



NGĀ PUKA RAPANGA PĀNGARAU TAUNAKI

Whakareatanga me te Wehenga

TAU 3

Pukapuka Kaiako

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Rapanga 1

He pai ki te pōpokorua iti rawa te whakaraupapa i nga pōpokorua.

Mēnā e 5 ngā haupae pōpokorua me ngā pōpokorua e 7 i ia haupae, e hia katoa ngā pōpokorua?

Mēnā e 8 ngā haupae pōpokorua me ngā pōpokorua e 6 i ia haupae, e hia katoa ngā pōpokorua?

Mēnā e 12 ngā haupae pōpokorua me ngā pōpokorua e 5 i ia haupae, e hia katoa ngā pōpokorua?

Whakaaturia he pēhea tō whakaoti i te raru mā te whakamahi i ngā tau me tētahi whakaaturanga.

Hei āwhina i te kaiako

Pānuitia te pukapuka One Hundred Hungry Ants, mātakitaki rānei (<https://www.youtube.com/watch?v=KXLNe5zfrvc>) hei pukapuka tiritiri i te wā o tētahi wātū pānui pukapuka

I mua i te whakarewatanga, whakamahia ngā atahanga tere hei whakamahana kia arotahi ki ngā ākonga e kite ana i ngā huānga me te whakarea.

I te wā o te whakarewatanga, tirohia anō te One Hundred Hungry Ants me ētahi o ngā tauira i whakamahia e te pōpokorua iti i a rātau e hīkoi ana ki te kai.

Me wātea ngā kaitatau ka taea e ngā ākonga te whakamahi hei whakarōpū i tētahi huānga. Whakangāwari i ngā ākonga ki te whakarite i ngā rauemi ki tētahi huānga, kua ki ngā huinga motuhake

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XXXX
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Tirohia ngā ākonga e whakamahi ana i te 'maha', i ngā huinga rānei hei whakaahua i ngā rōpū me te whakapakari i tēnei reo. Whakamahia tēnei hei whakauru i te tohu whakarea hei tohu i ēnei ki te kore ngā ākonga e whakamahia.

Whakangāwari i ngā ākonga ki te neke atu i te tatau me te whakaatu i te huānga me te āhuetanga whakarea mā te whakamahi i ngā tau me te tāpiritanga, te whakarea rānei.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

E ai ki tā mātou pūnaha tau i runga anō i ngā whakarōpūtanga tekau, tekau pūtake rānei. Ka taea te wehe i ngā whakarōpūtanga o tētahi, tekau, rau, me ngā mano i roto i ngā huarahi rerekē.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

He āhuetanga tauhanga e whakaahua ana i te tāpiritanga me te whakareatanga hei mahi. Koinei ngā āhuetanga whakawhitiwhiti, pāhono, tohatoha, me te tuakiri. He pātahitanga kōaro tō te tāpiritanga me te tangohanga me te whakareatanga me te wehenga.

He ōrite te tāpiritanga tukuru ki te whakareatanga.

Ko te tikanga o te āhuetanga whakawhitiwhiti he ōrite te 3×6 ki te 6×3 nō reira $6 \times 3 = 3 \times 6$.

Wā toha

Tīpakohia ngā ākonga hei tiritiri ko wai kua whakamahi i tētahi huānga hei tohu i ngā pōpokorua me te whakaoti i te tūmahi whakareatanga. Ki te kore ngā ākonga e whakamahi i tēnei aratuka, whakatauiria mō rātou.

Ka taea e ngā ākonga te whakamahi i te tatau tīpoka.

Ka taea e ngā ākonga te whakamahi i tētahi whakaaturanga huānga (hanganga).

Ka taea e ngā ākonga te whakamahi i te tāpiritanga tukurua (hanganga).

Ka taea e ngā ākonga te whakamahi i te mōhiotanga ki ngā take taketake.

