

NGĀ PUKA RAPANGA PĀNGARAU TAUNAKI

# Ngā Ōrautanga me Ngā Tau-ā-Ira

TAU 5 & 6

## Pukapuka Kaiako

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# Rapanga 1

Whakamahia ngā pounamu e 3 hei tūhura i ngā rerekētanga o te wai ka taea e rātou.

Kōrerorerotia he aha te ōrau o ia pounamu katoa kua kī i te wai?  
Kōrerorerotia he aha te ōrau wai me tāpiri hei whakakī katoa i te pounamu.

Kia rite ki te whakamārama me te whakatika me pēhea tō mōhiotanga.

## Hei āwhina i te kaiako

I mua i te whakarewatanga mahia he kaute kōrihi i roto i te whitu tīmata mai i te 0. Tuhia ki runga i te papa pēnei:

7 14 21 28 35 42 49 56 63 70  
77...

Tonoa ngā ākongā kia tautohu i ngā tauira e kitea ana e rātou.

Tuhia ngā take whakareatanga, mō ngā ripanga wā e 7. Tonoa te ākongā ki te whakaoti i ngā take whakarea me te tūhono i waenga i te tatau kōrihi (tīpoka tatau) me ngā take whakarea.

Ka taea tēnei hei ngohe akomanga katoa, hei ngohe haurua rānei o te akomanga. Me wātea he awhe pounamu rahi rerekē e taea ai te pupuri wai. Tonoa ngā ākongā kia whakakīa ngā pounamu ki ngā taumata wai maha. Tonoa ngā ākongā kia kōrerorerero me te whakaae ki tētahi uara tau mai i te kotahi ki te rau hei whakatau tata i te ōrau 'kī' o te ipu. Kī atu ki a rātou me āhei rātou ki te whakamārama me te whakatika i tā rātou whakatau tata. Tukuruatia te kōrero kia maha ngā wā mā te whakamahi i ngā taumata wai rerekē hei whakatau tata i te ōrautanga.

Whakangāwari i ngā ākongā ki te whakaaro i ētahi atu ingoa ka taea e rātou te karanga ko te ōrau kī. Me mātua mōhio rātou kei te kōrero tonu mātou mō tētahi katoa me tētahi wāhanga o te katoa ahakoa kei te whakamahi mātou i ngā hautau, ngā ā-ira, ngā ōrau rānei. Hei tauira, 50% o te pounamu katoa kotahi. Whakahauhautia ngā ākongā kia whakariterite i ō rātou mōhiotanga o te ōrau ki ngā rautaki mō te mahi i ngā tau 1-100

(Ngā rautaki pēnei i te haurua tau mā te whakamahi i ngā matimati hei tohu i runga i te ipu 100, 50, 25, me te hanganga  $100=75+25$ )

Aroturuki mō ngā ākongā e whakamahi ana i ngā kupu i roto i te reo tau hauora... ko te hawhe kī, e rima tekau hēneti rānei, ā, kai te kōrero tonu mātau i roto i te kotahi rau.

Tirohia te whakamahinga o te ritua tau e whakamahia ana e ngā ākongā hei whakamārama me te whakatika i te uara kua hoatu e rātou ki te kī o te ipu. Whakamahia ēnei hei whakaatu i ētahi atu ākongā me pēhea te ine mēnā kāore rātou i te whakamahi i tēnei rautaki



## Whakaaro Matua o te Ao Pāngarau

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

## Wā toha

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Tīpakohia ngā ākongā hei tiritiri i muri i te nui o te wai rerekē e toru i roto i ā rātou pounamu, ā, ka taea te whakamārama me te whakatika i te uara tau kua whakaaetia e rātou mā te whakamahi i ō rātou matimati hei whakaatu i te ritua ā-tau me ngā kupu hautanga, ōrau rānei.

## Hono

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Mēnā kotahi te karaehe wai e kī ana koe 75%. E hia anō te wai e hiahiatia ana e koe kia 100% te kī? He aha te 10%? 36%? 99%? 100%? 1%?

Whakaahuatia, whakamāramatia te taurira e kitea ana e koe.

## Whaingā ako Ka ako ngā mokopuna ki te:

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Whakamārama, whakatautika hoki i te whakataurite o tētahi wāhanga ki te katoa.

Whakaaturia te whakaaro mā te whakamahi i ngā momo tuhipoka rerekē, tae atu ki ngā kupu.

## Rapanga Motuhake

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He pouaka 30 M&Ms tā Jenny e tiritiri ana ia ki ōna hoa. Ka hoatu e ia te 25% ki tētahi hoa me te 20% ki tētahi atu, ā, ka puritia e ia te toenga? E hia ngā mea e puritia ana e ia? E hia ōna M&Ms kei ia hoa?

He pouaka 50 M&Ms tā Hēni e tiritiri ana ia ki ōna hoa. Ka hoatu e ia te 10% ki tētahi hoa me te 40% ki tētahi atu, ā, ka puritia e ia te toenga? E hia ngā mea e puritia ana e ia? E hia ōna M&Ms kei ia hoa?

He pouaka 60 M&Ms tā Hēni e tiritiri ana ia ki ōna hoa. Ka hoatu e ia te 75% ki tētahi hoa, 10% ki tētahi atu, ā, ka puritia e ia te toenga? E hia ngā mea e puritia ana e ia? E hia ōna M&Ms kei ia hoa?

He pouaka 100 M&Ms tā Hēni e tiritiri ana ia ki ōna hoa. Ka hoatu e ia te 40% ki tētahi hoa me te 5% ki tētahi atu, ā, ka puritia e ia te toenga? E hia ngā mea e puritia ana e ia? E hia ōna M&Ms kei ia hoa?

He pouaka 75 M&Ms tā Jenny e tiritiri ana ia ki ōna hoa. Ka hoatu e ia te 25% ki tētahi hoa me te 30% ki tētahi atu, ā, ka puritia e ia te toenga? E hia ngā mea e puritia ana e ia? E hia ōna M&Ms kei ia hoa?

He pouaka 90 M&Ms tā Hēni e tiritiri ana ia ki ōna hoa. Ka hoatu e ia te 55% ki tētahi hoa me te 5% ki tētahi atu, ā, ka puritia e ia te toenga? E hia ngā mea e puritia ana e ia? E hia ōna M&Ms kei ia hoa?

## Ngā tini mata o te Marautanga

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### **Tau 5/6**

#### **Ngā Pāheko**

*Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.*

#### **Ngā Tau Whakahau**

*Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.*

*Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.*

*Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki*

*Huri i te hautanga ā-ira, te ōrau hoki hei hautau.*

*Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.*

*Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.*

*Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.*

*Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu: h.t., 30% of \$150*

## Ngā tini mata o te Reo Pāngarau

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*Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite*

# Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Rapanga 2

He aha te ōrau o taua kēmu rorohiko kua tikiake koe? E hia atu anō ngā mea e hiahiatia ana e koe hei tikiake hei whakaoti? Tuhia mā te whakamahi i ngā whakaaturanga rerekē tae atu ki ngā tohu, ā, kia rite ki te whakamārama me te whakatika i te ōritetanga.

