

Paerewa Paetae

Aronga	Pāngarau 1.2		
Ingoa	Te tūhura raraunga ki tētahi tukanga pakirehua tauanga		
Kaupae	1	Whiwhinga	5
		Aromatawai	Ā-roto
Marau akoranga	Te Marautanga o Aotearoa		
Kokonga akoranga	Pāngarau		
Mana rēhita	Kua rēhitatia	Te rā i mana ai	Hakihea 2023
Te rā e arotakengia ai	Hakihea 2028	Te rā i puta ai	Hakihea 2023

Te Whāinga

Ko tā tēnei paerewa he tūhura raraunga ki tētahi tukanga pakirehua tauanga. Ko te pūtake o tēnei paerewa he tautoko i ngā ākonga ki te waihanga pūkenga kia taea ai te whakahaere tūhuratanga tauanga me te pāpono, me te torotoro pūāhua rerekē.

Paearu Paetae

Paetae	Hei tohu i te paetae: <ul style="list-style-type: none">Te tūhura raraunga ki tētahi tukanga pakirehua tauanga.
Kaiaka	Hei tohu i te kaiaka: <ul style="list-style-type: none">Te tūhura raraunga ki tētahi tukanga pakirehua tauanga me te whakatakoto parahautanga.
Kairangi	Hei tohu i te kairangi: <ul style="list-style-type: none">Te tūhura raraunga ki tētahi tukanga pakirehua tauanga me te whakaaro aroā.

Kōrero Āpiti

- 1
- I ahu mai tēnei paerewa paetae i te Taumata 6 o Te Marautanga o Aotearoa (Te Tāhuhu o te Mātauranga, 2017). E hono ana ki te Papa Whakaako mō Pāngarau kei: <https://ncea.education.govt.nz>.

Whāinga Paetae

Te Tauanga, Te Tūhuratanga Tauanga

Ka whai i ngā tikanga mō te tūhuratanga tauanga ki te whakamahere, ki te whakatutuki tūhuratanga:

- ka parahau i ngā taurangi me ngā waeine;
- ka whakatau i ngā pūtakenga o te taurangitanga, pērā i te whakamahi tīpako matapōkere;
- ka whakamahi whakaari tauanga matatini ki te tautohu, ki te whakawhiti whakaaro mō ngā āhuatanga horopaki, pērā i te ia, ngā hononga taurangi, me ngā taurangitanga o roto, o waenganui hoki i ngā tuariraraunga;
- ka whakaputa hīkaro ōpaki mō te taupori, ka hua ake i ngā raraunga;
- ka whakamahi whakaari raraunga me ngā waeine ki te parahau i ngā whakakitenga ka hua ake i te tūhuratanga;
- ka mārama ki ngā tikanga matatika e hāngai ana.

Te Tauanga, Te Tūponotanga

Ka tūhura pūāhua tūponotanga:

- ka whakatairite i ngā tuari tātai me ngā tuari whakamātau, me te aro anō ki te rahi o te tīpako;
- ka tātai tūponotanga i ngā pūāhua e whai wāhi mai ana te raraunga motumotu.

2 E whai ake nei ngā whakamārama mō ngā paearu paetae:

<p><i>Ka tūhura raraunga ki tētahi tukanga pakirehua tauanga.</i></p>	<ul style="list-style-type: none"> • Ka whakamahi i ia wāhanga o ngā tikanga tūhuratanga tauanga hei whakaputa whakatairitenga. • Ka whakamahi i ngā huatau me ngā kupu e hāngai ana hei whakaatu i te mōhio ki te reo matatini o te pāngarau. • Ka whakamahi i te tukanga whakamātau tūponotanga.
<p><i>Ka tūhura raraunga ki tētahi tukanga pakirehua tauanga me te whakatakoto parahautanga.</i></p>	<ul style="list-style-type: none"> • Ko te parahau i ngā wāhanga o roto i ngā tikanga tūhuratanga tauanga te mea nui. Nō reira, ka kitea ēnei: <ul style="list-style-type: none"> ○ ka tūhono i ngā wāhanga o roto i ngā tikanga tūhuratanga tauanga ki te horopaki me te taupori, ki te reo Māori hoki. ○ ka whakaputa kōrero taunaki, hei tauira: <ul style="list-style-type: none"> ▪ ko ngā tātaītanga tauanga whakarāpopoto pērā i te toharite me te tau waenga ▪ ko ngā uara raraunga ▪ ko ngā ia me ngā āhuatanga kōhure o roto i ngā whakaari raraunga

	<ul style="list-style-type: none"> ▪ ka kōrero mō te horopaki me te taupori ki te reo Māori. • Ka parahau i ētahi putanga tūponotanga. • Ka whakahāngai i te kaupapa ki tētahi pūāhua Māori me te tautohu i ngā tikanga Māori e whaitake ana.
<i>Ka tūhura raraunga ki tētahi tukanga pakirehua tauanga me te whakaaro aroā.</i>	<ul style="list-style-type: none"> • Ko te whakaatu aroā tauanga hōhonu te mea nui. Nō reira, ka kitea ēnei: <ul style="list-style-type: none"> ○ ka kōtuitui i te mātauranga tauanga, te tūponotanga me te mārama ki te horopaki, i roto i ngā wāhanga katoa o te tūhuratanga tauanga, ki te reo Māori hoki. ○ ka arohaehae i te tukanga tauanga, tukanga tūponotanga me ngā whakamārama e hāngai ana ki ngā whakakitenga. • Ka whakaaroaro i te whai wāhi mai o ētahi atu taurangi, o ētahi atu āhuatanga rānei e whai pānga ana. • Ka whakahoropaki i te kaupapa ki tētahi pūāhua Māori me te tautohu i ngā tikanga Māori e whaitake ana.

