



Ngā pēpeketua o Aotearoa kua mate-ā-moa

TE HĪTORI O TE PEPEKETUA

E hiahia ana te rōpū ohaoha o NZFrogs ki te tautoko i te tangata ahakoa ko wai, nō hea hoki, kia whai wāhi mai ki ngā Pepeketaua, me te whai wāhi mai anō hoki ki te manaaki i ngā Pepeketaua o Aotearoa.

I te tau 2024, ka riro atu ki a NZFrogs he pūtea tautoko mai i te Unlocking Curious Minds Contestable Fund kia hua mai ko tētahi rārangi pukapuka mātauranga me ētahi atu pānui whakaahua tautoko. Ko te whāinga, ko te whakarite rauemi reo-rua, e pupuri ana ki ngā mātauranga pūtaiao hei kai mā te katoa, ahakoa te pakeke.

E whā ngā pukapuka me ētahi pānui whakaahua tautoko taunaki. Otirā, e rua ngā pānui whakaahua motuhake kei roto i te rārangi pukapuka o Aotearoa: *He aha e hirahira nei ngā Pepeketaua o Aotearoa?* Kātahi, ka rua, *Te tiaki Pepeketaua*. Kei **nzfrogs.org** ētahi kōrero kē atu mō NZFrogs, mō te rārangi *Pepeketaua o Aotearoa* hoki hei tirotiro māu.

Kaipikitia

Ngā kaitito

Kaiwhakamāori

Tohunga Mātai Ika oneone

Kaiwhakaahua kararehe

Kaihoahoa whakairoiro

Sarah Greig

Hadley Muller rāua ko Tobia Dale

Te Ngaru Wehi

Luke Easton

Oscar Thomas

Lucy Arnold

Ka nui hoki te mihi ki ngā iwi e whai ake nei i tā rātou tautoko mai i ēnei rauemi: Ko Pare Hauraki, Ngāti Kuia, Ngāti Koata.

He mea whakaputa e NZFrogs i raro i te mana o Creative Commons Attribution-ShareAlike 4.0 International license.

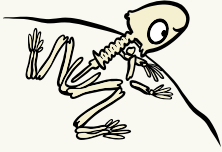
© NZFrogs 2024.

ISBN 978-1-0670522-7-0

Mōku anō tēnei pukapuka!



Kua tāngia tēnei pukapuka ki te pepa kāore e tāmi i te taiao. I tāngia kētia ki te pepa kua tukuruatia, ā he mea whakamana anō hoki e ngā matatiki whai mana tonu. I waihangaia ki raro i te mana o ngā Pūnaha whakahaereanga taiao ISO14001, otirā, e kawe ana i te tohu whakamanatia ana puta noa i te ao, arā, ko te tohu tukuruua BLUE Angel, Austrian Environmental Label & the NAPM Nordic Swan.



Ngā ihirangi

Ngā āhuatanga o te Pepeketa	2
Aotearoa Tūāuri whāioio	3
Te kuneroa me te whiringa māori	4
Te Hītori Aro Whenua	6
Mai i te tīmatanga	7
Te rākau whakapapa o te Pepeketa	8
He aha te Pepeketa?	9
Mau ohorere!	10
Rārangi wā	11
Kuputaka	12



NGĀ ĀHUATANGA O TE PEPEKETUA

Kua koni atu i te toru o ngā momo Pepeketua i mate-ā-moa nō muri i te taenga mai o te tangata ki Aotearoa. Tirohia ērā atu pukapuka i roto i te rārangi pukapuka *Pepeketua o Aotearoa*, ka toro atu rānei ki **nzfrogs.org** kia mōhio ake koe ki ngā Pepeketua o Aotearoa.



Te Pepeketua Markham

- I rangiwāwhā tonu te noho, puta noa i te Ika me te Waka-ā-Māui.
- E kaha kitea tahitia ana ōna wheua me ngā momo nō tuawhenua, pēnei i te moa, ki roto i ngā kenepuru mātātoka kotahi.

Inenga kātua RIT (te roa mai i te ihu ki te tou): 50–60mm

I noho ki tuawhenua pērā i te Pepeketua (Hamilton's) me te Kuri peke. Pakari ana ēnei momo Pepeketua, kāore e kore i ngoikore ōna pūkenga pekepeke, nō reira, ko tana mariu ko te hīkoi.

Te Pepeketua Aurora

- E mōhiotia ana nā tētahi mātātoka kotahi, i tūhuria ake ai i te ana o Aurora, i Te Anau.