Hono

E hia ngā pō katoa mēnā kei a mātou:

E 7 ngā haupae me ngā pōpokorua e 5 i ia haupae.

E 6 ngā haupae me ngā pōpokorua e 8 i ia haupae.

E 5 ngā haupae me ngā pōpokorua 12 i ia haupae.

He aha tāu e kite nei?

Whainganga ako

Ka ako ngā mokopuna ki te:

Tohu, whakamārama hoki he pēhea te tohu o te huānga i tētahi rōpū.

Whakaaturia tētahi huānga i runga i te hanganga.

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.

Whakamārama, whakatautika hoki i te āhuatanga whakawhitiwhiti o ngā whakareatanga.

Whakaatu, whakamārama, me te whakatautika i ngā pātahitanga i waenga i ngā tau i roto i tētahi mahing

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Whakareatia, ōrite, tukurua, whakareatanga, maha, huinga, huānga, ōrite ki te.

Rapanga Motuhake

E 22 ngā feijoas o Aunty i roto i te pēke kotahi, ā, e 14 ngā feijoas i roto i tētahi atu pēke. E hia katoa ngā feijoas o te whaea?

E 54 ngā anga i kohia e Mona, ā, i kohia e tōna whanaunga ētahi atu. Ināianeī e 92 ō rātou anga. E hia i kohia e te whanaunga?

E 37 ngā pere māwhero o Mere i roto i te pēke kotahi. He pere kōwhai anō tāna i roto i tētahi atu pēke. E 76 katoa ōna pere. E hia ōna pere kōwhai?

E 31 nga rēmana i kohia e Koru i tana rākau. I puritia e ia ētahi rēmana, a, ka hoatu e ia te 16 ki te hoa noho tata. E hia ngā rēmana i puritia e Koru?

E 24 paramu a Niko i roto i te pēke. I kōwhiria e ia ētahi atu paramu, ā, ināianeī e 73 ana paramu. E hia ngā paramu i whiriwhiria e Niko?

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 2

E 48 ngā pōpokorua hīkoi o te pōpokorua iti rawa hei whakarite ki ngā haupae.

He aha ngā huarahi rerekē katoa e taea ai e ia te whakarite kia kore ai he pōpokorua e toe ana?

Hei āwhina i te kaiako

Me wātea he pepa tapawhā, he pepa iraira rānei ka taea e ngā ākonga te whakamahi hei tapahi me te tautohu i ngā whakarōpū rerekē ka taea e rātou te whakaingoa.

Whakangāwari i ngā ākonga ki te tautohu ka taea te whakaahua i tētahi huānga i roto i ngā huarahi neke atu i te kotahi. Kia mōhio ki ngā ākonga e whakamahi ana i te tohu hei tohu i te āhuratanga whakawhitiwhiti me te hanga i runga i ā rātou whakaaro.

Kia mōhio ki ngā ākonga e tautohu ana i ngā whakarōpū katoa e taea ana i runga i te āhua nahanaha. Miramiratia tēnei ki ētahi atu ākonga.

Mō te tūmahi takitahi, me whakawātea ngā kaitatau.

Wā toha

Kowhiri ngā ākonga kua whakaatu ngā tauwehe o te 48. Hei tauira, 48 & 1, 24 & 2, 12 & 4, 6 & 8, ērā atu mea. Mēnā kāore anō ngā ākonga kia whakamahi i tētahi tikanga nahanaha hei kimi i ngā take, whakaurua tēnei hei rongoā ka taea.

Hono

He aha ngā huarahi rerekē e taea ai e te pōpokorua iti te whakarite i ngā pōpokorua e 24 ki ngā haupae ōrite? Me pēhea e kitea ai e koe ngā huarahi rerekē katoa?

