

TAU 5-8

Te Tuatara me te Rā

Tuatara and the Sun



TIROHANGA WHĀNUI

Tūhura he aha e tino hira ai te Rā mō te tuatara ka ako i ngā rerekētanga i waenga i ngā kararehe toto mātao me ngā kararehe toto mahana.

NGĀ HONO O TE MARAUTANGA O AOTEAROA

NGĀ WĀHANGA AKO:	NGĀ WHĀINGA PAETAE:	NGĀ TAUMATA:	NGĀ TAU:
Pūtaiao: Te whakawhitiwhiti kōrero i roto i te pūtaiao	Te whakawhānui i te reo me te whakawhanake i te mōhio ki ngā tikanga maha e whakaaturia ai te ao tūroa..	3-4	5-8
Ingarihi	Te Whakarongo, te Pānui me te Tiro tiro	3-4	5-8

NGĀ MŌHIOHIO MĀ TE KAIKO:

Raupapa ako



TE WHAKAATU
MŌHIOHIO



TE TŪHURA ME TE
WHAKATEWHATEWHA



TE HANGA ME
TE WHAKAATU



TE WHAKAATA ME
TE WHAKAWHĀNUI



ME WHAITAKE

Ngā koronga ako

E ako ana ngā ākonga ki te:

- tautuhi he aha e hira ai te Rā ki te tuatara
- whakaatu i ngā rerekētanga i waenga i ngā kararehe toto mātao me ngā kararehe toto mahana

Paearu angitu

Ka taea e ngā ākonga te:

- whakaahua he aha e hira ai te Rā ki te tuatara
- kōmaka i ngā tauākī e whakaahua ana i ngā kararehe toto mātao me ngā kararehe toto mahana

Ngā rauemi e hiahiatia ana

Kiriata: **Te Tuatara me te Rā**

Ngā Tautoko Tāpiri

He taketake te tuatara ki Aotearoa, ka mutu he moko whakaraerae ēnei. He tuaiwi, he unahi ō ngā moko, ā, he whakawhānau hua. Ahakoa nō te kāwai moko te tuatara, ehara i te mokomoko. Ko ngā whanaunga tino tata o te tuatara ko tētahi kāhui moko kua korehāhā e kīia ana ko te Rhynchocephalia. He tino rerekē ōna āhua, arā e rua ōna rārangi niho i runga o te pārihirihi, he niho-hua pūtaratara me tētahi karu tuatoru.

Ngā Kupu

Tuatara, kararehe toto mātao, kararehe toto mahana, moe hōtoke, moko, ora, rā, pōkākā.

E tohu ana ngā kuputuhi miramira **karaka** i tētahi hono ki ētahi rauemi atu anō. Mēnā kua tāngia e koe tēnei rauemi, me hoki ki schoolgen.co.nz/for-teachers/resources/ hei toro atu ki ngā rauemi kua honoa.

WHEAKO AKO

Kia mōhio: He whakaaro noa iho ēnei, ā, e whakatenatenahia ana ngā kaiako kia whakahāngaitia te mahi ki ngā hiahia me ngā kaingākau o ā rātou ākonga.



TE WHAKAATU MŌHIOHIO

He tata ki te 20 meneti

Te whakaatu i te tuatara me ngā kararehe toto mātao

- Tirohia te kiriata **Te Tuatara me te Rā**
- Tirohia hoki te ataata Genesis School-gen: **Tuatara encounter** (4 meneti te roa). Kei roto hoki te ataata i te kiriata i runga ake.
- I muri i te mātakitaki, matapaki he aha te tuatara, he aha e hira ai te rā ki te tuatara, ā, he aha te kararehe toto mātao.

Tuatara

Ingoa pūtaiao:
Sphenodon Punctatus

Taupori:
Iti iho i te 100,000

Taketake ki Aotearoa
(e noho anake ki Aotearoa)

Ngā wāhi kua kitea:
I te koraha noho noa iho ai te tuatara i ngā motu, i ngā wāhi kāore he kaikonihī rāwaho.



Picture: nā Bully May
https://www.genesis.school-gen

He aha te tuatara?

He moko whakaraerae te tuatara, he taketake nō Aotearoa. He tuaiwi, he unahi tō ngā moko, ā, he whakawhānau hua. Ko te kupu tuatara koirā 'ngā taratara kei te tuarā'.

Ko ngā whānau tino tata o te tuatara ko tētahi kahui moko kua korehāhā e kīia ana ko ngā moko tuauri. Kāore ōna ritenga ki tētahi atu kararehe onāianei, ka mutu he āhuatanga ahurei tuauri ōna.