- 3 E whai ake nei ngā whakamārama mō ngā kupu me ngā kīanga whaitake matua o te paerewa nei:

<i>raraunga tau</i>	<ul style="list-style-type: none"> • He taurangi tau motukore, he taurangi tau motumotu rānei te taurangi x, arā te taurangi rāwekeweke. • He taurangi tau te taurangi y, arā te taurangi whakamauru, ā, ko tāna he whakaatu i te kaha o te hononga ki te taurangi x, te taurangi rāwekeweke.
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- 4 Kia taunga te ākonga ki ngā tikanga o te tūhuratanga tauanga hei whakahaere i tētahi tūhura matatini, whakatairite, pānga, houanga, tūpono whakamātautau hoki, arā:
- te whakahaere tūhura tauanga āmio e whai wāhi mai ana te raraunga tau matatini
 - te tūhura i ngā raraunga kua hua mai i tētahi tirohanga tauanga kē
 - te whakatakoto i tētahi pātai whakatairite e hāngai ana ki te huinga raraunga matatini
 - te whiriwhiri me te whakamahi i ngā whakaari raraunga e hāngai ana
 - te whakaputa i ngā tātaianga tauanga whakarāpopoto pērā i te mōkito, te mōrahi, te tau waenga me ngā hauwhātanga
 - te whakawhiti kōrero hei whakatairite i ngā tuari raraunga, pērā i te hanga o ngā raraunga, ngā rohe hauwhātanga, te neke, te inaki, te hora o ngā raraunga, me ngā āhuatanga kōhure

- te whakamārama i ngā whakakitenga, me te whai wāhi mai o te hīkaro ōpaki me ngā taunakitanga.

5 Kia taunga te ākonga ki te tukanga whakamātau tūponotanga, arā:

- te whakatakoto pātai tūponotanga hei tūhura
- te whakamahere i tētahi whakamātau tūponotanga hei tūhura i te pūāhua (me te whakawhiti kōrero, te tautohu hoki i ngā putanga katoa e taea ana, me te rahi o te tīpako e tika ana)
- te whakahaere i te whakamātau me te kohikohi i ngā raraunga
- te whiriwhiri me te whakamahi i ngā momo whakaari raraunga, me te whai wāhi anō o te tuari whakamātau tūponotanga
- te tautohu me te whakawhiti kōrero mō ngā tauira e kitea mai ana i ngā raraunga
- te whakatairite tuari tātai motuhake me te tuari whakamātau e hāngai ana
- te whakaputa kōrero mō ngā whakakitenga.

6 Me honohono te ākonga i ngā whakaaro whānui ki ngā pūāhua ahurea, ki ngā pūāhua pāpori (He Uri Whakaheke):

- ki te tautohu i ngā uara, i ngā kawa me ngā tikanga
- ki te tautohu i ngā kōrero tuku iho, i te mātauranga Māori
- ki te tūhono i te pāngarau ki ngā take o te takiwā, o te hapū, o te iwi, me ngā kaupapa o te ao whānui.

7 Me whakamahi te ākonga i te reo matatini o te pāngarau me ngā rautaki reo maha (He Puna Kōrero) ki te kōrerorero i ngā whakaaro pāngarau nei ki te reo Māori – ā-tuhi, ā-waha, ā-ataata.

8 Arā ngā Tikanga Aromatawai mō tēnei paerewa paetae, kei: <https://ncea.education.govt.nz>.

9 Kuputaka

aroā tauanga hōhonu	statistical insight/understanding
kōtuitui	<i>integrate, connect</i>
parahau	<i>justify</i>
tūhura matatini	<i>multivariate investigation</i>
tūhura pānga (kia rua ngā taurangi tau)	<i>relationship investigation (between two numerical variables)</i>
tūhura whakatairite	<i>comparison investigation</i>
whakaari	<i>displays/representations</i>
tūpono whakamātautau	<i>experimental probability</i>

Kōrero Whakakapinga

I whakakapingia ngā paerewa 91655-91656 e ngā paerewa 92065-92068.

Tātari Kōunga

- 1 Me mātua whakamana ngā Kaituku Akoranga me ngā Whakahaere Whakangungu Ahumahi e te Mana Tohu Mātauranga o Aotearoa ka rēhita ai i ngā hua ka puta mai i ngā aromatawai ki ngā paerewa paetae.
- 2 Ko ngā Kaituku Akoranga me ngā Whakahaere Whakangungu Ahumahi kua mana, ā, e aromatawai ana i ā rātou hōtaka ki ngā paerewa paetae, me uru rātou ki ngā pūnaha whakaōrite e tika ana mō aua paerewa paetae.

Ko te tohutoro ki te Mahere Whakamana, Whakaōritenga hoki

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