and as seedlings come into the world, with it comes a colony of what-ever species they are. As we grow as people we find ourselves surrounded by whānau and then we find more whānau. We find new relationships and make new friends and before we know it, we find ourselves in partnerships we might have never thought possible. In alignment with this description, this kōnae ako aims to examine and implement the potting up process using tikanga practices within a taiao worldview.			
Learning Outcomes	At the end of this kōnae ako, students will be able to: 1. Demonstrate tikanga practices when potting up (Range includes karakia, whakarite, pūrākau, mihimihi). 2. Demonstrate maramataka knowledge when potting up (Range: phase, atua, month, and impacts on hinengaro, tinana, tāngata and taiao). 3. Select and apply sustainable kaitiakitanga practices when potting up (Range: plant care and maintenance, soil composition, keeping to grade, trimming, sustainable practices and plant evaluation before leaving the nursery irrigation checks to conserve water, recycling pots and trays, returning unused plant material, re-use of trimmings). 4. Select and apply appropriate planning strategies when potting up (Range: selecting species, grading, irrigation). 5. Implement potting up techniques in a taiao context (Range: labelling, filling trays, up potting seedlings, routing, and watering). 6. Demonstrate appropriate plant allocation methods on the mat (Range: transferring to mat, whanaungatanga of seedlings, consolidating plant lists). 7. Demonstrate competency to use relevant tools and equipment when potting up (Range: UTV buggies, potting machine, hedge trimmer)			

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Graduate Profile Outcomes	Graduates of this programme will be able to: • Apply knowledge of tikanga practices to promote a taiao worldview. • Apply knowledge of the maramataka to enhance practice and production. • Implement kaitiakitanga practices to care for and maintain plants and people. • Implement sustainable practices to promote a taiao worldview. • Apply knowledge of potting up processes from a taiao worldview.
Kōnae ako content	This kōnae ako will cover the following topics: • Tikanga (Karakia, whakarite, pūrākau, mihimihi) • Maramataka • Kaitiakitanga practices • Care and maintenance (Plant Health checklist and action plan) • Selecting species • Grades of cells/pots • Labelling • Filling tray/pot with mix • Up potting seedlings • Water/rout • Transfer to mat • Whanaungatanga of seedlings (plant allocation) • Tool and vehicle competency (UTVs, potting machine and hedge trimmer)
Resources	The maramataka section of this kōnae ako is to be completed in conjunction with the Matataiora Maramataka app.
Internal requirements	The following are required in this kōnae ako: • Potting machine • Hedge trimmer
External requirements/licences	The following are required in this kōnae ako: • Grow Safe certification • UTV buggies
Special notes	The species used throughout this programme are: 1. Mānuka / Tea tree (<i>Leptospermum scoparium</i>) 2. Kahikatea / NZ White Pine (<i>Dacrycarpus dacrydioides</i>) 3. Karamū (<i>Coprosma robusta</i>) 4. Whanake / Cabbage tree (<i>Cordyline australis</i>) 5. Tarata / Lemonwood (<i>Pittosporum eugeniioides</i>)

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SPECIES IDENTIFIED FOR THIS PROGRAMME¹



Mānuka
(*Leptospermum
scoparium*)

The many uses of Mānuka in rongoā is due to its strong anti-microbial properties and as a natural antiseptic, it is an ideal healer and protector for the body.



Kahikatea
(*Dacrycarpus
dacrydioides*)

The Kahikatea is the oldest member of the ancient Podocarp family and have been around for more than 160 million years.



Karamū
(*Coprosma robusta*)

It is a sacred plant to Māori and a branch of the Karamū was often used by tohunga when conducting a karakia over a sick person.



Whanake
(*Cordyline australis*)

All the parts of the Whanake have important uses such as food, fibre and medicine. The root, stem and top are all edible, a good source of starch and sugar.



Tarata
(*Pittosporum eugenioides*)

Tarata was used to make perfume and hair oils. The gummy resin that oozes from the bark was mixed with bird fat and the Tītoki and Kōhia and rubbed over the hair and body.