## Hei āwhina i te kaiako

I mua i te whakarewatanga, hoatu ki ngā ākonga he mātitī mō ngā ripanga wā 1 ki te 7 me te tono i ngā ākonga kia whakaoti, kia hopu hoki i tō rātou wā (i tētahi huarahi tūmatanui).

<http://www.mental-arithmetic.co.uk/multiplication-grids-pdf-generator.htm>

Ka whakamahia tēnei ngohe puta noa i te wae, ā, me whakamahi hei whakamahana puta noa i te tau ki te whakawhanake i te matatau ki ngā ripanga wā.

Me whai rīpene roa, kāore i tohua ki te papa o te akomanga hei tohu i te ara i te pae i runga i te rorohiko e tohu ana i te nui o tētahi kēmu rorohiko kua tikiake. Whakamahia tētahi tautohu papa mā hei tohu i tētahi ira i runga i te rīpene e tohu ana i te taumata tikiake kua tutuki. Tukuruatia te ngohe i ngā wā katoa me mātua whakarite kei runga ake te tohu i te raina i te 10%.

Whakangāwari i ngā ākonga kia mōhio ina kōrero mō ngā ōrau me ngā ā-ira e kōrero ana mātou mō te katoa kotahi, ā, ka whakamahia e mātou ngā whakatekau me ngā rau ina tohu mātou i ngā ōrau me ngā ira hei hautau. Ka whakarōpūtia ngā tau ki ngā mana maha o te tekau (tekau, rau, mano, whakatekau, rau, mano, me ērā atu mea).

Tūmanako kia tohu ngā ākonga mā te whakamahi i ngā whakaaturanga rerekē, tae atu ki te whakatautika i te ōrau, ngā ā-ira, ngā hautanga me ngā pikitia o ngā pounamu wai, ngā pae tiakarete, ngā raina. Ki te kore ngā ākonga e whakamahi i ngā ā-ira, whakaaturia anōtia te ine hei ā-ira ōrite me ngā hautau.

## Wā toha

Tīpakohia ngā ākonga hei tiritiri i muri i ia whakatau tata ka taea te whakamārama me te whakatika i te uara tau kua whakaaetia e rātou mā te whakamahi i tētahi ine ōpaki, ā, kua whakaatu i tō rātou whakatau tata i ngā huarahi maha.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

## Hono

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He aha ngā ōritetanga hautanga, ōrau, ā-ira rānei mō:

75%, 20%,  $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{1}{2}$ , 33%, .99, .11, .54, .1, .5, .7?

He aha ngā taurira ka kitea e koe?

## Whainganga ako Ka ako ngā mokopuna ki te:

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Whakamārama, whakatautika hoki i te whakataurite o tētahi wāhanga ki te katoa.

Whakaaturia te whakaaro hei whakamārama me te whakatautika i te ōritetanga mā te whakamahia i ngā momo tuhipoka rerekē, tae atu ki ngā tohu me ngā kupu.

## Rapanga Motuhake

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1) He pounamu papu 500ml tā Ayla. Tae noa ki te wā tākaro kua inu ia i te 25% o te pounamu. E hia ml wai e toe ana i roto i tana pounamu?

2) He pounamu papu 750ml tā Ayla. Tae noa ki te wā tākaro kua inu a ia i te 45% o te pounamu. E hia ml wai e toe ana i roto i tana pounamu?

3) He ipu 15L tā Sam me te wai i te one. Tae noa ki te poutumarotanga o te rā kua whakamahia e ia te 75% o te wai i roto i te ipu. E hia te nui o te wai i whakamahia e ia (ml/l) e hia te wai e toe ana i roto i te ipu (ml/l)?

4) He ipu 12L tā Sam me te wai i te one. Tae noa ki te poutumarotanga o te rā kua whakamahia e ia te 25% o te wai i roto i te ipu. E hia te nui o te wai i whakamahia e ia (ml/l) e hia te wai e toe ana i roto i te ipu (ml/l)?

5) Tokorua ngā hoa e haere ana ki te oma. E 5km te tapeke o ta rātau oma. Ka oma a Jane i te 65% o te tawhiti i mua i te tūnga ki te hopu i tōna manawa. Ka oma a Max i te tawhiti i mua i te tūnga ki te hopu i tōna manawa. Pēhea te tawhiti o te oma o rāua i mua i te tūnga ki te hopu manawa? Ko wai i oma i te tawhiti roa rawa i mua i te tūnga?

## Ngā tini mata o te Marautanga

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### **Tau 5/6**

#### **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

#### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu: h.t., 30% of \$150

## Ngā tini mata o te Reo Pāngarau

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Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite

# Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Rapanga 3

Kei te oma koe me  $\bar{0}$  hoa i runga i te ara tākaro i te pāka. E tohu ana tēnei rīpene i te riu e oma ana koe.

Mēnā ka whakatakotoria e au te kāri mati-0 ki te tīmatanga o taua kāri e tohu ana kua oma koe i te 0 mita, ā, ko te kāri mati-1 e tohu ana kāore anō koe kia eke ki te 1 mita.

Hei ōrau o te mita, pēhea te tawhiti o tō oma?

He pēhea te tawhiti o tō oma ināianei?

Tuhia mā te whakamahi i ngā whakaaturanga rerekē tae atu ki ngā tohu, ā, kia rite ki te whakamārama me te whakatika i te ōritetanga.

## Hei āwhina i te kaiako

I mua i te whakarewatanga, mahia he kaute kōrihi i roto i te waru tīmata mai i te 0. Tuhia ki te papa pēnei i te papa: 8 16 24 32 40 48 56 64 72...

Tonoa ngā ākonga kia tautohu i ngā tauira e kitea ana e rātou, ā, ka whakamahi i ēnei hei matapae i ētahi atu kupu. Tuhia ngā take whakareatanga, mō ngā ripanga wā e 8, Tonoa te ākonga ki te whakaoti i ngā take whakarea me te tūhono i waenga i te tatau waiata (tīpoka tatau) me ngā take whakarea

Me wātea me te whakamahi i te rīpene roa kāore i tohua ki te papa o te akomanga hei tohu i tētahi ara oma e whakamahia ana i roto i ngā tākaro me ngā kāri mati hei tohu i ngā tau katoa. Whakamahia he tautohu papa mā hei tohu i tētahi ira i runga i te rīpene e tohu ana i te wāhi i tae atu ai rātou ki te ara oma i waenga i ngā tau. Tukuruatia te ngohe kia rua ngā wā me te arotahi ki ngā tau i waenga i ngā tau. I te tuatoru o ngā wā ka whakatakotoria te kāri mati-0 ki te tīmatanga me te kāri mati-1 i te mutunga. Tohua ki te raina he wāhi huri noa i te 5%. Tukuruatia ētahi wā i ngā wā katoa ka waiho te tohu ki raro iho i te 10%.

