

TAU 2-4

# Pūngao Kōmaru me te Huarere

## Solar Power and Weather



### TIROHANGA WHĀNUI

Ako mō te pūngao kōmaru, ā, he pēhea te whakaawe a te huarere i te pūngao kōmaru.

### NGĀ HONO O TE MARAUTANGA O AOTEAROA

| NGĀ WĀHANGA AKO:                                                   | NGĀ WHĀINGA PAETAETAE:                                                                                                                                                                                      | NGĀ TAUMATA: | NGĀ TAU: |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|
| Pūtaiao:<br>Papatūānuku me Tua Atu:<br>Ngā pūnaha tātai arorangi   | Tuari huatau mō te Rā me te Marama<br>me ngā pānga ahupūngao ki te pōkākā<br>(wera) me te aho e wātea ana ki<br>a Papatūānuku.                                                                              | 1-2          | 1-4      |
| Te ao ahupūngao:<br>Ngā uiuinga ahupūngao<br>me ngā ariā ahupūngao | Tūhuratia ngā tauira o ia rā o ngā<br>āhuatanga ahupūngao, pērā i te<br>nekehanga, ngā tōpana, te hiko me<br>te autō.<br><br>Te kimi me te whakaahua i ngā tauira<br>māmā i roto i ngā tītōhunga ahupūngao. | 1-2          | 1-4      |
| Pūtaiao                                                            | Te Āhua o te Pūtaiao: Te tūhura i roto i<br>te pūtaiao                                                                                                                                                      | 1-2          | 1-4      |

## 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:

- tūhura he aha te pūngao kōmaru, ā, he pēhea te mahi mā te whakamahi i ngā pūngao o te Rā.
- tūhura he pēhea te whakaawe a te huarere i te pūngao kōmaru.

### Paearu angitu

Ka taea e ngā ākonga te:

- whakatakoto ō rātou whakaaro mō te pūngao kōmaru.
- mātakitaki te huarere me te tautuhi he pēhea te whakaawe a te huarere i ngā pūrere pūngao kōmaru.

### Ngā rauemi e hiahiatia ana

Tūhonohono rorohiko me te ipurangi, ngā pūrere hiko kōmaru, ngā pūrere kāinga, ngā taonga tākaro rānei, kiriata **Pūngao kōmaru**, pūnaha pūngao kōmaru (kōwhiringa).

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/](https://schoolgen.co.nz/for-teachers/resources/) hei toro atu ki ngā rauemi kua honoa.

## Ngā Tautoko Tāpiri

Ko te pūngao kōmaru he pūngao tērā ka ahu mai i te pūngao pōkākā me te aho o te Rā. E rua ngā momo pūngao kōmaru matua: kōmaruhiko (PV) me te hangarau pōkākā kōmaru (ka whakamahia hei whakawera wai wera). E pā ana tēnei mahi ki te hiko kōmaruhiko, ā, koinei te tino pūngao kōmaru e tino whakamahia ana mō ngā rama pūngao kōmaru, ngā taonga tākaro me ngā pūrere kāinga kōmaru iti pērā i ngā tātaitai kōmaru, ngā whakahiko waea me ngā kete STEM kōmaru. Ka kitea e koe ngā tauira o ēnei i ngā toa pūrere hiko.

He pēhea te mahi a te pūnaha pūngao kōmaru i te Ataata Aotearoa nā My Solar Quotes  
Ataata Pūngao Kōmaru nā Little School Science Learning Hub: [Tuhinga pūngao kōmaru](#)

## Ngā Kupu

Rā, huarere, pūngao kōmaru, papa kōmaru, kāpuapua, kōmaru hiko, paki, hiko, papatohu.

## 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 15 meneti

### Te whakaatu i te pūngao kōmaru me te huarere

- Tirohia te kiriata School-gen [Te whakaatu Pūngao kōmaru](#).
- I muri i te mātakitaki, me matapaki i te pūngao kōmaru me ngā papa kōmaru. Matapakitia ngā tauira o te pūngao kōmaru i te takiwā o te kura me te hāpori.
- Mēnā he papa kōmaru kei tō kura, i tētahi whare, he wāhi tūtata rānei, me haere ki te hīkoi poto ka tirohia. Ka taea e ngā ākonga te whakatakoto o rātou whakaaro mō te pūngao kōmaru.



## TE TŪHURA ME TE WHAKATEWHATEWHA

He tata ki te 20 meneti

Heria ngā ākonga ki waho ki te tiro tiro i te huarere me te whakaaroaro mō te pūngao kōmaru.