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KŌNAE AKO 3 – ASSESSMENT

Assessment overview	The assessment for this kōnae ako will be a combination of written and practical activities. Learning outcome 1 and 2 will be assessed and evidenced through the Student Workbook. Learning outcomes 3 – 7 will be assessed and evidenced through the Assessment Observation Checklist.
Learning outcomes	At the end of this kōnae ako, students will be able to: 1. Demonstrate tikanga practices when potting up (Range includes karakia, whakarite, pūrākau, mihimihi). 2. Demonstrate maramataka knowledge when potting up (Range: phase, atua, month, and impacts on hinengaro, tinana, tāngata and taiao). 3. Select and apply sustainable kaitiakitanga practices when potting up (Range: plant care and maintenance, soil composition, keeping to grade, trimming, sustainable practices and plant evaluation before leaving the nursery irrigation checks to conserve water, recycling pots and trays, returning unused plant material, re-use of trimmings). 4. Select and apply appropriate planning strategies when potting up (Range: selecting species, grading, irrigation). 5. Implement potting up techniques in a taiao context (Range: labelling, filling trays, up potting seedlings, routing, and watering). 6. Demonstrate appropriate plant allocation methods on the mat (Range: transferring to mat, whanaungatanga of seedlings, consolidating plant lists). 7. Demonstrate competency to use relevant tools and equipment when potting up (Range: UTV buggies, potting machine, hedge trimmer)
Assessment evidence	The evidence of assessment for this kōnae ako is: 1. Student Workbook completed by the student 2. Assessment observation checklist completed by Assessor

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KŌNAE AKO 3 – ASSESSMENT OBSERVATION CHECKLIST

Student name			
Assessor name			
Assessment date(s)			
Assessment activity	Kōnae Ako 3 - Whanaungatanga		
		ACH	YTA
Learning Outcomes	1. Demonstrate tikanga practices when potting up (Range includes karakia, whakarite, pūrākau, mihimihi).	☐	☐
	2. Demonstrate maramataka knowledge when potting up (Range: phase, atua, month, and impacts on hinengaro, tinana, tāngata and taiao).	☐	☐
	3. Select and apply sustainable kaitiakitanga practices when potting up (Range: plant care and maintenance, soil composition, keeping to grade, trimming, sustainable practices and plant evaluation before leaving the nursery irrigation checks to conserve water, recycling pots and trays, returning unused plant material, re-use of trimmings).	☐	☐
	4. Select and apply appropriate planning strategies when potting up (Range: selecting species, grading, irrigation).	☐	☐
	5. Implement potting up techniques in a taiao context (Range: labelling, filling trays, up potting seedlings, routing, and watering).	☐	☐
	6. Demonstrate appropriate plant allocation methods on the mat (Range: transferring to mat, whanaungatanga of seedlings, consolidating plant lists).	☐	☐
	7. Demonstrate competency to use relevant tools and equipment when potting up (Range: UTV buggies, potting machine, hedge trimmer)	☐	☐
Final result (ACH or YTA)		☐	☐
Assessor signature and final date assessed			
Assessor feedback			

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KŌNAE AKO 3 – PLANT HEALTH CHECKLIST

Student name				
Tuakana name				
Date				
Maramataka phase				
		YES	NO	ACTION PLAN REQUIRED
Things to check	Soil moisture	☐	☐	☐
	Weeds	☐	☐	☐
	Pests	☐	☐	☐
	Disorders	☐	☐	☐
	Disease	☐	☐	☐
	Root system	☐	☐	☐
	Seasonal impact	☐	☐	☐
Action plan (if applicable)				
Tuakana signature				
Date				

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HE AHA TĒNEI PUKAMAHI? – WHAT IS THIS WORKBOOK?

This workbook can help support and guide you through your mahi for this programme. This workbook contains:

- Additional information to support what you have learnt with your kaiako and your class.
- Some activities to help you consolidate your learning.
- Some key words (and their meanings) to help you through your journey.
- Ideas of additional resources to help you along the way.

NGĀ TOHUTOHU MŌ TĒNEI PUKAMAHI – WHAT TO DO WITH THIS WORKBOOK

- 1) Look at what you have learnt during this kōnae ako and the assessment material.
- 2) Work through each exercise of this workbook – it is a support tool for you. You can make notes in it, highlight important ideas and things you want to make special note of.
- 3) Have a think about how particular activities relate to your mahi at Pūniu River Care to help understand its significance.

NGĀ TOHU ĀWHINA – HELPFUL ICONS

The following section explains several helpful icons that you will see throughout this workbook to help navigate and guide you through this workbook.