RIT o te Kātua: 60mm



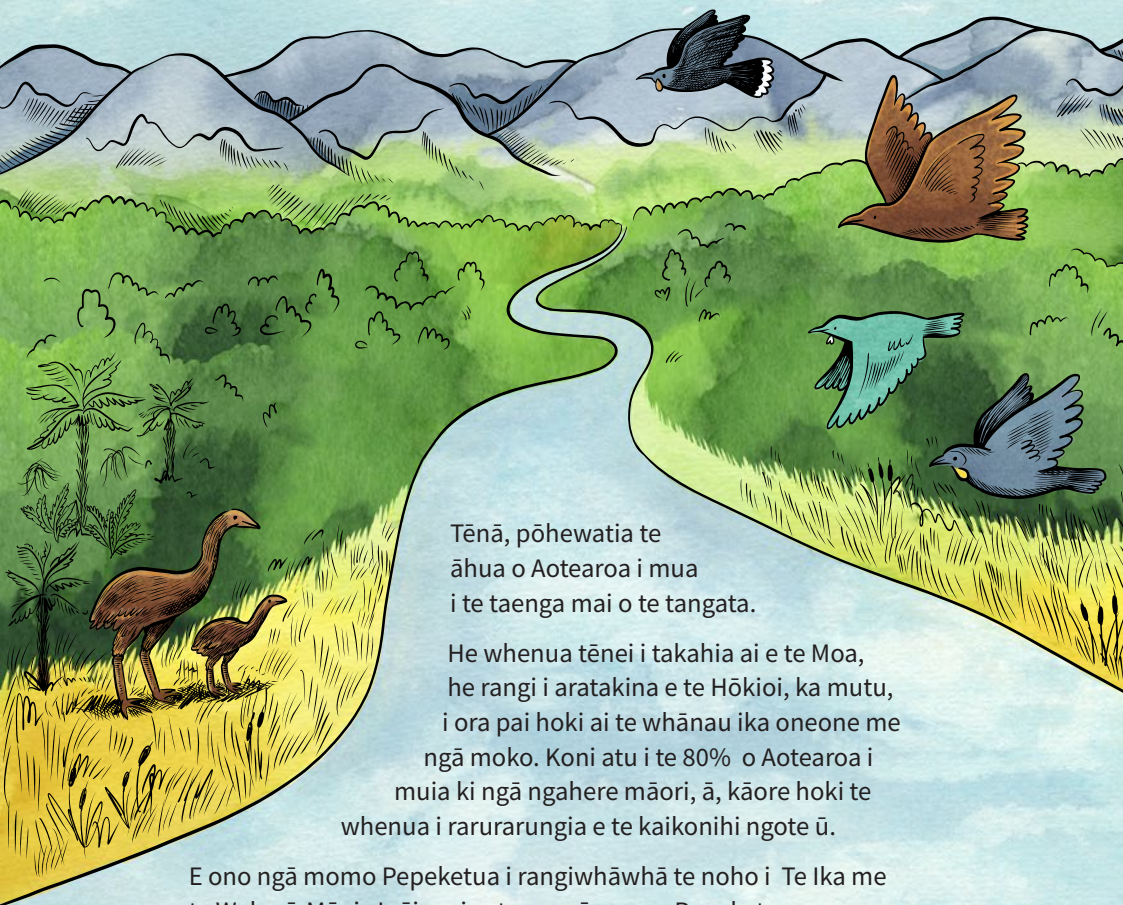
Te Pepeketua Waitomo

- Ko tēnei momo te mea nui katoa, ka eke ki te 10 cm te roa.
- Kāore hoki e kore i kaha tēnei momo ki te pekepeke.
- I kitea anake i Te Ika-a-Māui.
- He kaha te kitea o ngā mātātoka i ngā kenepuru wai. He tohu i noho ai i ngā kōawaawa.



RIT o te Kātua: 100mm

Aotearoa Tūāuri whāioio



Tēnā, pōhewatia te āhua o Aotearoa i mua i te taenga mai o te tangata.

He whenua tēnei i takahia ai e te Moa, he rangi i aratakina e te Hōkioi, ka mutu, i ora pai hoki ai te whānau ika oneone me ngā moko. Koni atu i te 80% o Aotearoa i mua ki ngā ngahere māori, ā, kāore hoki te whenua i rarururungia e te kaikonihini ngote ū.

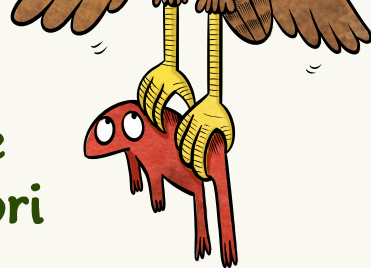
E ono ngā momo Pepeketau i rangiwhāwhā te noho i Te Ika me te Waka-ā-Māui. Ināianei, e toru ngā momo Pepeketau kua mate-ā-moa, engari, kei warewaretia e tatou! Mā te whai māramatanga ki ngā rā o mua, ka pai ake tā tatou tiaki i ngā momo Pepeketau e toe ana.