Ngā kararehe toto mātao

Ka huri te pāmahana o ngā kararehe toto mātao, pērā i ngā moko, ngā ika, poraka, nākahi me te tuatara. Ka whakamahia te pūngao o te Rā hei whakamahana. I te makariri kāore e tino ngangahau, ā, he iti iho te kai.

Kāore e werawera, e hāwiniwini rānei ēnei kararehe, ka neke tūnga noa iho kia tika ai te pāmahana. I te rangi mahana ka huna pea i rō rua, ka kimi marumaru rānei.



Ngā kararehe toto mahana

Me auau te kai a ngā kararehe toto mahana kia noho ai ki te pāmahana pai. Ka whakamahia te pūngao o te kai hei whakamahana. I te mea me nui tonu te kai a ngā kararehe toto mahana he nui tonu te wā ka pau ki te aruuru me te kai. Ko ētahi o ngā kararehe toto mahana ko te tangata, ngā manu, ngā tohorā, ngā ngeru me ngā kuri.

Te whakamātaotao me te whakamahana
I te rangi mahana, ka werawera, ka tūgāngā hoki ngā kararehe toto mahana hei whakamātaotao. Ka makere ngā huruhuru hōtoke o ētahi i te raumati. He huruhuru ō ngā kararehe toto mahana me ngā mōmona hei āwhina kia noho mahana ai.





TE TŪHURA ME TE WHAKATEWHATEWHA

Ka rerekē pea te wā

Mēnā ka taea, me haere atu pea ngā ākonga ki te kite i ngā tuatara, i ētahi atu kararehe toto mātao rānei (pērā i ngā moko, ngā ika oneone rānei) hei mātakitaki i te āhua o ēnei kararehe i roto, i waho o te rā. Tirohia te huarere me te tūnga o te Rā i tō haerenga atu ka tiro mēnā he pānga tō ēnei ki te āhua o ngā kararehe toto mātao. Ka kitea te tuatara i ngā motu maha, pērā i Tiritiri Matangi, i te raki o Tāmaki Makaurau, me Matiu (Te Whanganui-a-Tara). Kei ētahi rohe kararehe, pāka kararehe kōwao hoki ngā tuatara, pērā i te Auckland Zoo, Hamilton Zoo, Zealandia (Te Whanganui-a-Tara) me Kiwi Birdlife Park (Tāhuna).

Tērā rānei, he tuatara tā tētahi kaimahi, ākonga rānei hei mōkai e taea ai pea te heri mai kia āta tiroirohia.

TE WHAKAARO PĒRĀ I TĒTAHI TOHUNGA PŪTAIAO:

Te mātakitaki i ngā kararehe toto mātao



TE HANGA ME TE WHAKAATU

He tata ki te 20 meneti

Ngā tauira keretao ātārangi

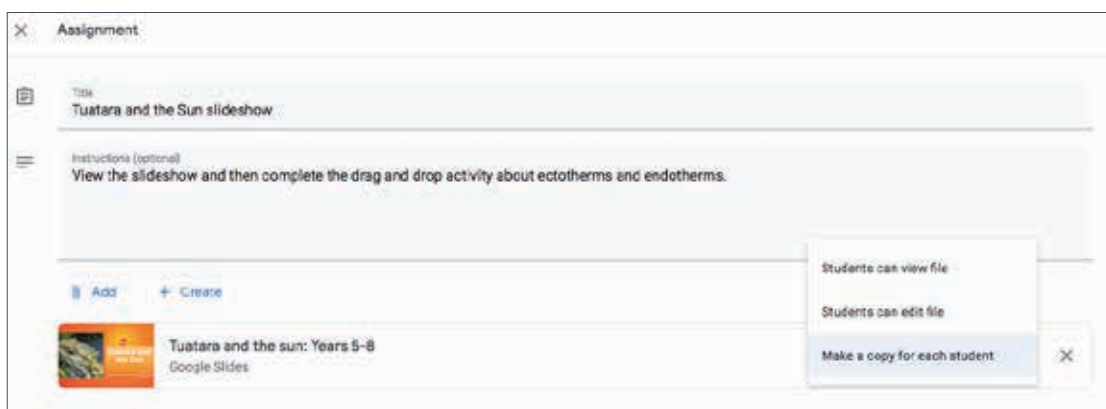
Me hanga keretao tuatara, toi hangarua tuatara rānei me ētahi atu o ngā kararehe toto mātao me ngā kararehe toto mahana. He mea hanga ēnei keretao mā ngā rōra taora pepa, pepamārō, whītau, huruhuru manu, kanohi ruru me tētahi pepa taora kano.