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

E ai ki tā mātou pūnaha tau i runga anō i ngā whakarōpūtanga tekau, tekau pūtake rānei. Ka taea te wehe i ngā whakarōpūtanga o tētahi, tekau, rau, me ngā mano i roto i ngā huarahi rerekē.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

He āhuratanga tauhanga e whakaahua ana i te tāpiritanga me te whakareatanga hei mahi. Koinei ngā āhuratanga whakawhitiwhiti, pāhono, tohatoha, me te tuakiri. He pātahitanga kōaro tō te tāpiritanga me te tangohanga me te whakareatanga me te wehenga.

He ōrite te tāpiritanga tukuru ki te whakareatanga.

Ko te tikanga o te āhuratanga whakawhitiwhiti he ōrite te 3×6 ki te 6×3 nō reira $6 \times 3 = 3 \times 6$.

Whainganga ako Ka ako ngā mokopuna ki te:

Whakaahuatia he pēhea te tohu o te huānga i tētahi rōpū.

Whakamahia te whakarōpūtanga, te tāpiritanga tukuruā, te whakarea rānei hei mahi e hia ngā ira kei roto i tētahi huānga.

Whakaaturia tētahi huānga i runga i te hanganga.

Rapanga Motuhake

He pai ki te pōpokorua iti rawa te whakaraupapa i nga pōpokorua.

Mēnā e 9 ngā haupae pōpokorua me ngā pōpokorua e 5 i ia haupae, e hia katoa ngā pōpokorua?

Mēnā e 7 ngā haupae pōpokorua me ngā pōpokorua e 9 i ia haupae, e hia katoa ngā pōpokorua?

Mēnā e 11 ngā haupae pōpokorua me ngā pōpokorua e 7 i ia haupae, e hia katoa ngā pōpokorua?

Whakaaturia he pēhea tō whakaoti i te raru mā te whakamahi i ngā tau me tētahi whakaaturanga.

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua,
whakamuri i te 1,000, ka
tatau māwhiti-2, māwhiti-3,
māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-
2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te
whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$: $10 \div 5 \neq 5$
 $\div 10$

Whakaoti rapanga
whakawehe mā te huri
kōaro i te whakawehe hei
whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga
whakawehe tauoti ki te
tauwehe mati-1, kāore he
toenga.

Ngā tini mata o te Reo Pāngarau

Whakareatia, ōrite,
tukuruā,
whakareatanga, maha,
huinga, huānga, ōrite ki
te.

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 3

E 8 mita te hīkoi o te Pōpō iti rawa i roto i te meneti.
E 9 ngā wā i hīkoi atu ai a Keiti Ant.
Pēhea te tawhiti o te hīkoi a Katie Ant?

I hīkoi te Pōpō iti rawa i te 13 mita i roto i te rua meneti.
E 5 ngā wā i hīkoi atu ai a Soane Ant.
Pēhea te tawhiti o te hīkoi a Soane Ant?

I hīkoi te Pōpō iti rawa i te 15 mita i roto i te toru meneti.
E 6 ngā wā i hīkoi atu ai a Louie Ant.
Pēhea te tawhiti o te hīkoi a Louie Ant?

Hei āwhina i te kaiako

I mua i tō whakarewatanga i te tūmahi, hoatu ki ngā ākonga he kaitatau, ka tono atu ki a rātou kia hanga huānga hei tohu i ngā tūmahi whakarea mati kotahi me te mahi i te hua.

Tirohia mēnā kei te whakamahi ngā ākonga i te tāpiritanga tukurua, i ngā huānga rānei hei whakaoti i ngā tūmahi whakareatanga. Me mātua whakarite kei te whakamahi ngā ākonga i ngā tau hei tohu me te pēhi kia neke atu i tua atu i te tatau.

Tūmanako kia whakamahia e ngā ākonga te hanganga whakarea hei whakaoti i ngā tūmahi.

Whakaurua ngā kupu e pā ana ki te whakarea tae atu ki te hua me te tāpiritanga tukurua.

Tūmanako kia whakaatu ngā ākonga mā te whakamahi i ngā tātuhī me ngā tuhipoka tae atu ki te whakamahi i ngā rerenga tau.