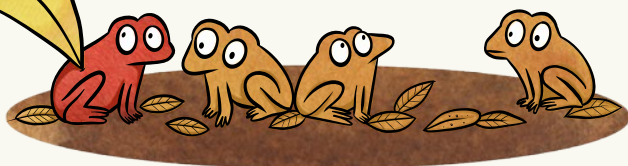
Mēnā i pai katoa tōna kāinga, kua maha ake i te kotahi poraka ia mita pūrua.



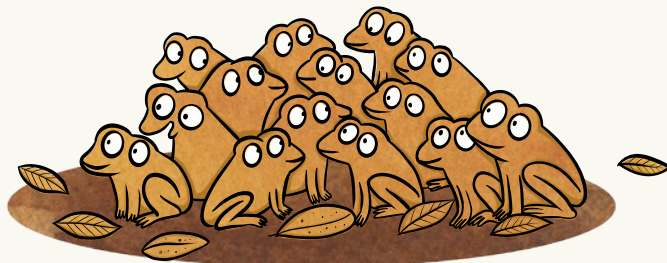
Te kuneroa me te whiringa māori



E hia miriona tau kua noho ko Aotearoa hei kāinga mō te Pepeketua. Mā hea mai te Pepeketua ki Aotearoa? He aha i rerekē ai tōna āhua me ōna whanonga? Hei whakautu i ēnei pātai, me mātua mōhio tātou he aha te **Kuneroatanga**, **whiringa māori**, me te **urutaunga**.

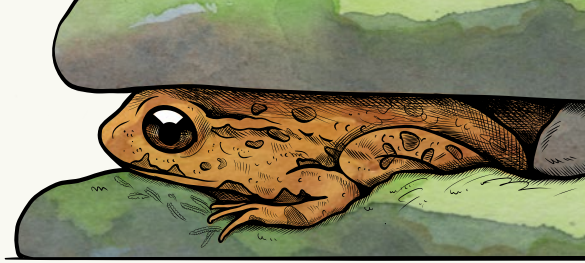


Taupori taketake



Taupori e toe ana

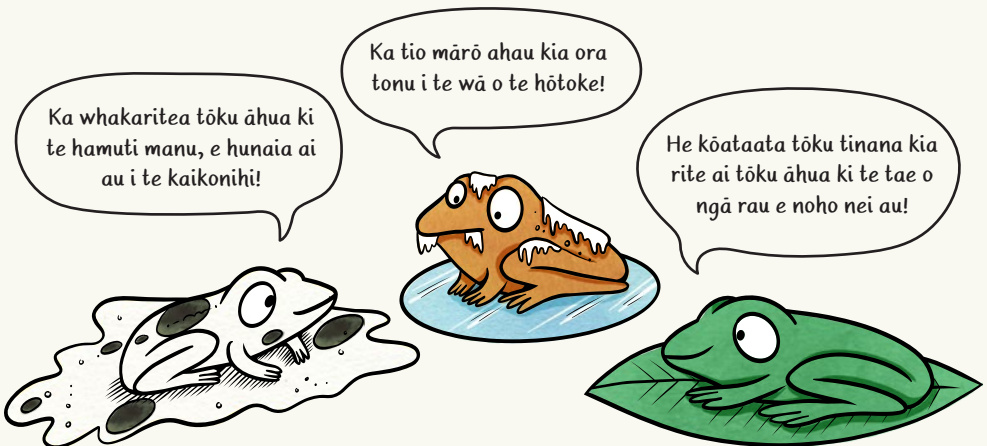
Tēnā, pōhewatia tētahi momo poraka e noho ana ki te papa ngahere i ngā rau e kurupopo ana. Ehara i te mea e rite tahi ana ngā poraka katoa, he whero ētahi, he paraone ētahi. Hei kai reka ēnei poraka mā ngā manu. He pai te poraka paraone ki te huna i ngā rau e kurupopo ana, ā i māmā noa iho tā te manu kite i ngā poraka whero. Nā tēnei, i māmā ake tā te poraka mōrehurehu me tāna whai pēpi, ā, ka tuku iho i tōna kirihuna parauri ki ōna uri whakaheke. Haere te wā, me ngā whakatipuranga maha, ka tau te paraone ki tēnei momo Pepeketua.



Ko te ***kuneroatanga*** te panoni haeretanga o ngā huaira whakaheke kei ngā whakatipuranga maha. Ka whakamahia e ngā kaupūtaiao te kupu ***kuneroatanga*** hei whakamārama i te whanaketanga o ngā mea o te ao e ora ana me ōna rerekētanga i ōna tīpuna i ora ai i ngā tau miriona ki muri. I tō mātou taurira nei, ka paraone haere tēnei momo mā te ***kuneroatanga***.