TE WHAKAATA ME TE WHAKAWHĀNUI

He tata ki te 10 meneti

Me wehewehe ngā ākonga i ngā kararehe ki ngā mea toto mātao me te mahana ki te whārangi 5 o tēnei mahi, mai i te **kiriata Te Tuatara me te Rā** rānei (kiriata 14 me te 15). Kia maumahara ki te tuku i te kiriata hei taumahi i te ripa mahi akomanga o tō Akomanga Google, ka tīpako i te 'hanga tārua mā ia ākonga' i te tahua takaiho (e ai ki te pikitia) e whiwhi kape ai tēnā ākonga, tēnā ākonga kia mahi ai te tō ka whakataka mā ia ākonga.



Tō ka whakataka: Ngā kararehe toto mātao me te toto mahana

Tapahia mai ngā whakaahuatanga kei ngā pouaka kuputuhi i te taha matau ka whakapiri atu ki ngā tiwae matau.

Ngā kararehe toto mātao (ectotherms)	Ngā kararehe toto mahana (endotherms)

Ka whiwhi kaha i te taiao, hei taurira, te Rā

Ka whiwhi kaha mai i te kai

Ka neke kia whitingia e te rā kia mahana ai

Ka taea te werawera, te hāwiniwini rānei kia rerekē ai te pāmahana

Me auau te kai

Tē taea te werawera, te hāwiniwini rānei

Kāore e ora i ngā pāmahana tino wera, tino makariri rānei

Ka pūmau te pāmahana

Ētahi mōhiohio anō me ngā rauemi tautoko

- Pokapū Akoranga Pūtaiao
- Ataata o ngā kōrero o te papa kararehe: He tino rerekē te tuatara

NGĀ WHAKAUTU A TE KAIKO:

Ngā kararehe toto mātao (ectotherms)	Ngā kararehe toto mahana (endotherms)
Kumi ihuroa Tuatara Nākahi	Kurī Hōiho Tangata

Ngā kararehe toto mātao (ectotherms)	Ngā kararehe toto mahana (endotherms)
• Ka whiwhi kaha i te taiao: hei tauira te Rā • Ka neke kia whitingia e te rā kia mahana ai • Tē taea te werawera, te hāwiniwini rānei • Kāore e ora i ngā pāmahana tino wera, tino makariri rānei.	• Ka whiwhi kaha mai i te kai • Ka taea te werawera, te hāwiniwini rānei kia rerekē ai te pāmahana • Me auau te kai • Ka pūmau te pāmahana.



ME WHAITAKE

He tata ki te 15-30 meneti

- Matapakina ngā mōrearea mō te tuatara, hei tauira, te huringa āhuarangi, ngā kaikōnihi pērā i te kiore me ngā wīhara me te ngaro o te nohoanga. He aha ngā mea ka taea e tātou mō ēnei mōrearea? Me pūmau ki tētahi mahi kotahi kia whaitake ai mō tētahi o ēnei mōrearea. Hei tauira, me tīmata ki te hopu kiore, me whakatipu rākau, me hīkoi, eke papaneke rānei mō ngā haerenga poto.
- Mēnā kei te haere koe ki ngā motu kei reira ngā tuatara, kaua rawa e heri kīrearea, me āta tiro tiro i ō pāhi mō ngā kīrearea i mua i tō wehe i te tuawhenua. Kaua rawa e eke ki ngā motu kāore e whakaaetia te tau ki reira.
- Tautokona he kaupapa whakarauora kei reira ngā tuatara e noho ana i tētahi pāka kararehe kōwao, papa kararehe rānei e āwhina ana ki te whakatipu.
- Ki ōu whakaaro ka taea te whakahoki mai anō i te tuatara ki te tuawhenua o Aotearoa? Me pēhea tā tātou āwhina kia tutuki ai tēnei? Me whakamātau i te tuhinga whakawhere hei wetewete i tō tohe.



Ko te tūmanako i pārekareka ki a koe tēnei rauemi STEM mātauranga.

He kaupapa hāpori nā Genesis a School-gen kia hihiko ai ngā kaiako, ngā tamariki me ngā whānau ki te STEM.

Mō ētahi rauemi koreutu atu anō tirohia tā mātou [paetukutuku Genesis School-gen](#) ka whai i a mātou i runga o Pukamata me Kapoata @schoolgennz