Whakangāwari i ngā ākonga kia kite he tau kei waenga i ngā tau, ā, kei waenganui i te 0 me te .1. Whakarite kia whānui te matapakinga tae atu ki te whakamārama a te ākonga me te whakatikatika he aha hei tauira, 1% e tuhia ana hei .01 me te  $\frac{1}{100}$  tūmanako kia pā ki ngā ākonga te papā hinengaro e pā ana ki ngā tau i raro iho i te .1.

Tūmanako kia whakamārama, kia whakaatu hoki ngā ākonga mā te whakamahi i te awhe o ngā whakaaturanga rerekē hei whakatika he aha, hei tauira, 5% = .05 =  $\frac{5}{100}$ . Kei roto i ēnei ko ngā pounamu wai, ngā pae tiakarete me ngā raina, engari ka taea te whakauru i tētahi tūtohi uara wāhi.

Kia mōhio ki ngā ākonga e whakahua ana i te papā hinengaro mō te take i whakaaturia ai ngā tau i raro iho i te 10% hei rau, ā, ka whakapūketetia ki ngā wāhi ā-ira e toru me te kore hei tohu i ngā whakatekau.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*



## Wā toha

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Tīpakohia ngā ākonga hei tiritiri i muri i ia whakatau tata ko wai e āhei ana ki te whakamārama me te whakatika i te uara tau kua whakaaetia e rātou, ā, kua whakaatu i tā rātou whakatau tata i roto i ngā huarahi hautanga maha.

## Hono

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He aha te hautanga me te ōrite ā-ira mō ēnei tau:

10%, 1%, 5%, 50%, 9%, 99%, 100%

He aha ngā tauira e kitea ana e koe?

## Whainganga ako Ka ako ngā mokopuna ki te:

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Whakamārama, whakatautika hoki i te whakataurite o tētahi wāhanga ki te katoa.

Whakaaturia me te whakamārama i te whakaaro mā te whakamahi i ngā ira ōrite ki tētahi raina tau.

Whakaaturia te whakaaro hei whakamārama me te whakatautika i te ōritetanga mā te whakamahi i ngā momo tuhipoka rerekē, tae atu ki ngā tohu me ngā kupu.

## Rapanga Motuhake

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He aha ō rātou tau hautanga ōrite?

1. 75% =
2.  $\frac{1}{4}$  =
3. 0.7 =
4.  $\frac{3}{4}$  =
5. 23% =
6. 0.45 =
7. Rua-tuatoru =
8.  $\frac{1}{5}$  =
9. 70% =
10. E toru-rima =

## Ngā tini mata o te Marautanga

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### **Tau 5/6**

#### **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

#### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150

## Ngā tini mata o te Reo Pāngarau

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Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite

# Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Rapanga 4

I te whakataetae a Maika rāua ko Hona ki te kite ko wai ka āhei ki te pana i ngā motokā tākaro puta noa i te papa. I whanganga a Maika i te tawhiti o ia motokā, ā, i kī ia i toa a Hona nā te mea ahakoa i tae o rāua motokā ki te 3.45 mita, ā, kāore tētahi o rāua i tae ki te 3.46 mita, ka haere kē atu te motokā o Hona.

Ka taea e koe te hopu i ngā tawhiti rerekē e 12 neke atu rānei mō tana motokā e whakaatu ana i te motokā o Hona i haere kē atu.

Kia rite ki te whakamārama me te whakatika i ō whakautu mā te whakamahi i ngā raina tau, hoahoa, tātuhī, hautau, me ngā ā-ira.

## Hei āwhina i te kaiako

I mua i te whakarewatanga Hoatu ki ngā ākonga he mātiti mō ngā ripanga wā 1 ki te 7 me te tono i ngā ākonga ki te whakaoti me te hopu i tō rātou wā (i te huarahi tūmatanui). <http://www.mental-arithmetic.co.uk/multiplication-grids-pdf-generator.htm>. Pātai atu ki a rātou kia tirohia mēnā kua whakapai ake rātou i tō rātou wā.

Me whakaatu ngā whare uara wāhi (arā ko ngā wāhi ā-ira) ki te pakitara, engari kaua e aro atu ki ngā ākonga kia hoki rā anō te tiritahi. Tirohia te īnaki o ngā ā-ira me te puriwāhi o raro nei

Th	H	T	O	Th	Hn	Thn	TThn	HThn
			•					
			•					

Tūhuratia te ariā ko ngā wāhi ki te taha mauī o te ira ira he mana tekau.

$$10 = 10^1$$

$$100 = 10^2$$

Ko ngā uara wāhi ki te taha matau o te iraira he mana o te tekau:

$$.1 = 10^{-1}$$

$$.01 = 10^{-2}$$

$$.001 = 10^{-3}$$

Ina tuhia ngā tau ki te tuhipoka ā-ira, he ōrite te pātahitanga i waenga i ngā wāhi ki te taha matau o te ira ira ki te pātahitanga i waenga i te taha mauī o te ira ira-tekau ngā uara o ia wāhi e tekau ngā wā o te wāhi ki tōna matau.

Whakangāwari i ngā ākonga kia mōhio kei te kōrero tonu koe mō tētahi hautanga, ā-ira rānei o tētahi katoa, nō reira i roto i ngā whare uara wāhi kāore te ira ira e wehe i te whare o ngā whakatekau, engari ka īnaki puta noa.

Kia mōhio ki ngā ākonga e mōhio ana he tau mutunga kore kei waenga i ngā tau.

Me tūmanako ka whakamahi ngā ākonga i ngā tohu pāngarau hei whakaatu, ā, ka mutu, ka whakanohoia ki ngā whare uara tau.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te puriwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te puriwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa. Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

*Mēnā e rua ngā rahinga e rerekē ana i te ritenga, ka pātahi hāngai ngā rahinga (i te whakanuitanga o tētahi ka nui ake tētahi) rānei e pā ana ki te kōaro (i te whakanuitanga o tētahi, ka heke tētahi).*

## Wā toha

---

Tīpakohia ngā ākonga hei tiritiri kua hoatu he whakamārama. Waihanga he matapakanga me te whakatikatika tae atu ki te whakamahinga o ngā whare uara wāhi hei tautoko i te whakaaro.

## Hono

---

He aha ētahi tau i waenganui:

1 me te 2? 2.12 me te 2.13? .09 me te .1?

He aha tāu e kite nei? Ka taea e koe te whakaaro mō ngā tau i waenga i ngā tau?

## Whainganga ako Ka ako ngā mokopuna ki te:

---

Whakaotia ngā raruraru whakarea e pā ana ki te whakataurite.

Tautuhia te hononga i waenga i te tāpiritanga tukuru me te whakareatanga.

