



National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

2006

HE RAUEMI MOO TE AROMATAWAI WHAKAROTO

Tohutoro Marautanga: **Maatai Koiora 2.4**

Tau Tohutoro Rauemi Aromatawai Whakaroto Bio/2/4 – A5

“SHORE LIFE”

Supports internal assessment for: Achievement Standard 90460 version 2
Investigate an interrelationship or pattern in an ecological population or community.
Credits: 3

Te Raa i Whakaputaina Ai Teenei Momo Putanga: Oketopa 2006

Te Taahuu o Te Maatauranga

Hei whakamahi moo te tuunga whakauu i te kounga aromatawai aa-roto mai i 2006

He Aratohu Maa Te Kaiako:

He mea hoatu eenei aratohu hei aawhina i te kaiako kia kawē i te aromatawai whai take, tookeke hoki maa te whakamahi i teenei rauemi aromatawai aa-roto. Kaapaa ia me tuku atu eenei aratohu kaiako kia maatairuatia.

Te Horopaki/Ngaa Aahuatanga

Ko teenei mahi he rangahau taurohenga ka whakamahia moo teetehi moana takutai-ngohengohe (ina koa, he takutai, he puuaha raanei). Ko te mahi 1 o teenei aromatawainga he kohikohi, he whakapuukete hoki i ngaa raraunga takiwaa moo te tohanga o teetehi taupori ika i teetehi takutai. Ko te mahi 2 ka paa ki te tukanga, ki te whakaaturanga me te whakamaaoritanga o eenei raraunga takiwaa.

Ko ngaa raraunga ka kohia mai e ngaa aakonga, toona tikanga me hoatu tonu iho ki te kaipupuri i muri i te kohinga, ka toha anoo ai ki ngaa aakonga hei te hokinga anoo ki te akomanga ki te whakaoti i te mahi 2.

Ka aahei pea ngaa kaiako ki te whakamahi i too raatou moohio ki te ukanga me te tohanga o ngaa momo i te waahi haerenga takiwaa, hei tautohu i teetehi raarangi momo ika ka tau moo te maatai i teenei tuuhuratanga. E tika ana pea kia maataia ngaa aahuatanga koirora o ngaa momo i koowhiria i mua i te haerenga takiwaa. Me maatua koowhiri teetehi horopaki e maarama ai te tohanga moo ngaa momo i koowhiria. Ko ngaa ngohe i koowhiria i te haerenga takiwaa ka taea te whakamahi, kia tika ai te waitohu i ngaa momo i te takutai moana.

Ngaa Here:

Mahi 1

Ka aahei ngaa aakonga te mahi takitahi, hei roopuu raanei hei kohikohi, hei whakapuukete i oo raatou raraunga takiwaa. Ina mahi aa-roopuu, toona tikanga KIA mahi takitahi ia tangata, ia tangata, ki te whakapuukete i aana raraunga takiwaa ake. Ko te whakatau moo te whakamahi roopuu, kaahore raanei, kei ngaa aahuatanga peenei i: te tokomaha i roto i te akomanga, te nui o ngaa utauta e waatea ana, te rahi me te waahi o te takiwaa e maataia ana, me te waa e waatea ana.

E kore e hoatu he tohutohu moo ngaa mahi hei mahi (araa, e kore e tohutohutia) engari maa raatou e whakamahi too raatou moohio moo te tango taatauiria, te rahi taatauiria, te rawaka taatauiria, me ngaa tikanga mahi takiwaa anoo hoki hei whakauu ko tehea te tikanga pai rawa moo te kohikohi, moo te whakapuukete hoki i ngaa raraunga takiwaa. Me hoatu hoki te toonuitanga o ngaa utauta, kia aahei ai ngaa aakonga ki te TĪPAKO i teetahi tikanga tango taatauiria e haangai ana ki te momo, ki te rahi me te nui o ngaa koirora e tangohia ana he taatauiria, me te momo noohanga.

Mahi 2

Ka mahi takitahitia i te akomanga, maa te whakamahi i ngaa raraunga i kohia i te haerenga takiwaa. Ko te whakaaro ia, kia aahua matatau ngaa aakonga ki te taiao me ngaa aahuatanga noho o te koirora e maataia ana, i mua i te kawenga i te mahi 1. Ahakoa teeraa he pai tonu pea kia hoatu he tuhipoka me eetehi rawa rangahau, rawa rauemi raanei moo te mahi 2, hei aawhina i te matapaki a ngaa aakonga moo ngaa aahuatanga taiao me te hanga o te koirora. He tikanga anoo, ka taea pea te kawē teetahi matapaki maa te akomanga katoa, i runga i te tirohanga matawhaanui ki ngaa aahuatanga aa-kararehe, ehara raanei i te kararehe hoki, i peeraa ai te tohanga o ngaa momo i te takutai moana. Ko teetahi mahi a ngaa aakonga i kitea, he whaiwhai ake i ngaa aahuatanga o taua raa (ina koa, te ua, te hau, te huka) hei puutake moo te tauira tohanga, engari, te tikanga kia aata whakaaro moo ngaa aahuatanga aa-taiao i taua waahi i te roanga atu o te tau.