	He kupu āwhina – <i>Some tips to help you work through an activity.</i>
	He mahi takitahi – <i>An individual activity.</i>
	He mahi pānui – <i>A reading activity.</i>
	He mahi whakarongo – <i>A listening activity.</i>
	He mahi tuhituhi – <i>A writing activity.</i>
	He mahi titiro/mātakitaki – <i>A observation activity.</i>
	He mahi arotake – <i>A reflection activity within your journal.</i>
	Ētahi atu rauemi – <i>Additional resources.</i>

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HE PAPA KUPU – GLOSSARY

This glossary contains Māori words and their meanings that are found through this workbook.

Māori word/phrase	English translation
Awa	River
Ētahi rauemi	Some (additional) resources
He kupu āwhina	Tips - Some tips to help you work through an activity
He mahi pānui	A reading activity
He mahi takitahi	An individual activity
He mahi titiro/mātakitaki	A looking/watching activity
He mahi whakarongo	A listening activity
Hei mahi	Activity
Hei tauira	An example/an introduction
He papa kupu	Glossary
Hinengaro	Mind
Ingoa	Name
Iwi	Tribe
Kaiako	Teacher
Kaitiakitanga	The keeping of our waterways, rivers, whānau and home
Kākano	Seed
Karakia	Ritual chant, prayer
Kaupapa ako	Learning topic
Koha	Limitless generosity acknowledging the celebration of life
Kōnae ako	Module
Mahuri	A young tree at an adolescent stage of life
Marae	Traditional meeting place/complex
Maramataka Māori	Māori lunar calendar
Māramatanga	To know your place in a sustainable world
Maunga	Mountain
Mihimihi	To greet, pay tribute
Papatūānuku	Earth mother
Pepeha	An introduction of yourself using physical landmarks to share where you are from/who you are
Pihinga	Seedlings
Pukamahi	Workbook
Pūrākau	Story
Rākau	Tree
Rangatiratanga	Self-determination; to take the lead for a sustainable world
Taiao	Natural world/environment/outdoor activities
Taketake	The root of all things growing
Tāngata	In this context it means energy level ²
Taniwha	Guardian
Tapu	Sacred
Te whakarāpopototanga	The summary
Tikanga practices	Practices using Māori customs/values/worldview
Tinana	Body/physical wellbeing
Uara	Values
Waka	Canoe
Whakarite	To prepare
Whānau	Family
Whanaungatanga	Strategic relationships and empowering whānau

² Explanation given in Matataiōra app

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ĒTAHI ATU RAUEMI – SUPPORTING RESOURCES

Videos:

Land, Air, Water Aotearoa - <https://www.youtube.com/watch?v=lwJGpFIJ9mc>

Momentum Waikato - <https://vimeo.com/300860022>

Pūniu River Care, Sustainable enterprises - <https://www.youtube.com/watch?v=3htUhFvIHog>

Pūniu River Care, Waterway restoration project - https://www.youtube.com/watch?v=-jjdaQ_xSnw

Pūniu River Care, Growing jobs back home - https://www.youtube.com/watch?v=X_onB47mATO

Pūniu River Care, Freshwater Improvement Fund - <https://www.youtube.com/watch?v=8WpR5Fwdoks>

Pūniu River Care, Waikato River Authority - <https://www.youtube.com/watch?v=S0YpgaSve8Y>

Pūniu River Care, Hikoi May 2021 - <https://www.youtube.com/watch?v=h9ldZrcrCTE>

Waikato Tainui, Taiao Grant - <https://www.youtube.com/watch?v=lcGRGH-Rx-0>

Waikato BFEA Catchment Group Award - <https://www.youtube.com/watch?v=VTGT9giVg0c>

Matataiora Maramataka app by Maniapoto Māori Trust Board - <https://www.youtube.com/watch?v=zNki9cyqjKw>

(Available to download from Google Play or Apple Store).

Waiata:

Ehara i te mea: <https://www.youtube.com/watch?v=ujluANcY3fE>

E tū Maniapoto: https://www.youtube.com/watch?v=_ho7ANdEhEQ (@ 3:48)

Haere mai ki Maniapoto: https://www.youtube.com/watch?v=_ho7ANdEhEQ (@1:16)

He aha kei taku uma: <https://www.youtube.com/watch?v=bY9EISgYbrg>

Hoki hoki tonu mai: https://www.youtube.com/watch?v=_CL0-JJmclK

Mangatoatoa: https://www.youtube.com/watch?v=W_00w3hY3wg (@0:00 - 0:51)