Tautuhia te hononga i waenga i te huānga me te whakareatanga. Whakamahia te āhuatanga tohatoha hei whakatika i tētahi raru whakareatanga.

Whakamārama, whakatautika hoki me pēhea e taea ai te whakarōpū i ngā tau i roto i te maha o ngā huarahi-ka noho ōrite tonu te tau i roto i tētahi huinga ahakoa pēhea te whakaritenga, te whakaaturanga rānei.

## Rapanga Motuhake

---

He aha ngā tau ka taea e koe te whakapūkete i waenganui:

1. .1 me te .2
2. 50% me te 51%
3. 5% me te 6%
4. .4 me te .5
5. .51 me te .56
6. .11 me te .12
7. .541 me te .542
8. 1.3 me te 1.4
9. 478.51 me te 478.52

## Ngā tini mata o te Marautanga

---

### **Tau 5/6 Ngā Pāheko**

*Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.*

### **Ngā Tau Whakahau**

*Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.*

*Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.*

*Whakataurite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki*

*Huri i te hautanga ā-ira, te ōrau hoki hei hautau.*

*Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.*

*Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.*

*Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.*

*Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu: h.t., 30% of \$150*

## Ngā tini mata o te Reo Pāngarau

---

*Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite*

# Mā te kaiako

---

Ngā Rongoā me ngā paku hapa

## Rapanga 5

I te tākaro a Ella rāua ko Ethan i te puna kaukau o te rohe. Ka hoatu e to rātau pāpā he piro mo a rātau ruku ki roto i te puna kaukau. I whakaae rātau ka toa te tangata whai tapeke tapeke teitei rawa atu i roto i ngā ruku e toru.

I whiwhi a Ella i te 8.96, 7.046, 8.23 mo ana ruku e 3.  
Ko te tapeke tapeke o Ethan ko te 24.973.  
Ko wai i toa?

Ka taea e koe te whakamārama me te whakatika he aha tana tapeke i roto i ngā huarahi neke atu i te kotahi?

## Hei āwhina i te kaiako

I te wā o te whakarewatanga, tirohia anō te whakamahinga o tētahi raina tau hei tāpiri tau katoa. Whakamahia ngā tau e paheko ana hei hanga i te 10, te 100, me te 1000 e whai ake nei. Tūhura me ngā ākongā me pēhea e taea ai e rātau te whakahāngai i ēnei ki te uara wāhi o ngā tau oti.

Me whai whare uara wāhi mō ngā tau katoa me ngā tau ā-ira i runga i te pakitara.

Whakangāwari i ngā ākongā kia kite i te wā e whakakotahi anō ana i ngā ā-ira kia rite ai te neke o te tūtohi uara wāhi mai i te matau ki te mauī ki te tāpiri i ngā tau oti.

Tūmanako kia whakaatu ngā ākongā i ō rātau whakaaro mā te tuhi ōpaki puta noa i te whārangi, i tētahi raina tau, ā, kua e whakamahi i tētahi hātepe ōkawa e whakarārangi ai ngā tau i muri i te ira ā-ira.

## Wā toha

Tīpakohia ngā ākongā hei tiritiri ko wai i whakamahi i tētahi raina tau hei tohu i ō rātau whakaaro, ā, ka whakakotahi i ēnei ki ngā whakarōpū tekau, ā, ka taea te whakamārama me te whakatika i te take i whakamahia ai ngā tau ki ngā whakarōpū tekau.

## Hono

Tohua ēnei ki tētahi raina tau

$.7 + .3 = 1$   
 $.07 + .03 = .1$   
 $.007 + .003 = .01$

He aha ngā tauira e kitea ana e koe? Kia rite ki te whakamārama me te whakatika i te tauira e kitea ana e koe mā te whakamahi i te whare uara wāhi.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa. Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

*Mēnā e rua ngā rahinga e rerekē ana i te ritenga, ka pātahi hāngai ngā rahinga (i te whakanuitanga o tētahi ka nui ake tētahi) rānei e pā ana ki te kōaro (i te whakanuitanga o tētahi, ka heke tētahi).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

## Whainganga ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru e pā ana ki te ā-ira mā te tāpiri, te tango rānei, me te whakamārama me te whakatautika i te rongoā.

Tohu whakaaro hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

### Rapanga Motuhake

Whakaraupapatia ēnei tau ā-ira mai i te nui rawa ki te iti rawa:

1. 1.00000, .900000, .99, .9
2. .90146, .9015, .9000000, .99
3. .4405, .4, .321, .99999, .41, .9
4. .50000, .45100, .510, .52, .5200009
5. 1.2, 1.209, 1.21, 1.20099

Tuhia he whakamārama hei whakamārama i ngā ture e whakamahia ana e koe hei raupapa i ia haupae.

## Ngā tini mata o te Marautanga

### **Tau 5/6**

#### **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

#### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150

## Ngā tini mata o te Reo Pāngarau

Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite

# Mā te kaiako

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Ngā Rongoā me ngā paku hapa



## Rapanga 6

Kei te whakangungu a Gaylene mō tētahi hīkoi kōhi moni. E whai ana a ia ki te āta hanga i te tawhiti ka taea e ia te haere i runga i te tere. Mo te wiki tuatahi ka whakatau a ia me hīkoi ia i te 25 km katoa puta noa i ngā rā katoa o te wiki.

I te Mane ka haere a ia i te 1.9310km. I te Tūrei ka haere a ia i te 2.9km. I te Wenerei ka haere a ia i te 3.101. I te Rāpare ka haere a ia i te 4.0398km. I te Paraire ka haere a ia i te 1.2. I te Hātarei ka haere a ia i te 5.1km. I te Rātapu ka mahi a ia i tētahi pahū nui, a, ka hīkoi i te 7.03km

Pēhea te tawhiti o tana hīkoi i roto i te wiki? I tae atu a ia ki tana whāinga ūnga? Ki te kore, e hia anō tana hīkoi kia tae ki tana ūnga?

## Hei āwhina i te kaiako

I mua i te whakarewatanga mahia he tatau kōrihi i roto i te iwa tīmata mai i te 0. Tuhia ki runga i te papa penei:

9 18 27 36 45 54 63 72 81 90  
99 ....

Tonoa ngā ākongā kia tautohu i ngā tauira e kitea ana e rātou, ā, ka whakamahi i ēnei hei matapae i ētahi atu kupu.

I te wā o te whakarewatanga, tūhura me ngā ākongā i ngā tau ā-ira me ngā tau katoa, me tō rātou wāhi i roto i te whare uara wāhi. Matapakihia tō rātou kanohi, wāhi me te uara katoa.

Whakangāwari i ngā ākongā ki te kite i te hiahia ki te whakaaro i te uara wāhi o te tau e mahi ana rātou me te āhua o te whakarōpū anō i te tekau, i te whakatekau rānei, i te rau, i te aha atu.