Mō te tūmahi takitahi, me whakawātea ngā kaitatau, pepa mātiti rānei mā ngā ākonga.

Wā toha

Tīpakohia ngā ākonga hei tiritiri kua whakamahi i te tāpiritanga tukurua hei tohu me te whakaoti i te raruraru whakarea whakataurite, ā, ka taea te tūhono ki te whakareatanga.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

E ai ki tā mātou pūnaha tau i runga anō i ngā whakarōpūtanga tekau, tekau pūtake rānei. Ka taea te wehe i ngā whakarōpūtanga o tētahi, tekau, rau, me ngā mano i roto i ngā huarahi rerekē.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

He āhuetanga tauhanga e whakaahua ana i te tāpiritanga me te whakareatanga hei mahi. Koinei ngā āhuetanga whakawhitiwhiti, pāhono, tohatoha, me te tuakiri. He pātahitanga kōaro tō te tāpiritanga me te tangohanga me te whakareatanga me te wehenga.

He ōrite te tāpiritanga tukurua ki te whakareatanga.

Ko te tikanga o te āhuetanga whakawhitiwhiti he ōrite te 3×6 ki te 6×3 nō reira $6 \times 3 = 3 \times 6$.

Hono

I hīkoi te Pōpō iti rawa i te 21 mita i roto i te rima meneti.

E 4 ngā wā i hīkoi atu ai a Lily Ant.

Me pēhea e taea ai e koe te mōhio i te tawhiti o te hīkoi a Lily Ant mā te tāpiri auau?

Whainganga ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru whakarea e pā ana ki ngā whakataurite.

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

Whakamārama, whakatautika hoki i te āhuatanga whakarea o te whakareatanga.

Rapanga Motuhake

E 24 nga pōpokorua hīkoi o te pōpokorua iti rawa hei whakarite ki ngā haupae.

He aha ngā huarahi rerekē katoa e taea ai e ia te whakarite kia kore ai he pōpokorua e toe ana?

E 36 ngā pōpokorua hīkoi o te pōpokorua iti rawa hei whakarite ki ngā haupae.

He aha ngā huarahi rerekē katoa e taea ai e ia te whakarite kia kore ai he pōpokorua e toe ana?

E 60 ngā pōpokorua hīkoi o te pōpokorua iti rawa hei whakarite ki ngā haupae.

He aha ngā huarahi rerekē katoa e taea ai e ia te whakarite kia kore ai he pōpokorua e toe ana?

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Whakarea, ōrite, whakareatanga, maha, ngā huinga, te huānga, orite ki, tauoti, tapiritanga taarua

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 4

Kia kite te pō i te kai, he tino tere te oma.

Ka taea e Nikki Ant te oma 14 mita ia meneti ki te parāoa. Pēhea te tawhiti o te oma o Nikki Ant i roto i te 9 meneti?

Ka taea e Tyler Ant te oma 23 mita ia meneti ki te keke. Kia pēhea te tawhiti o te oma a Tyler Ant i roto i te 9 meneti?

Me mātua whakarite ka taea e koe te whakamārama me te whakatika i tō whakamārama i ngā huarahi rerekē.

Hei āwhina i te kaiako

I te wā o te whakarewatanga, whakaaturia ngā ākongā o ngā huānga rerekē (hei tauira, ngā rārangi tāngata, ngā matapihi i tētahi paraka noho, ngā rākau niu i ngā raina). Pātai atu ki a rātou mēnā he huarahi tere ki te mahi e hia ngā ahanoa me te kore tatau i aua mea katoa.

Tirohia mēnā ka wehewehea e ngā ākongā ngā tau mati-rua mā te whakamahi i te āhukatanga tohatoha (hei tauira, $10 \times 9 + 4 \times 9$).

Whakangāwari i ngā ākongā kia kite kei te whakaoti rātou i ngā raruraru auau, ā, ka taea ēnei te whakaatu hei ōwehenga pērā i te tūhono.