- Tukuna ngā whakaaro me pēhea te whakaahua i te huarere, te tuku tauira pērā i te rangi paki, hau hau, kāpuapua me te marangai. Me matapaki ka taea e te huarere te whakaaawe he aha ngā momo whakaputaranga hiko pai rawa.
- He pātai ā ngā ākonga mō te huarere me te Rā? Matapakitia ngā pātai a ngā ākonga ka tūhuratia ngā whakautu, hei tauira: Kei te kaha te whiti o te rā i tēnei ra? He kapua kei te rangi? Kei te rongu koe i te pūngao pōkākā me te aho i tēnei rā?
- Whakamahia te raumahi ākonga: **Pūngao Kōmaru me te huarere** hei whakatakoto i ngā kitenga huarere i te ata me te ahiahi (tirohia te whārangi 5). Mō ngā ākonga tamariki ake, ka taea e te akomanga te matapaki me te hopu i ngā kitenga.
- Heria tētahi pūrere kāinga kōmaru iti pērā i tētahi **whakahiko waea kōmaru**, tātaitai kōmaru, **taonga tākaro kōmaru ki waho**. Ka mōhio anō koe mēnā kei te mahi? Ka whakaaawe te huarere i te āhua o te mahi a te papa kōmaru? Ki te āraia te rā e te kapua ka whakaputa hiko tonu te papa kōmaru?
- He rerekē te mahi a te rama kōmaru: ka kā mai mēnā ka āraia e te ringa te papa kōmaru. He aha i pērā ai? (He pūhiko kei roto hei whakaputu i te hiko ka whakakāngia hei whakakā i te rama i te wā kāore he pūtake aho. Ka mahi hiko ngā kōmaruhiko aho kōmaru me te whakaputu hiko i te awatea, ā, ka whakamahi i te pō).
- Whakatauritea ngā kitenga huarere ki ngā kitenga pūrere kāinga/tākaro kōmaru. Matapakitia ngā tauira ka kite koe. Hei tauira, i ngā wā kohea, paki ko te tikanga ka nui ake te mahi pūngao kōmaru.

Putā atu ki waho ka tuhi i te huarere, ā, mēnā kei te mahi tō pūrere kōmaru i taua huarere ki te tūtohi i raro.

| Ngā raumahi ākonga: Pūngao Kōmaru me te Huarere |                                                                                                                                                                                                                                                                                                                  |                                                                                |                                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|                                                 | Wā                                                                                                                                                                                                                                                                                                               | Whakaahuatia te huarere<br>Kei te paki, ua, hauhau, marangai rānei?            | Ngā kitenga pūrere<br>kāinga, tākaro kōmaru<br>hei taurira, tohu mēnā i mahi, tohu rānei<br>mēnā kīhai i mahi. |
| HUARERE<br>O TE ATA                             | <b>Wā:</b><br>(porohitatia te huarere i kite koe)<br>         |                                                                                |                                                                                                                |
|                                                 | <b>Wā:</b><br>(porohitatia te huarere i kite koe)<br>         |                                                                                |                                                                                                                |
| PĀMAHANA                                        | <b>Pāmahana i waho</b><br>(porohitatia te pāmahana o te ata)                                                                                                                                                                                                                                                     | <b>Wera</b><br><br><b>Mahana</b><br><br><b>Mātaotao</b><br><br><b>Makariri</b> |                                                                                                                |
| HUARERE<br>O TE AHIAHI                          | <b>Wā:</b><br>(porohitatia te huarere i kite koe)<br>   |                                                                                |                                                                                                                |
| PĀMAHANA                                        | <b>Pāmahana i waho</b><br>(porohitatia te pāmahana o te ahiahi)                                                                                                                                                                                                                                                  | <b>Wera</b><br><br><b>Mahana</b><br><br><b>Mātaotao</b><br><br><b>Makariri</b> |                                                                                                                |
| ĒTAHI ATU TUHINGA                               |                                                                                                                                                                                                                                                                                                                  |                                                                                |                                                                                                                |

Hono Google Docs



## TE HANGA ME TE WHAKAATU

He tata ki te 25 meneti

- Hangaia he umu kōmaru hei tūhura atu anō i te pūngao kōmaru. Tirohia te **hono** mō tētahi aratohu me te ataata me pēhea te mahi i tētahi.



## TE WHAKAATA ME TE WHAKAWHĀNUI

He tata ki te 10-20 meneti

- He aha ō mōhio ināianei mō te pūngao kōmaru me te huarere?
- He pēhea te whakaawe i te pūngao kōmaru i ngā rā paki, kāpuapua rānei?
- Mēnā ka taea, haere ki tētahi pūnaha kōmaruhiko ka mātakitaki i tana papa whakahaere, ine rānei kia kite ai e hia te hiko ka whakanaotia. He whirinaki tēnei ki te huarere?



## ME WHAITAKE

He tata ki te 15 meneti

- Kei te nui ake te hiahiatia o ngā pūrere kāinga kōmaru, whakahiko, rama, rātana, me ētahi atu pūrere i ngā wā katoa. He aha ngā pūrere kōmaru me ngā pūrere hiko ka kite koe i tō takiwā noho? Whakaaturia ngā tauira.
- Ka penapena hiko te pūngao kōmaru me te whakaiti i te whakamahi pūhiko, pokenga me ngā tukunga waro. Me pēhea e huri ai tō kura, tō whānau rānei ki tētahi kōwhiringa pūngao kōmaru, whakahou rānei e penapena moni ai me te tiaki i a Papatūānuku? Hei tauira, mā te whakawhiti ki tētahi whakahiko kōmaru mō tētahi pūrere, waea rānei ka taea te whakaiti ō tukunga waro me te whakaroa ake i te ora o ō pūhiko!

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

He kaupapa hapori 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