**Tūmanako kia tohu ngā ākongā mā te whakamahi i te tāpiritanga me te tangohanga puta noa i te whārangi me ngā raina tau. Mēnā ka whakamahi rātou i tētahi hātepe ōkawa, pēhia hei tūhono ki ngā pahekotanga e whakamahia ōpakitia ana.**

## Wā toha

Tīpakohia ngā ākongā hei tiritiri ko wai i whakamahi i tētahi raina tau hei tohu i ō rātou whakaaro, ā, ka whakakotahitia, ka whakakotahi anō i ēnei ki ngā whakarōpū tekau, whakatekau, rau, aha atu, ā, ka taea te whakamārama me te whakatika i te take i whakamahia ai e rātou ngā tau i roto i ngā whakarōpūtanga tekau.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa. Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

*Mēnā e rua ngā rahinga e rerekē ana i te ritenga, ka pātahi hāngai ngā rahinga (i te whakanuitanga o tētahi ka nui ake tētahi) rānei e pā ana ki te kōaro (i te whakanuitanga o tētahi, ka heke tētahi).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

## Hono

---

.1 + .9 =

.17 + .93 =

Whakamahia te whare uara wāhi hei whakamārama i ō whakarōpūtanga anō.

## Whainga ako Ka ako ngā mokopuna ki te:

---

Whakaotia ngā raruraru tāpiri e pā ana ki ngā tau i tua atu i ngā wāhi ā-ira e toru, me te whakamārama me te whakatautika i ngā rongoā.

Tohu whakaaro hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau i tua atu i ngā wāhi ā-ira e toru.

## Rapanga Motuhake

---

Whakaraupapatia ēnei tau mai i te iti rawa ki te mea nui rawa:

1.  $\frac{1}{2}$ , .49999, 49%
2.  $\frac{1}{3}$ ,  $\frac{1}{2}$ , 93% .510, .003, 51%
3. .2409, .2, 25%,  $\frac{1}{4}$ , .2000001,  $\frac{3}{4}$
4.  $1\frac{1}{2}$ , 1.9, 1.09, 125%, 100%

Tuhia he whakamārama mō ngā ture i whakamahia e koe hei whakaraupapa.

## Ngā tini mata o te Marautanga

---

### **Tau 5/6**

#### **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

#### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150

## Ngā tini mata o te Reo Pāngarau

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Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite

# Mā te kaiako

---

Ngā Rongoā me ngā paku hapa

## Rapanga 7

E hiahia ana a Georgia ki te tākaro tāwari me ōna hoa. He wāhanga tāwari tō tōna whaea, e 5.07 mita te roa. Ka whakamahia e Hōria te 3.063 mita hei hanga tāwari mōna anō. E hiahia ana a ia ki te hanga i tētahi atu huinga ma tōna hoa. E hia te tāwari e toe ana ki te hanga i te tāwari o tōna hoa?

## Hei āwhina i te kaiako

I mua i te whakarewatanga, hoatu ki ngā ākongā he mātiti mō ngā ripanga wā 1 ki te 10 me te tono i ngā ākongā kia whakaoti me te hopu i tō rātou wā (i te huarahi tūmatanui).

<http://www.mental-arithmetic.co.uk/multiplication-grids-pdf-generator.htm>

Ko te whāinga kia oti te mātiti i raro iho i te 5 meneti, nā reira me tū i te 5 meneti. Tonoa rātou ki te hopu i tō rātou wā, i te nui rānei o ngā mea kua oti i a rātou.

Whakangāwari i ngā ākongā kia kite i te tangohanga mā te whakamahi i ngā ira me whakakotahi anō kia noho ai te rau, te tekau, te kotahi rānei e whai ake nei, ā, ko te neke o te tūtohi uara wāhi mai i te matau ki te mauī kia rite ki te tāpiritanga o ngā tau oti.

Tūmanako kia whakaatu ngā ākongā i ō rātou whakaaro mā te tuhi ōpaki puta noa i te whārangi, i tētahi raina tau, ā, **kaua e whakamahi i tētahi hātepe ōkawa e whakarārangi ai i ngā tau i muri i te ira ā-ira.**

## Wā toha

Tīpakohia ngā ākongā hei tiritiri ko wai ka taea te whakamārama me te whakatika i ā rātou rongoā, mā te tātuhi i ngā whakaaturanga me te whakamahi i te uara wāhi hei whakatika i ā rātou mahi.

## Hono

He aha te tauira e kitea ana e koe?

.1 - .09

.1 - .099

.1 - .0999

Kia rite ki te whakamārama me te whakatautika i te tauira e kitea ana e koe mā te uara wāhi.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa. Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

*Mēnā e rua ngā rahinga e rerekē ana i te ritenga, ka pātahi hāngai ngā rahinga (i te whakanuitanga o tētahi ka nui ake tētahi) rānei e pā ana ki te kōaro (i te whakanuitanga o tētahi, ka heke tētahi).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

## Whainganga ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru e pā ana ki te ā-ira mā te tāpiri, te tango rānei, me te whakamārama me te whakatautika i te rongoā.

Tohu whakaaro hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

## Rapanga Motuhake

Tohua ēnei ki tētahi raina tau

$$.99 + .01 = 1$$

$$.909 + .091 = 1$$

$$.9009 + .0991 = 1$$

He aha ngā tauira e kitea ana e koe? Kia toru anō ngā tauira e kitea ana e koe.

Whakaaturia tō whakaaro ki te whakamārama me te whakatika i te tauira e kitea ana e koe mā te whakamahi i te whare uara wāhi.

## Ngā tini mata o te Marautanga

### **Tau 5/6**

#### **Ngā Pāheko**

*Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.*

#### **Ngā Tau Whakahau**

*Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.*

*Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.*

*Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki*

*Huri i te hautanga ā-ira, te ōrau hoki hei hautau.*

*Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.*

*Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.*

*Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.*

*Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150*

## Ngā tini mata o te Reo Pāngarau

*Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite*

# Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Rapanga 8

\$75.95 te moni taurite i whiwhi a Tupou tētahi mākete pō.

E hia ana utu mēnā ka tuwhera tana tūru mō te 6 pō?

## Hei āwhina i te kaiako

Whakangāwari i ngā ākonga kia kite ina whakarea mā te whakamahi i ngā ā-ira, me whakakotahi me te whakakotahi anō.

Aroturuki mō ngā ākonga e whakamahi ana i te kupu whakatekau, rau, ā, e mōhio ana ko ngā hēneti he wāhanga hautanga o te tāra katoa.

## Wā toha

Tīpakohia ngā ākonga ki te tiritiri ko wai ka taea te whakamahi i ngā rautaki ōpaki hei whakaoti i te whārite, ā, ka taea te whakamārama i ō rātou whakaaro mā te whakamahi i te uara wāhi mō ngā ā-ira.

