

Akoranga Ngāwhā

He wāhanga a Rotorua o te rohe puia o Taupō. Tirohia te pikitia i raro, hono atu rānei ki te whārangi ipurangi GNS. <https://www.gns.cri.nz/Home/Learning/Science-Topics/Volcanoes/New-Zealand-Volcanoes> Ka toro atu tēnei rohe i Whakaari (White Island) ki Ruapehu, ā, he maha ngā ngāwhā me te ahi tipua.



Kua tatauhia he Wainui tō Rotorua e takoto ana i raro i te mata whenua, kotahi kiromita te hōhonu. He tino wera rawa atu te Wainui i te tokarewa e rere ana i raro iho. Ka hua ko ngā ngāwhā me ngā puia rongonui o Rotorua.

Kia rua ngā mea o te ngāwhā e kīia ai he ngāwhā, arā, ko te wera me te wai.

Ka tīmata tēnei mahi i te tūtakinga o ngā papaneke. Ka noho a Aotearoa i runga i te ripa hapa i te tūtakinga o ngā papaneke o Ahitereria me Te Moana-nui-a-Kiwa. Ka āinga whakararo te papaneke o Te Moana-nui-a-Kiwa, ā, ka whakarewa te toka o te papaneke i te tokarewa.

Ka papī te waipapa (ko te nuinga nā te marangai) ki roto i te toka koropungapunga me ngā tawhā (kua ahū mai ai i te ahi me te rū whenua tipua) i roto i te tawhā o Rotorua. Ka whakawera te ahi pūrū i te wai pēhanga. Mehemea ka hōhonu ake te wai i raro iho i te mata o te whenua, ka nui ake te pēhanga.

Ka puke ake te wai wera i te mea he ngāwari ake tērā i te wai makariri, ā, ka neke atu i tētahi wāhi nui te pēhanga ki tētahi wāhi iti te pēhanga. Ka tere puke i ngā matata o te tawhā; ka āta puke ake i te toka koropungapunga. Ka hua, ka puta atu te wai nei hei ngāwhā, hei puia, hei korohū hoki e puta nei i ngā tawhā.

Mō ngā pitopito kōrero, tirohia te hononga ā-ipurangi ki te GNS <https://www.gns.cri.nz/Home/Learning/Science-Topics/Geothermal-Ecosystems/Location-Location-Location>

Ngā āhuatanga matua o te Ngāwhā

Āhuatanga Matatiki Pūhau māota

- He hōhonu, he wai mā e koropupū ake ana
- Ka pūrena te wai
- Hīmoemoe - he hukahuka te āhua

- Kua tata hū te wai - 90 ki te 100 te tākiri
- Ka tere puke i ngā tawhā, i ngā hapa rānei
- Whangapiro (Rachel Spring) i te taha o ngā Puna Kaukau Kahurangi he puia pūhau māota.



Ngā āhuatanga o te ngāwhā

- Ka puke ake te wai i tētahi rua i raro iho i te whenua
- He putanga kūiti kua uhia ki te tūāpapa ngāwhā
- Ka pahū te koromahu me te wai
- He rerekē ngā wā e pahū ai. Tau ai ēnei whakamatuatanga engari mā te wā e huri ai
- Hīmoemoe - he pāhukahuka te āhua
- He wai tino wera – 90 ki te 100 te tākiri
- Ko Pōhutu i Te Puia te taurira rongonui o tētahi ngāwhā.



<http://www.tepuia.com/rotorua-geothermal/>

Ngā āhuatanga o te Ngāwhā Poharu (Mud pool)

- Kei te āhua o ngā ihirangi kōhuke, ka rerekē ngā tae o te poharu wera
- He pūnehu, he paru te āhua
- Ka āta rewā ake te korohū me te wai i te kōhatu koropungapunga, ā, ka whakararu i te wai, i ngā kōhatu me te one o te mata o te whenua kia hua ko te poharu wera

- He koropupū te āhua, heoi, ko te haurehu tēnei e rewa ake ana i raro iho i te whenua
- Iti ake te pāmahana - 30 ki te 70 te tākiri
- Ka rerekē te mātotoru o te poharu i te āhua o ngā kaupeka me te nui o te ua
- He maha ngā ngāwhā i Kuirau



<http://www.waiotapu.co.nz/attractions/mud-pool/>

Nga āhuatanga o te Ngāwhā (Fumaroles)

- He putanga rua kia puta atu ko te korohū me te haurehu i raro iho i te whenua
- He tirituri i ētahi wā e rangona ai te hihī me te horu
- Ka kitea ngā putu pungatara i te putanga, he mangu, he kōwhai rānei te tae
- Kei Kuirau Park, kei Rotorua whānui hoki ēnei ngāwhā

Mātakina te kiriata YouTube i raro iho nei, nā ngā kaipūtaiao o GNS, kia kitea ngā tauira me ngā whakamāramatanga.