Ngaa Hiahia Moo Te Rauemi:

He puutapawhaa he rerekee ngaa rahinga, he taatauiria ira, he tauine 1m, he riipene ine 10m te roa, ngaa rau tautohu, ngaa kii raanei, ngaa raina tiipako, ngaa utauta hei ine i ngaa puutake ehara i te kararehe, ina koa he ine mahana, he puutuhituhi raraunga, he puuine taiahoaho.

<<Kookuhuna Te Ingoa Kura Ki Konei>>

“Nga Kōiora Takutai”

Hei whakamahi moo te aromatawai aa-roto - Achievement Standard 90460 version 2

Investigate an interrelationship or pattern in an ecological population or community Credits: 3

Rau Tohutohu Aakonga

Te Whaainga:

He whakapuukete, he tukatuka, he whakamaaori hoki i nga raraunga takiwaa moo te tohanga o teetehi taupori o teetahi momo kotahi i teetahi takutai one, paruparu raanei.

Nga here:

<<Me kookuhu nga moohiohia moo nga here e paa ana ki te tuuhuratanga, tae atu ki te waa waatea moo te mahi 1 me te mahi 2.>>

Mahi 1: Te Whakapuukete i Nga Raraunga Takiwaa

Kia kaua e piki ake i te 3 te tokomaha o ia roopuu moo teenei mahi. Ahakoa he pai te mahi tahi a te roopuu i te kohinga o nga raraunga, me whakauru teena tangata, teena tangata, i aana raraunga, i aana raraunga.

1. Tiipakona he momo he pai moo te maatai ka whakatau ko teehea te tikanga tino tootika hei kohi raraunga moo toona taura tohanga, araa, o te taupori e maatai naa koe. Tiipakona nga tuemi e haangai ana i nga taputapu tango taataura kua hoatu ki a koe.
2. Āta tuhia te ingoa o te momo e mea ana koe ki te maatai. Tuhia te ingoa o te momo e hiahia ana koe ki te maatai.
3. Kawea te tangohanga hei kohikohi i teetehi taataura maha o nga raraunga moo te tohanga o te taupori e maatai naa koe. Me aata kohi maarire koe i teetahi raraunga rawaka e taea ai te kite te hoahoa tohanga o te taupori.
4. I a koe e whakapuukete ana i nga raraunga, me maatua tuhi hoki nga tirohanga me nga inenga katoa e mahi ana koe moo nga aahuatanga kōiora, ehara raanei i te kōiora raanei (tae atu ki te tohanga o nga taupori o teetahi atu momo) ka paa pea ki te tohanga o nga momo e maatai naa koe.
5. Aata tirohia kua oti oo raraunga te whakapuukete i roto i teetahi hooputu, e aahei ai koe ki te whakamahi i too hokinga ki te kura. Tuhia te tikanga whakamutunga ka whakamahia e koe, ina kohi koe i oo raraunga.

Mahi 2: Te Tukatuka Me Te Matapaki

Me whakaoti teenei mahi i te waa akomanga tonu. Pukapuka tuwhera – nga tuhipoka akomanga me nga rawa rauemi.

Ka whakahokia tikatia atu nga raraunga takiwaa, nga tirohanga me nga inenga naau i tuhituhi, ki a koe. Whakamahia hei whakaputa i teetahi puurongo, kei roto nei ko eenei e whai ake nei:

1. Te whaainga o too maatainga.
2. He whakamaarama i te tikanga tango taataura naau i whakamahi.
3. He raraunga takiwaa moo te tohanga, moo nga tirohanga me nga inenga o nga aahuatanga taiao.
4. He raraunga i aata tukatia ka hoatu i roto i teetehi ripanga, i teetehi kauwhata raanei e haangai ana ki nga momo raraunga i aata kohia. “E haangai ana” te tikanga o teenei, ka aahei koe ki te whakamaaori i te taura tohanga o too momo i aata koowhiria.
5. Whakamaaoritia te taura tohanga o te taupori e whakaaturia ana i nga raraunga i tukatia.
6. Matapakina he aha i puta ai te taataura tohanga taupori naau i whakamaarama. Me maatua whakauru mai e koe nga take moo te taataura e paa ana ki teetehi puutake taiao, me nga urutaunga e haangai ana, o te kōiora. Ka waatea mai oo tuhipoka akomanga me nga rawa rangahau moo te hanga o nga kōiora takutaki, hei aawhina i a koe i too matapakinga.