## Hono

He pono, he hē rānei? Kia rite ki te whakamahi i te uara wāhi hei whakatika i tō whakaaro.

$$5 \times .5 = 25$$

$$5 \times .6 = 3$$

## Whainganga ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru e pā ana ki te ā-ira mā te tāpiri, te tango rānei, me te whakamārama me te whakatautika i te rongoā.

Tohu whakaaro hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

Whakamārama, whakatautika hoki i te whakaaro mā te tuhi tuhipoka, ngā tohu, me ngā kupu.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa. Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

*Mēnā e rua ngā rahinga e rerekē ana i te ritenga, ka pātahi hāngai ngā rahinga (i te whakanuitanga o tētahi ka nui ake tētahi) rānei e pā ana ki te kōaro (i te whakanuitanga o tētahi, ka heke tētahi).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

## Rapanga Motuhake

---

Whakaotia ēnei e whai ake nei:

.1 x 2 =

.2 x 2 =

.3 x 2 =

.4 x 2 =

.5 x 2 =

Whakaotia te taurira kia rima anō.

He aha tāu e kite nei? Tuhia he whakamārama mō tāu e kite ai.

## Whakaaro Matua o te Ao Pāngarau

---

### **Tau 5/6**

#### **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

#### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150

## Ngā tini mata o te Reo Pāngarau

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Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite



# Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Rapanga 9

E haere ana a Alani ki tētahi huihuinga whānau i Tuvalu. He moni tāna kua penapenatia. I Tuvalu ka whakamahia e rātau he tāra Ahitereiria engari ko a rātau ake moni. Ko te utu whakawhiti ko te \$1 Aotearoa mō te \$.9301 Ahitereiria.

E hia ngā moni o Ahitereiria ka riro i a ia hei whakawhiti mo te NZ\$10?

E hia ngā moni o Ahitereiria ka riro i a ia hei whakawhiti mo te NZ\$100?

E hia ngā moni o Ahitereiria ka riro i a ia hei whakawhiti mo te NZ\$550?

## Hei āwhina i te kaiako

Whakangāwari i ngā ākonga kia mōhio ina whakarea ngā ā-ira kei te whakamahi koe i ngā mana tekau

Tūmanako kia tohu ngā ākonga mā te whakamahi i te uara wāhi me ngā tohu

## Wā toha

Tīpakohia ngā ākonga hei tiritiri e āhei ana ki te whakamārama me te whakatika i ō rātau whakaaro mā te whakamahi i ngā whakarōpū (mana) o te tekau me te rau.

## Hono

I a koe e whakaoti ana i ēnei, whakaarohia tō rātau wāhi ki te tūtohi uara wāhi.

$$9 \times 1 =$$

$$9 \times 10 =$$

$$9 \times 100 =$$

$$.9 \times 1 =$$

$$.9 \times 10 =$$

$$.9 \times 100 =$$

Ka taea e koe te tāutu me te whakamārama i te tauira e kitea ana e koe i roto i ngā nekehanga o te uara wāhi?

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki te hua o te tau oti me te hautanga (ā-ira), te hautanga (ā-ira) me te tau katoa, me te hautanga me te hautanga (ā-ira me te ā-ira).*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki ngā tatauranga whakawehenga e pā ana ki ngā hautanga (ā-ira).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

*Ka hurihia te wehenga me te whakawehenga ā-ira ki tētahi tatauranga ōrite me te whakawehenga tau katoa mā te whakarea i te whakawehenga me te moni hua ki te mana tika o te tekau.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

## Whainganga ako Ka ako ngā mokopuna ki te:

Whakamārama, whakatautika hoki i te whakataurite o tētahi wāhanga ki te katoa.

Whakaaturia te whakaaro mā te whakamahi i ngā momo tuhipoka rerekē, tae atu ki ngā tohu me ngā kupu.

Whakaotia ngā raruraru e pā ana ki ngā tau ā-ira mā te whakarea me te whakamārama me te whakatautika i te rongōā.

Tohu whakaaro hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

## Rapanga Motuhake

I Hamoa ko te utu whakawhiti ko te \$1 Aotearoa mo te 1.5204 tala.

E hia te tala ka whiwhi koe hei utu mo te NZ\$10?  
E hia ngā tala ka whiwhi koe hei utu mote NZ\$100?  
E hia te tala ka whiwhi koe hei utu mo te NZ\$550?

Tonga ko te utu whakawhiti ko te \$1 Aotearoa mo te 1.43976 pa'anga.

E hia te pa'anga ka whiwhi koe hei utu mo te NZ\$10?  
E hia te pa'anga ka whiwhi koe hei utu mo te NZ\$100?  
E hia te pa'anga ka whiwhi koe hei utu mo te NZ\$550?

## Whakaaro Matua o te Ao Pāngarau

### **Tau 5/6** **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu: h.t., 30% of \$150

### **Tau 7** **Matau ahumoni**

Tātai utu me te wāwāhinga moni ahakoa te rahinga o te moni.

Tātai i te whakahekenga ōrau mō ngā rahinga tāra: h.t., te 35% o te \$180?

## Mā te kaiako

---

Ngā Rongoā me ngā paku hapa

## Ngā tini mata o te Reo Pāngarau

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*Ōrau, ōrautanga, katoa,  
hautanga, tau  
hautanga, tau  
hautanga, tau ā-ira, tau  
haumarū, ōrite,  
ōwehenga*



## Rapanga 10

E hiahia ana a Maui ki te tārua i tētahi wāhanga o tētahi tauira mai i tētahi siapoo nui. E hiahiatia ana e ia he pepa ōrite te rahi, nui ake rānei. Ko te wāhanga o te tauira e tāruatia ana e ia, he 1.05cm te whānui, 1.8cm te roa. He aha te horahanga o te tāpa e tāruatia ana e ia?

## Hei āwhina i te kaiako

I te wā o te whakarewatanga, tūhura i te uara wāhi e pā ana ki te whakareatanga me te wehenga o ngā tau oti, me ngā tau hautanga

Whakangāwari i ngā ākonga kia kite ina whakareatia tētahi tau hauora ki te tau hauora i tua atu i te whakarea i ngā tau oti ki ngā tau oti, ka iti iho te hua, kua e nui ake.

## Wā toha

Tīpakohia ngā ākonga hei tiritiri e āhei ana ki te whakamārama me te whakatika i ō rātou whakaaro mā te whakamahi i ngā whakaaturanga tae atu ki te uara wāhi me te tuhipoka

## Hono

I a koe e whakaoti ana i ēnei, whakaarohia tō rātou wāhi ki te tūtohi uara wāhi.

$$.4 \times .1 =$$

$$.4 \times .01 =$$

$$.4 \times .001 =$$

He aha te mea e whai ake nei i roto i te tauira? He aha?

## Whainganga ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru horahanga e pā ana ki ngā tau ā-ira mā te whakarea me te whakamārama me te whakatautika i te rongoā.