Mā wai rā: <https://www.youtube.com/watch?v=FRXjYJxYLCc>

Rimu rimu: <https://www.youtube.com/watch?v=hSCq3FIEQa0>

Tai aroha: <https://www.youtube.com/watch?v=awVVAaEILFw>

Tōia: https://www.youtube.com/watch?v=aZS_B8ZtIEo

Whakataurangi ake: <https://www.youtube.com/watch?v=n8uN4l3MkNs>

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NGĀ KAUPAPA AKO – WHANAUNGATANGA (POTTING UP)

The value of whanaungatanga represents strategic relationships and empowering whānau. Pihinga are seedlings and as seedlings come into the world, with it comes a colony of what-ever species they are. As we grow as people we find ourselves surrounded by whānau and then we find more whānau. We find new relationships and make new friends and before we know it, we find ourselves in partnerships we might have never thought possible.

In alignment with this description, this kōnae ako aims to examine and implement the potting up process using tikanga practices within a taiao worldview.

- Tikanga (Karakia, whakarite, pūrākau, mihimihi)
- Maramataka
- Kaitiakitanga practices
- Care and maintenance (Plant Health checklist and action plan)
- Selecting species
- Grades of cells/pots
- Labelling
- Filling tray/pot with mix
- Up potting seedlings
- Water/rout
- Transfer to mat
- Whanaungatanga of seedlings (plant allocation)
- Tool and vehicle competency (UTVs, potting machine and hedge trimmer)



1. WHAKARITE



Kia tau ngā manaakitanga a te mea ngaro
Ki runga ki tēnā, ki tēnā o tātou
Kia mahea te hua mākihikihi
Kia toi te kupu, toi te mana, toi te aroha, toi te reo Māori
Kia tūturu, ka whakamaua, kia tīna! TINA!
Hui e, Tāiki e!

[illegible]

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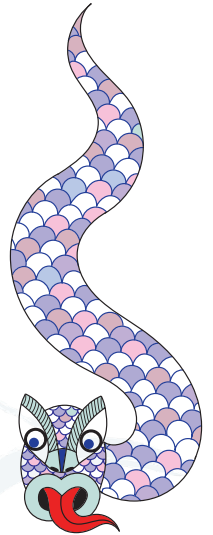
2. PŪRĀKAU



HEI TAUIRA – AN EXAMPLE

Pūrākau are a way to capture stories of our whānau, hapū and iwi. These stories talk of our ancestors' successes, failures, lessons and history. Pūrākau are often used to teach younger generations about the significance of places and people in those stories. Below is the pūrākau of Waiwaiā as told by Doug Ruki of Ngāti Maniapoto.

*"Whirowhiro ana riporipo ana te au o Pūniu, wai kaukau o Peketahi.
Ka titiro whakarunga ki Ōtautahanga ki te ana o Takerepiripiri e mōwai mai rā.
Teretere taku tia rere
Hūkere hūkere kauria hei
Hūkere hūkere kauria hā
Kauria te ia o te awa tuku whakarite (Pūniu)
Tū mai rā Kakepuku, te rerenga o Mukukai ki te tonga
Auē te aroha e (ki te tonga)
Waiwaiā paenga rau whakatau mai rā
Ko te kārohirohi e tere mai rā
Tō ata i te kahu roa o Waipā
I ō pararī i Rangitoto."*³



This is an excerpt of a waiata composed by Paraone Gloyne, Ngahuia Kopa and Te Aorere Tunoho which celebrates the taniwha and kaitiaki who are the guardians of Pūniu, Waipā and Waikato rivers. Waiwaiā in particular is known throughout Ngāti Maniapoto as a kaitiaki within their waterways. This is the story of Waiwaiā.

Waiwaiā

The story⁴ begins with Kahu who is a well-known tūpuna throughout Ngāti Maniapoto and Raukawa lands. Her travels around the area are renowned and acknowledged by the various sites of significance that bear her name. On one of these travels, she was in the area known as Rangitoto o Kahu where she heard what she thought was a whole lot of birds but turned out to be the sound of raging water. This is one version of the origin of the name Waipā – i pā te rongo o te wai ki a Kahu (Kahu hearing the sound of the water). She followed that noise and arrived at a swamp area close by known as Pekepeke, which is also the beginning point of Waipā river. There at Pekepeke she laid a mauri that became the glistening on the water – day and night. The name Waiwaiā speaks of the beauty of the water and the mauri of the water. Waiwaiā is known as the essence and well-being of the Waipā river. To Ngāti Maniapoto, Waiwaiā is one of the guardians of the Waipā river that is captured in the whakatauki:

'Ko te mauri, ko te waiora o te Waipā ko Waiwaiā – the essence and wellbeing of the Waipā is Waiwaiā'.⁵

The relationship of the people with Waiwaiā is based on a mutual respect that means the people have a responsibility to protect the mana of the water and to be kaitiaki of the taonga that is Waipā. Having this understanding of this relationship gives kaitiaki a deeper understanding of the importance of these kaitiaki and the role they play in caring for the awa.