<https://www.youtube.com/watch?v=CdNi43qQa7o> – Ngā āhuatanga o ngā ngāwhā GNS i Rotorua

PŪ MATAPAKI

E mōhio ana koe he aha e puta ai te haunga hēki pirau?

Nā te haukini te haunga hēki pirau kua puta atu ki te kōhauhau i ngā rohe o ngā ngāwhā. Ka waimarie mehemea ka noho, ka mātoro rānei koe i konei ka taunga te ihu ki te haunga!

He aha te tikanga o te ngāwhā i ēnei rā?

Whakawera, kaukau, tunu kai, mahi tūruhi, whakahiko

Kei hea ngā tūnga ngāwhā pai hei toro māu?

Me pēhea e tiakina ai e tātou tēnei tino taonga?

He mahi hei whakatutuki māu

* Hangaia tētahi puia - Patara Coke/Whakamātautau

Mentos <https://www.youtube.com/watch?v=ZwyMcV9emmc> - Mātakina tēnei kiriata YouTube kia kitea te ngāwari o te whakamātautau nei

* Whakamahia tēnei whārangi ipurangi kia kitea ngā āhuatanga o te ngāwhā. <http://www.1000springs.org.nz/>

* Te rauemi o te whanga pungatara <http://www.doc.govt.nz/documents/getting-involved/students-and-teachers/field-trips-by-region/bop/sulphur-bay-teaching-resource/sulphur-bay.pdf>

Ngā ngāwhā mō ngā Mātua

He maha ngā tūnga ngāwhā i Rotorua hei toro mā koutou ko āu tamariki. Ko te nuinga he utu kore. Puta atu kia kite ai koe i ēnei wāhi, ko te nuinga he pūrākau mōna hei ako māu. Kua tāpirihia ngā whārangi ipurangi.

Mahi utu kore

- Te Ngahere o Whakarewarewa - Te ara o Pōhaturoa . Ka titiro whakararo tēnei ara i te papa kāinga Ngāwhā o Te Puia me te tāone nui o Rotorua. He ara rawe, he kitenga rawe. Ka taea e tētahi paramu huarahi katoa. Ki te hoki koe i te ara i haere ai koe whai muri ake i te taenga atu ki te tirohanga, ka taea e tētahi tēnei hīkoi te whakatutuki i ngā hāora e rua me te hāwhe, iti ake rānei. Haere ki te whare pārongo kia riro i a koe tētahi mahere.

<http://redwoods.co.nz/walk/long-walks/>

<https://motowalknz.wordpress.com/2015/12/21/the-redwoods-pohaturoa-track/>

- Te Puia - He kāinga a Te Puia ki ngā āhuatanga maha o ngā ngāwhā. He maha ngā tīkiti utu kore ka riro atu ki ngā whānau kia kitea ngā momo ngāwhā, tae noa atu ki a Pōhutu. Hono atu ki tēnei whārangi ipurangi, ā, whakakīia te tono. <http://www.tepuia.com/domestic-and-local-visitors/whanau-card-application-form/>
- He maha ngā puna wai wera utu kore i te rohe. Hono atu ki tēnei whārangi kia kitea te mahere ki te puna o Butchers i Reporoa me te puna wera o Waitapu Wera me te Makariri <https://www.google.co.nz/maps/dir/Rotorua/butchers+pool/@-38.2950298,176.1690277,11z/data=!3m1!4b1!4m13!4m12!1m5!1m1!1s0x6d6e983d82f6b22b:0x500ef6143a39931!2m2!1d176.2497461!2d-38.1368478!1m5!1m1!1s0x6d6eaf36a135f61b:0x9afd9f50e479e80d!2m2!1d176.3429834!2d-38.4533784>
- Kuirau - He maha ngā āhuatanga ngāwhā o tēnei papa hapori i te pokapū o Rotorua, e kīia nei ko ngā ngāwhā poharu (mud pools), ko ngā ngāwhā (fumaroles), ko ngā puna wera (hot pools). Hīkoi noa atu ki te kuhu atu i ō waewae i te puna kaukau waewae. Me pānui pea te kōrero mō te Roto o Kuirau i mua i tō haere. <http://www.rotorualibrary.govt.nz/maori/Documents/Kuirau%20and%20the%20Taniwha%20-%20English.pdf>
- Sulphur Point - Me hīkoi, me eke pahikara rānei mā te ara whānui, ka tīmata ki tua i te whare pupuri taonga o Rotorua, ā, whāia atu ki uta ki Motutara (Sulphur Bay). He maha ngā momo ngāwhā ka kitea e koe i tō haerenga atu, ā, ka taea e koe tētahi wāhi ngāwhā te takahi. Tirohia tēnei akoranga i te akomanga e taea ai e koe te kite ngā wāhi e hiahia ana. <http://www.doc.govt.nz/documents/getting-involved/students-and-teachers/field-trips-by-region/bop/sulphur-bay-teaching-resource/sulphur-bay.pdf>