Whakaatu i te whakaaro mā te tuhi hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki te hua o te tau oti me te hautanga (ā-ira), te hautanga (ā-ira) me te tau katoa, me te hautanga me te hautanga (ā-ira me te ā-ira).*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki ngā tatauranga whakawehenga e pā ana ki ngā hautanga (ā-ira).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

*Ka hurihia te wehenga me te whakawehenga ā-ira ki tētahi tatauranga ōrite me te whakawehenga tau katoa mā te whakarea i te whakawehenga me te moni hua ki te mana tika o te tekau.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*

## Rapanga Motuhake

Hangaia he huānga me te whakapūkete i ēnei e whai ake nei hei rerenga tau whakarea, whakawehenga hoki:

$$1 \text{ me } \frac{5}{10}$$

$$12 \text{ me } \frac{7}{10}$$

$$23 \text{ me } \frac{3}{10}$$

$$4 \text{ me } \frac{83}{100}$$

$$1 \text{ me } \frac{10}{100}$$

$$2 \text{ me } \frac{3}{100}$$

$$9 \text{ me } \frac{831}{1000}$$

$$5 \text{ me } \frac{83}{1000}$$

$$4 \text{ me } \frac{1}{1000}$$

He aha te mati whakatekau o ēnei?

9.92

0.02

7.816

0.30198

1.33333

1.00009

Ko tēhea 2 te uara nui rawa atu i te 0.022? Whakaaturia ō whakaaro hei whakamārama i ō whakaaro.

E hia ngā mano kei roto i te 0.022?

## Whakaaro Matua o te Ao Pāngarau

### **Tau 5/6**

#### **Ngā Pāheko**

Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.

#### **Ngā Tau Whakahau**

Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.

Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.

Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki

Huri i te hautanga ā-ira, te ōrau hoki hei hautau.

Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.

Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.

Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.

Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150

### **Tau 7**

#### **Matau ahumoni**

Tātai utu me te wāwāhinga moni ahakoa te rahinga o te moni.

Tātai i te whakahekenga ōrau mō ngā rahinga tāra:  
h.t., te 35% o te \$180?

## Ngā tini mata o te Reo Pāngarau

Ōrau, ōrautanga, katoa, hautanga, tau hautanga, tau ā-ira, tau hautau, ōrite

# Mā te kaiako

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Ngā Rongoā me ngā paku hapa

# Rapanga 11

Aue! He raruraru kei te whakareatanga o ēnei whakareatanga ā-ira.

$$1.23 \times 4 = 25.92$$

$$2.36 \times 41 = 11.80$$

Kimihia te hē me te whakatika.

## Hei āwhina i te kaiako

Kia mōhio ki ngā ākongā e whakamahi ana i te whakaaro ōpaki i mua i te whakaaro ōkawa.

## Wā toha

Tīpakohia ngā ākongā hei tiritiri e āhei ana ki te whakamārama me te whakatika i ō rātou whakaaro mā te whakamahi i ngā huarahi hei whakaatu i ō rātou whakaaro.

## Hono

Ina whakareatia e koe te tau oti ki te ā-ira, ka kite koe ka aha?

Ina whakareatia e koe te ā-ira ki te ā-ira, ka kite koe ka aha?

## Whaingā ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru e pā ana ki ngā tau ā-ira mā te whakarea me te whakamārama me te whakatautika i te rongoā.

Whakaaturia te whakaaro mā te tuhi tuhipoka, ngā tohu, me ngā kupu hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki te hua o te tau oti me te hautanga (ā-ira), te hautanga (ā-ira) me te tau katoa, me te hautanga me te hautanga (ā-ira me te ā-ira).*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki ngā tatauranga whakawehenga e pā ana ki ngā hautanga (ā-ira).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

*Ka hurihia te wehenga me te whakawehenga ā-ira ki tētahi tatauranga ōrite me te whakawehenga tau katoa mā te whakarea i te whakawehenga me te moni hua ki te mana tika o te tekau.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakatau tata i ngā tatauranga e pā ana ki ngā hautanga me ngā ā-ira.*



## Rapanga Motuhake

---

I a koe e whakaoti ana i ēnei, whakaarohia tō rātou wāhi ki te tūtohi uara wāhi.

1.  $32.8 \times 6$
2.  $73 \times 9$
3.  $1.43 + 1.6$
4.  $4.0009 + 1.9991$
5.  $6.5 - 1.9$
6.  $12.32 - 0.31$

Tautohu, tāhopu, me te whakamārama i te tauira e kitea ana e koe i roto i ngā nekehanga o te uara wāhi?

## Whakaaro Matua o te Ao Pāngarau

---

*Ko te ōwehenga he whakataurite whakarea o ngā rahinga; He rerekē ngā momo whakataurite ka taea te whakaatu hei ōwehenga.*

*Ka hoatu e ngā ōwehenga ngā rahi pātahi o ngā rahinga e whakatauritea ana, ehara i te mea ko ngā rahi tūturu.*

*Ka taea te whakapuaki i ngā ōwehenga hei wae mā te kimi i tētahi ōwehenga ōrite ki te wā kotahi te kupu tuarua.*

## Whakaaro Matua o te Ao Pāngarau

---

### **Tau 5/6**

#### **Ngā Pāheko**

*Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.*

#### **Ngā Tau Whakahau**

*Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.*

*Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.*

*Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki*

*Huri i te hautanga ā-ira, te ōrau hoki hei hautau.*

*Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.*

## Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Whakaaro Matua o te Ao Pāngarau

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### **Tau 5/6**

#### **Ngā Tau Whakahau**

*Tāpiri me te tango tau ā-ira,  
kia rua ngā mati ā-ira.*

*Tāpiri me te tango tau oti  
me ngā tau-a-ira kia rua  
mati ā-ira.*

*Kimi i te hautanga, i te ōrau  
rānei o tētahi tauoti, he  
tauoti te whakautu:  
h.t., 30% of \$150*

### **Tau 7**

#### **Matau ahumoni**

*Tātai utu me te wāwāhinga  
moni ahakoa te rahinga o te  
moni.*

*Tātai i te whakahekenga  
ōrau mō ngā rahinga tāra:  
h.t., te 35% o te \$180?*

## Ngā tini mata o te Reo Pāngarau

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*Ōrau, ōrautanga, katoa,  
hautanga, tau hautanga,  
tau ā-ira, tau hautau, ōrite,*

## Rapanga 12

Whakataua tata ki hea haere ai te ira ā-ira, kātahi ka tirohia e te rorohiko kua purua e koe ki te wāhi tika.

$$0.24 \times 6 = 104$$

$$10 \times .05 = 50$$

$$24 \times 0.3 = 720$$

$$2.4 \times 100 = 240$$

$$0.2 \times 1 = 20$$

$$0.24 \times 0.63 = 1512$$

$$0.8 \times 0.9 = 72$$

He aha tāu i kite ai?