He mea mātua ārahi te ***kuneroatanga*** e te ***whiringa māori***. Ko te ***whiringa māori*** te whakaaro ka roa te oranga, ka mutu, ka whai pēpi hoki ngā mea e ora ana nā tāna arotau, (tāna ***urutau*** rānei) ki tōna taiao, ka tuku iho ai ōna huaira whaihua ki ōna uri. Ka hua mai ana ngā whakatipuranga, ka māori haere ngā huaira, haere ana te wā. Ka ***urutatau*** ngā mea e ora ana ki tōna taiao mā te ***whiringa māori***. I roto anō i tā mātou i whakatauirā atu ai, ko te manu tonu tētahi ***kaiwhiriwhiri*** matua. I paraone katoa ā tatou Pepeketau mā te ***whiringa māori***. Nā te kaha whāia o ngā Pepeketau whero e ngā manu i māmā ake ai kia whai oranga, kia whai uri hoki ngā Pepeketau paraone.

Ko ētahi āhuetanga o te pūnaha koiōra o ngā momo, pēnei i tōna āhua, i āna mahi, i tāna whai pānga hoki ki tōna taiao, i hua mai rā te ***kuneroatanga***. Nā tēnei kua hua mai te kanorau whānui!



Te Hitori Aro Whenua

Kāore i pēnei te āhua o Aotearoa i ngā wā katoa. He wāhanga a Aotearoa nō te paparahi e kīia nei, ko **Zealandia**. I ēnei rā, kua 94% o **Zealandia**, kua totohu ki te papa moana. I mua i tēnā, i noho kē a **Zealandia** hei wāhanga nō te Paparahi tino nui, e kīia nei, ko **Te Uri Māroa**. Whāia te rārangi wā ki raro iho nei, kia kitea ai te panoni haeretanga o Aotearoa i roto i ngā tau!

I te piri a **Zealandia** ki a **Te Uri Māroa**



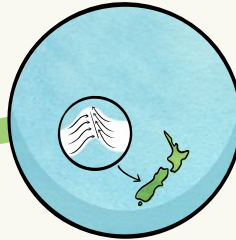
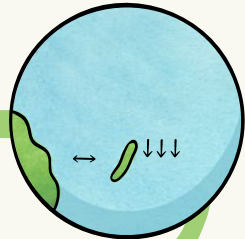
98 Mtm

I totoea a **Zealandia** i a **Te Uri Māroa**



80 Mtm

Kua eke te moana o Te Tai-o-Rehua ki tōna rahi ā mohoa noa nei



Nō te wā e rere atu ana a Aotearoa taketake i a Te Uri Māroa, ka ngaro haere atu ki te moana. Nō te toremitanga ‘Oligocene’ i tata riro katoa a Aotearoa taketake ki raro i te moana

Ka timata te maeatanga mai o Aotearoa i te moana, e maea hoki ana ngā Tiritiri-o-te-Moana

Nō roto i ngā hurihanga takiwā kōpaka, ka tipu, ka rewa hoki ngā awa kōpaka

He Whakarāpopototanga te Mtm nō te miriona tau ki mua



Mai i te tīmatanga

Nō te panoni haeretanga o Aotearoa i ēnei tau, i pēnei hoki ngā tipu me ngā kararehe e noho mai ana ki konei. Kua hua mai te kanorau koiora ki Aotearoa nā te **kuneroatanga** i ēnei tau miriona kua hōri. Ko te āhua nei i te noho ngā tūpuna o te Pepeketau ki ngā ngahere o Aotearoa i te wā i wehe ai i a Te Uri Māroa!

He poraka taketake te Pepeketau. E rite ana rātou ki ngā poraka i ora ai i ngā rau tau miriona ki muri, i ngā rangi tōmua o te kuneroatanga o ngā poraka. Ka haere te wā, ka mate-ā-moa haere ngā poraka taketake tuatahi. Kua kuneroa ngā poraka tūtata i ngā urutaunga; Nā tēnei i pai ake ai tā te Pepeketau whai oranga, whai uri hoki.