HEI MAHI – ACTIVITY

After reading the pūrākau of Waiwaiā, what are 3 lessons you would take from it and use in your everyday practice?

1

2

3

³ Excerpt taken from composition 'Teretere Taku Tia Rere' by Paraone Gloyne, Ngahuia Kopa and Te Aorere Tunoho.

⁴ This story has been shared by Doug Ruki and is only one version of this story.

⁵ <https://researchcommons.waikato.ac.nz/bitstream/handle/10289/11172/thesis.pdf?isAllowed=y&sequence=3>

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3. MIHIMIHI



HEI TAUIRA – AN EXAMPLE

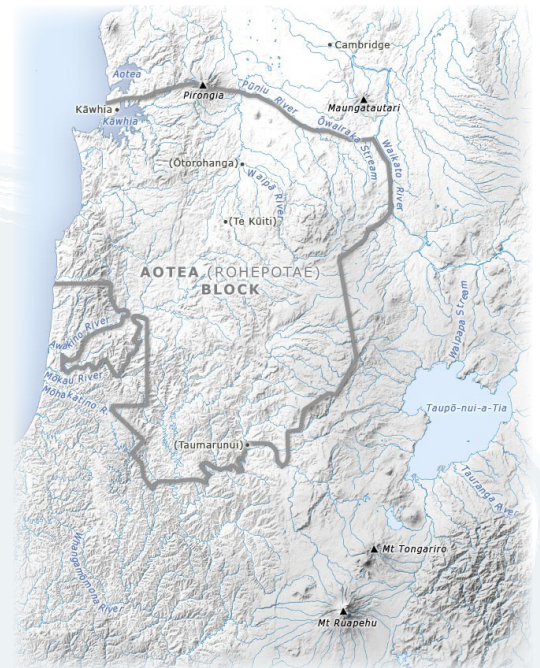
A mihimihi is a greeting or introduction that happens at the start of a meeting or gathering. A mihimihi is used to establish links between the speaker and the audience and the kaupapa of the gathering and may include a pepeha.

Below is an example of a term used to indicate where one comes from.

“Ko te rohe pōtae o Maniapoto.”

From the 1860s the Ngāti Maniapoto boundaries was called the King Country by Pākehā. While this described King Tāwhiao’s temporary place of residence, it ignored Ngāti Maniapoto as tangata whenua. It is said that King Tāwhiao named Te Rohe Pōtae, loosely translated as ‘the area of the hat’, on the land in the late 1870s when he threw a hat down on a map. Ngāti Maniapoto leader Wahanui Huatere has also been identified as the person who came up with this name. The aukati (boundary) between Waikato and Ngāti Maniapoto was along the Pūniu River.

While the name ‘Te Rohe Pōtae’ is well known as applying to the King Country, it was also used elsewhere to mean autonomous Māori land. ‘Te Rohe Pōtae o Tūhoe’ referred to Tūhoe tribal land beyond a confiscation line in the eastern Bay of Plenty in the late 1860s. Tūranganui (Gisborne) Māori also spoke of the concept in the 1850s. The head is sacred to Māori, and the idea that the ‘pōtae’ (hat) related to authority over land was derived from the crown worn by Queen Victoria – one of the symbols of her authority.⁶



HEI MAHI – ACTIVITY

Using the space provided, write your pepeha and that of two other kaitiaki within PRC.