**TE HOOTAKA AROMATAWAI MOO TE MOMO PUTANGA 2 AS90460;
 BIO/2/4 – A5 NGAA KOIORA TAKUTAI**

E whakawhiwhia ai te tohu (A, M E raanei) me maatua eke te aakonga ki te whakapuaki whakawaa matawhaanui i runga rawa o te tiiaae.

Te Whakawaa Whaka-Te-Hira	Te Whakawaa Whaka-Te-Kua Tutuki Kia Aahua Pai	Te Whakawaa Whaka-Te-Kua Tutuki Me Te Hira
<p>Ka aahei te aakonga ki te whakapuukete otiara ki te tukatuka i ngaa raraunga takiwaa rawaka tonu, te whakamaarama i te tohanga o teetehi momo, me te whakamaarama i ngaa aahuatanga taiao, te urutaunga raanei o teetehi koiora ka noho pea hei puutake moo toona taurira tohanga.</p>	<p>Ka aahei te aakonga te whakapuukete, te tukatuka hoki i ngaa raraunga takiwaa rawaka tonu ki teetehi hoopututanga e haangai ana me te whakamahi i ngaa aahuatanga taiao, i te hanga raanei o te koiora hei whakamaarama i te tohanga o teetehi momo.</p>	<p>Ka aahei te aakonga te whakapuukete, te tukatuka hoki i ngaa raraunga takiwaa rawaka tonu ki teetahi hoopututanga e haangai ana me te whakamahi i ngaa aahuatanga taiao, i te hanga raanei o te koiora hei whakamaarama i te tohanga o teetahi momo.</p>
<p>Eetehi Raraunga Takiwaa Rawaka:</p>	<p>Eetehi Raraunga Takiwaa Rawaka:</p>	<p>Eetehi Raraunga Takiwaa Rawaka:</p>
<p>Kua oti eetehi taatauirira maha tonu e haangai ana ki te taiao me te taupori te whakapuukete, hei hora i ngaa raraunga takiwaa rawaka hei whakaatu i te taurira tohanga.</p> <p>TE WHAKAPUUKETE: Puukete raraunga takiwaa o teetehi momoTe ingoa me ngaa tau, % raanei, o teetahi taupori</p> <p>TE TUKATUKA Te whakariparipa, te whakakauwhaata RĀNEI i ngaa raraunga kia pai ai te maarama, i runga anake i te momo tikanga kohikohi i whakamahia ai.</p> <p>TE WHAKAMAARAMA: Me noho ko te whakamaarama o te taurira tohanga hei whakaahua pono o ngaa raraunga.</p> <p>He whakamaarama moo teetahi aahuatanga taiao, teetahi urutaunga raanei o te koiora i hua ake ai te taatauirira tohanga.</p>	<p>Kua oti eetehi taatauirira maha tonu e haangai ana ki te taiao me te taupori te whakapuukete, hei hora i ngaa raraunga takiwaa rawaka hei whakaatu i te taurira tohanga.</p> <p>TE WHAKAPUUKETE TOOTIKA: Kua oti ngaa raraunga takiwaa te whakapuukete kia aahei ai ia te tukatuka aa taaihoa</p> <p>TE TUKATUKA TOOTIKA. Te whakariparipa, te whakakauwhaata RĀNEI i ngaa raraunga kia pai ai kia maarama mai ai i runga anake i te momo tikanga kohikohi i whakamahia ai.</p> <p>TE WHAKAMAARAORI: Me noho ko te whakamaarama o te taurira tohanga hei whakaahua pono o ngaa raraunga.</p> <p>Ka haere te whakamaaraori i te tohanga ki teetahi aahuatanga taiao, ki te hanga RĀNEI o te koiora.</p>	<p>Kua oti eetehi taatauirira maha tonu e haangai ana ki te taiao me te taupori te whakapuukete, hei hora i ngaa raraunga takiwaa rawaka hei whakaatu i te taurira tohanga.</p> <p>TE WHAKAPUUKETE TOOTIKA: Kua oti ngaa raraunga takiwaa te whakapuukete kia aahei ai ia te tukatuka aa taaihoa</p> <p>TE TUKATUKA TOOTIKA. Kua whakariparipatia, kua whakakauwhatatia RĀNEI ngaa raraunga kia pai ai kia maarama ai i runga anake i te momo tikanga kohikohi i whakamahia ai.</p> <p>HEI MATAPAKI: Me noho ko te whakamaarama o te taurira tohanga hei whakaahua pono o ngaa raraunga.</p> <p>Ko ngaa matapakiki ka here i te taurira tohanga ki ngaa aahuatanga taiao, ki te hanga hoki o te koiora.</p>
<p><< Whakaurua mai te huinga whai tuhipoka tika hei taurira taunakitanga moo Kua Tutuki>></p>	<p><< Whakaurua mai te huinga whai tuhipoka tika hei taurira taunakitanga moo Kua Tutuki>></p>	<p><< Whakaurua mai te huinga whai tuhipoka tika hei taurira taunakitanga moo kua hira>></p>