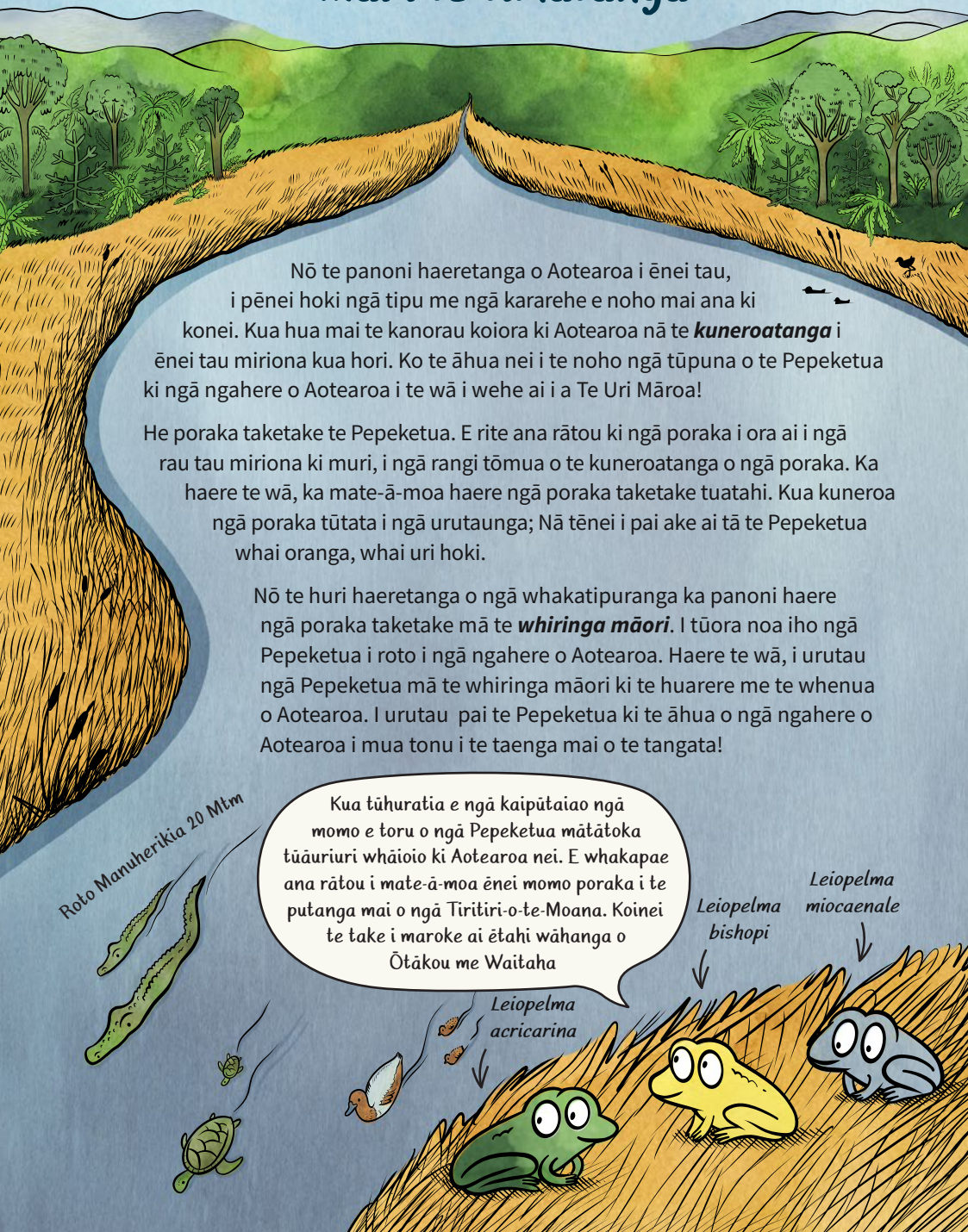
Nō te huri haeretanga o ngā whakatipuranga ka panoni haere ngā poraka taketake mā te **whiringa māori**. I tūora noa iho ngā Pepeketau i roto i ngā ngahere o Aotearoa. Haere te wā, i urutau ngā Pepeketau mā te whiringa māori ki te huarere me te whenua o Aotearoa. I urutau pai te Pepeketau ki te āhua o ngā ngahere o Aotearoa i mua tonu i te taenga mai o te tangata!

Kua tūhuratia e ngā kaipūtaiao ngā momo e toru o ngā Pepeketau mātātoka tūāuriuri whāioio ki Aotearoa nei. E whakapae ana rātou i mate-ā-moa ēnei momo poraka i te putanga mai o ngā Tiritiri-o-te-Moana. Koinei te take i maroke ai ētahi wāhanga o Ōtākou me Waitaha