	Ko.....waka
	Ko.....maunga
	Ko.....awa
	Ko.....marae
	Ko.....iwi
	Ko.....te/ngā rangatira
	Ko.....ahau

⁶ <https://teara.govt.nz/en/king-country-region/page-6>

⁷ <https://teara.govt.nz/en/interactive/34848/boundaries-te-rohe-potae-1880s>

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	Ko.....waka
	Ko.....maunga
	Ko.....awa
	Ko.....marae
	Ko.....iwi
	Ko.....te/ngā rangatira
	Ko.....tōna ingoa

	Ko.....waka
	Ko.....maunga
	Ko.....awa
	Ko.....marae
	Ko.....iwi
	Ko.....te/ngā rangatira
	Ko.....tōna ingoa

STUDENT WORKBOOK

4. MARAMATAKA



HEI TAUIRA – AN EXAMPLE

The Māori lunar calendar called the Maramataka marks the phases of the moon in a lunar month. The maramataka was once used for almost any activity taking place in the community. Some days or nights of the maramataka were better to do certain activities than other days.



HEI MAHI – ACTIVITY

Using the Matataiora Maramataka app, complete the following table for today's date and write the impact of today's phase on potting up.

	Date ⁸	
	Atua (Deity)	
	Maramataka (Month)	
	Hinengaro (Mindfulness)	
	Tinana (Physical wellbeing)	
	Tāngata (Energy level)	
	Taiao (Outdoor activities)	
	How does today's phase impact on potting up?	

⁸ The translations given here are from the Matataiora app.

STUDENT WORKBOOK

5. SUSTAINABLE KAITIAKITANGA PRACTICES



HEI TAUIRA – AN EXAMPLE

Sustainability and kaitiakitanga are complementary when working in the taiao space. Kaitiakitanga practices allow efficiency and also respect Papatūānuku when working with the land.



HEI MAHI – ACTIVITY

Using the table below, describe what each kaitiakitanga practice means when potting up.

Plant care and maintenance	
Soil composition	
Keeping to grade	
Trimming	
Sustainable practices and plant evaluation before leaving the nursery	
Irrigation checks to conserve water	
Recycling pots and trays	
Returning unused plant material	
Re-use of trimmings	

STUDENT WORKBOOK

6. PLANNING STRATEGIES WHEN POTTING UP



HEI TAUIRA – AN EXAMPLE

Potting up requires planning around what, where, when, who and how. Appropriate planning saves time and resources.



HEI MAHI – ACTIVITY

Select a species from the list below and create a plan (using the table) that you could use to pot up your chosen seedling species.

1. **Mānuka** / Tea tree (*Leptospermum scoparium*)
2. **Kahikatea** / NZ White Pine (*Dacrycarpus dacrydioides*)
3. **Karamū** (*Coprosma robusta*)
4. **Whanake** / Cabbage tree (*Cordyline australis*)
5. **Tarata** / Lemonwood (*Pittosporum eugenioides*)

Karakia whakarite <i>(Appropriate karakia and person to conduct karakia and why is it important ?)</i>	
Selecting species <i>(What species did you choose and why?)</i>	
Grading <i>(How will you grade?)</i>	
Irrigation <i>(What is your irrigation plan?)</i>	

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7. POTTING UP TECHNIQUES IN A TAIAO CONTEXT



HEI TAUIRA – AN EXAMPLE

Potting up involves a number of steps and the process can differ for the numerous seedlings that could be processed at any one time or location.



HEI MAHI – ACTIVITY

Using the plan that you created in the previous activity, pot up your chosen seedlings and use the table below to write down what you did.

Labelling	
Filling trays	
Potting up seedlings	
Routing	
Watering	



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8. PLANT ALLOCATION METHODS ON THE MAT



HEI TAUIRA – AN EXAMPLE

Plant allocation methods are additional steps to be completed in the potting up process.



HEI MAHI – ACTIVITY

Continuing on from the previous task, complete appropriate plant allocation methods on the mat and write down what you did in the table below.

Transferring to the mat (What did you put where? Why were they put there?)	
Whanaungatanga of seedlings (What does this mean?)	
Consolidating plant lists (What did you do here?)	



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9. USING RELEVANT TOOLS AND EQUIPMENT



HEI TAUIRA – AN EXAMPLE

Appropriate and safe use of relevant tools and equipment when potting up makes the best use of time and resources but also improves the safety of all involved.



HEI MAHI – ACTIVITY

Think about how tools and equipment were used in the previous task and use the table below to write down how each tool or piece of equipment was used.

UTV buggy	
Potting machine	
Hedge trimmer	



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The image shows a page with a decorative header. On the left, there is a light blue wave graphic. The rest of the page is white with horizontal ruling lines.

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TE WHAKARĀPOPOTONGA – A SUMMARY



WHANAUNGATANGA





PŪNUI
RIVER
CARE INC.