## Hei āwhina i te kaiako

Whakangāwari i ngā ākongā kia kite i ētahi wā he tere ake, he ngāwari ake hoki te whakamahi i ngā ōrite hautanga hei whakarea.

## Wā toha

Tīpakohia ngā ākongā hei tiritiri e āhei ana ki te whakamārama me te whakatika i ō rātou whakaaro mā te whakamahi i ngā huarahi hei whakaatu i ō rātou whakaaro.

## Hono

Tūhura mēnā he pono, he hē rānei tēnei whakaaro:  
Ina whakarea te tau oti ki te tau oti ka nui ake te hua, engari ina whakareatia te tau oti ki te tau ā-ira ka iti ake te hua. Kia rite ki te whakamārama me te whakamatau i tō urupare.

## Whaingā ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru e pā ana ki ngā tau ā-ira mā te whakarea me te whakamārama me te whakatautika i te rongōā.

Whakaaturia te whakaaro mā te tuhi tuhipoka, ngā tohu, me ngā kupu hei whakamārama me te whakatautika i te uara wāhi e pā ana ki ngā tau ā-ira.

## Whakaaro Matua o te Ao Pāngarau

*Ko te ā-ira tētahi atu ingoa mō tētahi hautanga, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*Ko te ōrau tētahi atu huarahi ki te tuhi i tētahi ā-ira e whakataurite ana i tētahi wāhanga ki tētahi katoa e 100 ana te katoa, ā, ka taea te pāhono ki te pūwāhi ōrite i te raina tau.*

*E pā ana te ōrau ki te rahi o te katoa.*

*Ko te ōrau he momo ōwehenga motuhake e whakaritea ai tētahi wāhanga ki te katoa, ā, ko te katoa ko te 100.*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki te hua o te tau oti me te hautanga (ā-ira), te hautanga (ā-ira) me te tau katoa, me te hautanga me te hautanga (ā-ira me te ā-ira).*

*Ka taea te pāhono i ngā whakamāramatanga rerekē o te ao tūturu ki ngā taturanga whakawehenga e pā ana ki ngā hautanga (ā-ira).*

*He ōrite ngā pānga o ngā mahi mō te tāpiri me te tangohanga ki ngā hautanga me ngā ā-ira ki ērā me ngā tau oti.*

*Ka hurihia te wehenga me te whakawehenga ā-ira ki tētahi taturanga ōrite me te whakawehenga tau katoa mā te whakarea i te whakawehenga me te moni hua ki te mana tika o te tekau.*

*Ka taea te whakamahi i ngā hautanga tohu pēnei i te  $\frac{1}{2}$  (0.5) me te  $\frac{1}{4}$  (0.25) hei whakataua tata i ngā taturanga e pā ana ki ngā hautanga me ngā ā-ira.*

## Rapanga Motuhake

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Tīpakohia tētahi o ngā tūmahi aromatawai e whai ake nei (āpitihia ki te mutunga o te tuhinga) hei ngohe takitahi:

Aromatawai 1: Te raupapa i ngā ā-ira, ngā hautanga, me ngā ōrautanga mai i te iti rawa ki te nui rawa.

Aromatawai 2: Ira ā-ira.

Aromatawai 3: Ngā hautanga, ngā ā-ira, ngā ōrautanga.

## Whakaaro Matua o te Ao Pāngarau

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*Ko te ōwehenga he whakataurite whakarea o ngā rahinga; He rerekē ngā momo whakataurite ka taea te whakaatu hei ōwehenga.*

*Ka hoatu e ngā ōwehenga ngā rahi pātahi o ngā rahinga e whakataurite ana, ehara i te mea ko ngā rahi tūturu.*

*Ka taea te whakapuaki i ngā ōwehenga hei wae mā te kimi i tētahi ōwehenga ōrite ki te wā kotahi te kupu tuarua.*

## Whakaaro Matua o te Ao Pāngarau

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### **Tau 5/6**

#### **Ngā Pāheko**

*Whakaāwhiwhi ki te tauoti pātata, ki te tau-a-ira kotahi mati whai ira.*

#### **Ngā Tau Whakahau**

*Āhukahuka te pānui, te tuhi me te waihanga i ngā hautekau, i ngā haurau hei hautau, hei hautanga ā-ira hoki.*

*Hukahuka te pānui, te tuhi me te waihanga hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki.*

*Whakatairite me te raupapa i ngā hautau, hautanga ā-mati (kia rua mati ā-ira), ōrau hoki*

*Huri i te hautanga ā-ira, te ōrau hoki hei hautau.*

*Waihanga hautanga ā-ira, tauoti hoki mā te whakarea, mā te whakawehe hoki ki te 10, ki te 100 rānei.*

## Mā te kaiako

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Ngā Rongoā me ngā paku hapa

## Whakaaro Matua o te Ao Pāngarau

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### **Tau 5/6**

#### **Ngā Tau Whakahau**

*Tāpiri me te tango tau ā-ira, kia rua ngā mati ā-ira.*

*Tāpiri me te tango tau oti me ngā tau-a-ira kia rua mati ā-ira.*

*Kimi i te hautanga, i te ōrau rānei o tētahi tauoti, he tauoti te whakautu:  
h.t., 30% of \$150*

### **Tau 7**

#### **Matau ahumoni**

*Tātai utu me te wāwāhinga moni ahakoa te rahinga o te moni.*

*Tātai i te whakahekenga ōrau mō ngā rahinga tāra:  
h.t., te 35% o te \$180?*

## Ngā tini mata o te Reo Pāngarau

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*Ōrau, ōrautanga, katoa,  
hautanga, tau  
hautanga, tau ā-ira, tau  
hautau, ōrite*

## Aromatawai 1: Te raupapa i ngā ā-ira, ngā hautanga, me ngā ōrautanga

Whakaraupapatia ēnei hautau, hautanga, me ngā ōrautanga mai i te iti rawa ki te nui rawa.

$\frac{24}{48}$    0.781   0.9    $\frac{1}{4}$    80%   0.009   25%

Whakamārama, whakaatu hoki me pēhea koe e mōhio ai ki tēnei.

## Aromatawai 2: Ira ā-ira

Hoatu kia 12 ngā tauira o ngā tau ā-ira rerekē.

Whakaraupapatia mai i te iti rawa ki te nui rawa.

Whakamātauria kei roto i te raupapa tika mā te whakamahi i ngā whakaaturanga rerekē e toru.

### **Aromatawai 3: Ngā hautanga, ngā ā-ira, ngā ōrautanga**

Tuhia ētahi raruraru kupu mō tētahi hoa e pā ana ki tētahi o ngā mahi (tāpiritanga, tangohanga, whakareatanga, wehenga) mā te whakamahi i ngā hautau, ngā ā-ira, ngā ōrau rānei.

Whakaaturia me pēhea e whakatika ai koe i ngā raru.