Roto Manuherikia 20 Mtm

*Leiopelma
miocaenale*
*Leiopelma
bishopi*

*Leiopelma
acricarina*



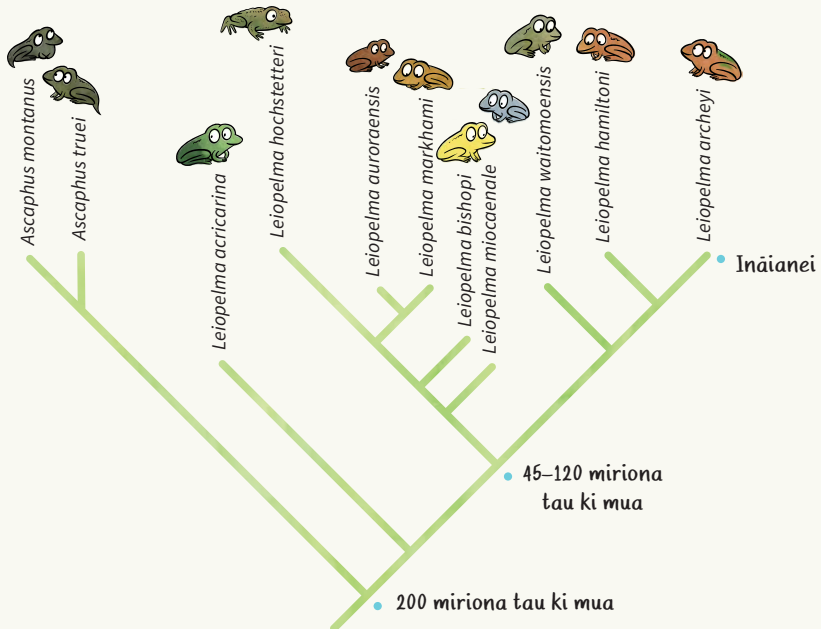
Te rākau whakapapa o te Pepeketua

Ko te whanaunga tata katoa ki te Pepeketua, ko ngā poraka *Ascaphus* nō Amerika ki te Raki. I heke mai ngā Pepeketua i ngā poraka *Ascaphus* i ngā tau 200 miriona neke atu, nō reira, kua aha mai i taua wā?

Ko ngā ***kaimātai mātātoka*** ngā kaipūtaiao ka ako e pā ana ki ngā tipu me ngā kararehe i ora ai nō tūāriuri whāioio. Mā te whakatairite i ngā mātātoka ki ngā tipu me ngā kararehe e ora tonu ana, e taea ana e ngā ***kaimātai mātātoka*** te ako e pā ana ki te ***urutaunga*** o ngā mea tae noa ki tēnei wā. E āhua rite ana te āhua o te Pepeketua ki tēnā o te poraka mātātoka ā, i pōhēhē hoki, he hononga whakapapa i waenga i ngā momo e rua. Heoi anō, kāore tonu ngā ***kaipūtaiao*** i te mārama kehokeho, i te mea, i ēnei tau miriona, kua kino te tārokitia o ēnei poraka mātātoka.

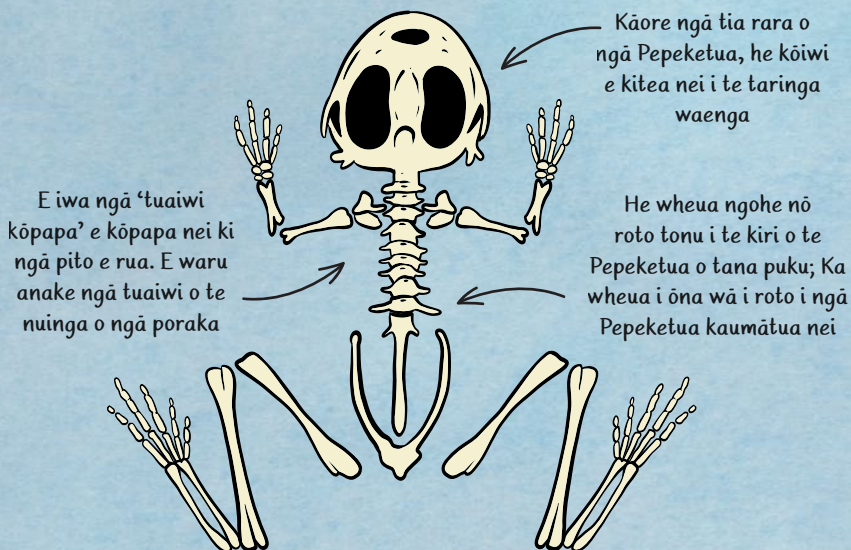
Ko te ***mātai Iranga*** tētahi atu rauemi kia whai māramatanga mō te ***kuneroatanga*** haeretanga o ngā mea e ora ana. Ki te ***kuneroa*** ana ngā mea e ora ana, ka panoni haere ōna pitau ira! Ka whakatairitehia e ngā kaipūtaiao ngā pitau ira o ngā tipu me ngā kararehe rerekē kia mārama ai ki te hononga, ā, ka whakapae hoki i te wā pea i whai hononga i raro i te tipuna kotahi.

Tirohia te rākau kuneroa o te Pepeketua kei raro iho nei:



He aha te Pepeketaua?

Ko ngā mātātoka ngā waihotanga o ngā tipu me ngā kararehe nō tūāriuri whāioio. Ka āta keria e ngā kaimātai mātātoka ngā papa mātātoka hei huke mā rātou, ka kitea rānei ngā mātātoka ka puta mai ā muri i ngā wā e kōripo marama ana. He maha ngā āhuetanga taketake o te Pepeketaua e āwhina nei i ngā kaipūtaio kia tautohutia ngā mātātoka, ngā kōiwi rānei, ka whakatairitehia ai ki ētahi atu momo poraka:



Mau ohorere!



Pepeketua
(Hochstetter's)

Pepeketua (Hamilton's)

Kuri peke

Te Pepeketua Markham

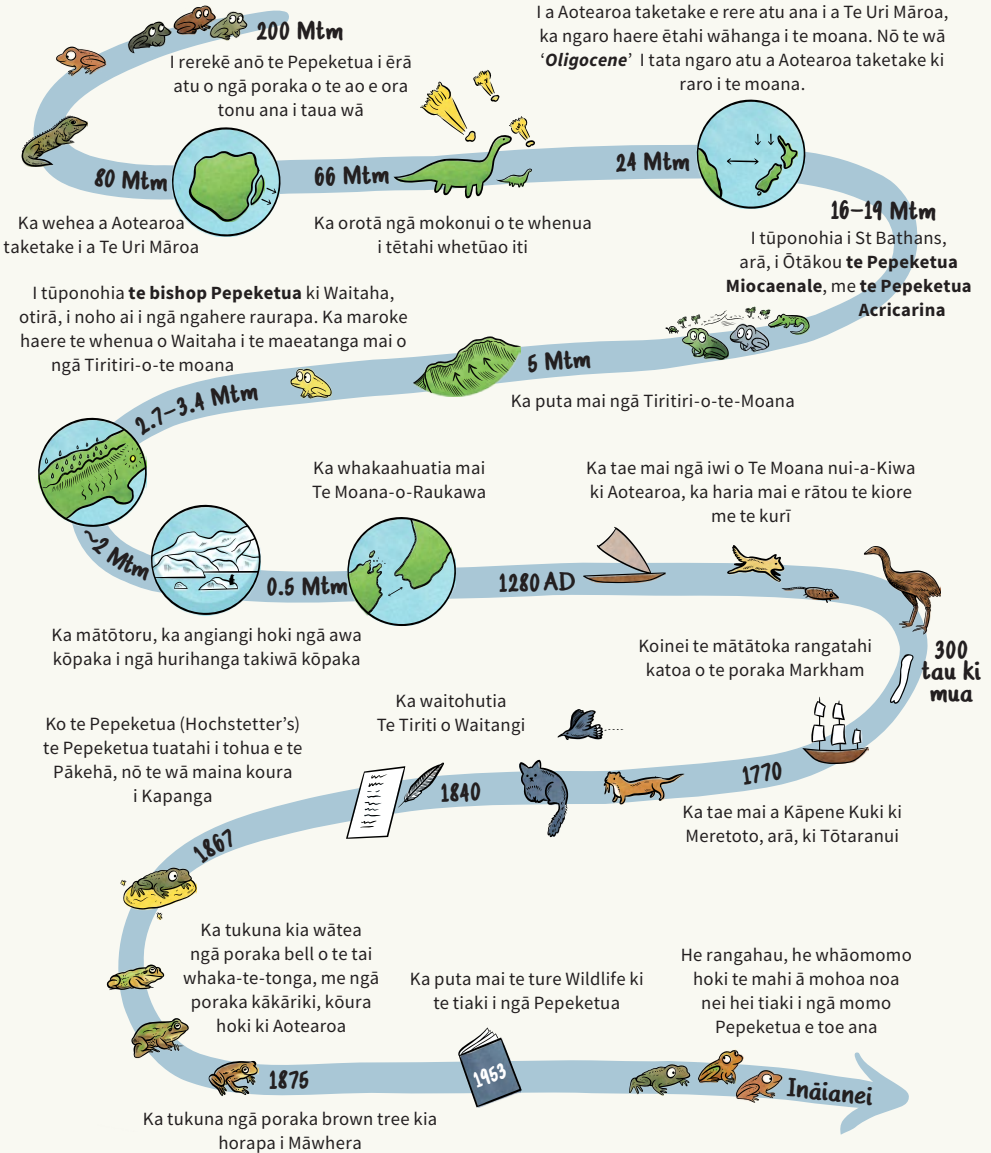
Te Pepeketua Aurora

Te Pepeketua Waitomo

I **kuneroa** ngā Pepeketua mō ngā tau tahi raumiriona neke atu ki tētahi whenua i kapi ai i te waoku kaikonihī ngote ū kore. Nō te taenga mai o te tangata kua mate-ā-moa ētahi o ngā momo o te **whānau moko**, kua whai oranga rānei ki ngā moutere o waho atu, ki ngā wāhi e noho kaikonihī ngote ū kore. Ki Aotearoa whānui kua kino ake te korehāhā o ngā momo nui o te **whānau moko** me te heke haere o te rahi o ngā kararehe.

E whakapae ana, ko te kiore te take matua, i mate-ā-moa ai ngā momo e toru o ngā Pepeketua tinana-nui i muri i te taenga mai o te tangata ki Aotearoa. Arā, ko ngā Pepeketua Markhams, Waitomo, me ngā Pepeketua Aurora anō hoki.

Rārangi wā





Kuputaka

- Urutaunga (urutau)** He tukanga kuneroa e tangata whenua ake ai te rauropi ki tōna taiao.
- Kuneroatanga** Te panoni haeretanga o ngā āhuetanga o ngā momo i roto i ngā whakatipuranga; he ariā tēnei e whakamahuki ana i te whanake haeretanga o ngā momo rauropi mai i ōna tūpuna.
- Iranga** Te mātaītanga o te tuku ihotanga o ngā iranga, o ngā iranga taurangirangi hoki; te hekenga o ngā huaira o ngā mātua o tētahi rauropi ki ōna uri.
- Te Uri Māroa** He whenua rahi tonu ki te tonga i tauora ai i ngā wā i ora tonu ai ngā mokonui me te wā i kapi ai te ao i ngā moko; ko Īnia, Awherika, Amerika ki te Tonga, Ahitereiria, me Aotearoa taketake ētahi o ngā motu o roto.
- Te whānau ika oneone me ngā moko** He kupu whānui e aro ana ki te whānau ika oneone me te whānau moko.
- Whiringa māori** He tukanga māori tēnei, arā, ko te tuku o ngā iringa mai i ngā rauropi kua tangata whenua rawa atu i tōna anō taiao, ki ngā reanga o muri. Ko te whiringa māori te kaitohu matua i te kuneroatanga.
- Te toremitanga Oligocene** He takunetanga i tū e rua tekau mā rima miriona tau ki mua, ko te wā tēnei i tata totohu ai te katoa o Aotearoa.
- Mātai Mātātoka (Kaimātai Mātātoka)** Te mātaītanga o ngā rauropi tūāuri whāioio i roto i ngā mātātoka.
- Taketake** Ka whakaahuatia ngā rauropi, ngā huaira rānei e rite ana/ i hua tuatahi mai rānei i roto i te kuneroatanga o tētahi rōpū.
- Aotearoa taketake** Te paparahi tuawaru o te ao katoa, ināianei kua tata totohu katoa; kei konei tonu a Aotearoa me Karetōnia.



Me pēhea tō manaaki i ngā Pepeketau o Aotearoa?

Me kaha tonu tō whakamōhio i te tangata i tāu i ako ai mō te Pepeketau. Kia tokomaha tonu te hunga e mōhio ana, a kāti, ka tokomaha hoki te hunga hei manaaki i te Pepeketau!

Me haere tonu te ako e pā ana ki ngā poraka taketake. E toru anō ngā puka whakamārama i te punipuni kōrero Pepeketau o Aotearoa: Kurī peke, Pepeketau (Hamilton's), Pepeketau (Hochstetter) me ngā poraka taketake kua mate ā-moa. Arā hoki te paetukutuku, ki nzfrogs.org.





Ko ngā momo Pepeketua pēnei i ngā Markhams, Waitomo me ngā Pepeketua Aurora i mate-ā-moa nō te taenga mai o te tangata ki Aotearoa. Kei te whānau Pepeketua ēnei poraka katoa, otirā i koni atu i te rua rau miriona tau e kuneroa haere ana ēnei momo i Aotearoa i mua i tōna mate-ā-moatanga. Whāia ngā akoranga e pā ana ki te kuneroatanga, ki te hītori aro whenua o Aotearoa, me ngā raruraru kua pā kino ki te Pepeketua i te taenga mai o te tangata.

He mea waihanga e te tīma NZFrogs me ētahi tohunga ētahi rauemi hei whakamārama, hei whakaohoho, hei tautoko hoki i te katoa kia tautiakina ngā Pepeketua.

**CURIOUS
MINDS**
HE HIHIRI I TE MAHARA

ISBN-13: 978-1-0670522-7-0



9 781067 052270