Whakaurua ngā kupu e pā ana ki te whakareatanga tae atu ki te hua, te tāpiritanga tukurua, te auau.

Tūmanako kia whakaatu ngā ākongā mā te whakamahi i ngā tātuhi me ngā tuhipoka tae atu ki te whakamahi i ngā rerenga tau.

Mō te tūmahi takitahi, me whakawātea ngā kaitatau, pepa mātiti rānei mā ngā ākongā.

Wā toha

Tīpakohia ngā ākongā hei tiritiri nā rātou i tuhi ā-pūnaha i te pikinga mokatere hei whakaatu i te pikinga o te tawhiti. Otiia, mēnā kāore anō ngā ākongā kia whakamahi i tēnei aratuka, tīpakohia ngā ākongā kua whakamahi i te tāpiritanga tukurua, ā, whakamahia tēnei hei whakaahua i te hononga.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā tauira me ngā pātahitanga i roto i ngā huarahi maha.

Ko te tikanga o te āhukatanga whakawhitiwhiti he ōrite te 3×6 ki te 6×3 nō reira $6 \times 3 = 3 \times 6$.

Ko te āhukatanga pāhono o te whakareatanga e pēnei ana, hei tauira, $(2 \times 2) \times 6 = 2 \times (2 \times 6)$, e whakamahia ana i te tāruatanga tukurua ina kimi i te hua o te 4 me te 6.

Ko te āhukatanga tohatoha e pēnei ana, hei tauira, $7 \times 7 = (7 \times 5) + (7 \times 2) = 35 + 14 = 49$.

Hono

E whakaaro ana te pōpokorua iti rawa ka taea e ia te whakatika i te raruraru mā te tēpu. Koinei tana tohu i a Nikki Ant:

1:14

2:28

3:42

Ka hiahia ia ki te tutohia te omanga 5 mita o Tia ia mineti kotahi. Me pēhea te whakaatu a te pōpokorua iti rawa i tēnā i runga i te tēpu kia kitea ai te tawhiti o te oma o Tia Ant i roto i te 9 meneti?

Whainganga ako Ka ako ngā mokopuna ki te:

Whakaotia ngā raruraru whakarea e pā ana ki ngā mokatere.

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

Tautuhia te hononga i waenga i te huānga me te whakareatanga.

Whakamāramatia mā te whakamahi i tētahi whakaaturanga me pēhea te nui ake o te tawhiti i roto i te wā (hei tauira, mēnā ko te 1 meneti ko te 7 meneti, ko te 2 meneti he 14 meneti).

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.

Whakamārama, whakatautika hoki i te āhuetanga whakarea o te whakareatanga.

Rapanga Motuhake

Whakaotia ngā raru e whai ake nei:

$$8 \times 7 =$$

$$4 \times 11 =$$

$$15 \times 6 =$$

$$22 \times 8 =$$

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Whakarea, ōrite, maha, ngā huinga, ngā huānga, orite, tauoti, wehea, tapiritanga tukurua, utu

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 5

Kei te whakaoti a Lucia i ngā raruraru e whai ake nei:

$$4 \times 8 = 32$$

$$8 \times 4 =$$

$$23 \times 7 = 161$$

$$7 \times 23 =$$

E kī ana a ia kāore e hiahiatia e ia te mahi i te whakautu mō te whārite tuarua i ia huinga.

E whakaae ana koe ki a Lucia?

He aha tāu e kite nei?

Hangaiia he whakaaro me te whakamahi i ngā tau me ngā rauemi hei tūhura me te whakamātau i te whakaaro.

Hei āwhina i te kaiako

Me whakawātea ngā kaitatau, pepa mātiti rānei hei whakamahi mā ngā ākongā ki te tūhura me te whakamātau i ā rātou whakaaro.

Kia mōhio mēnā ka taea e ngā ākongā te kite he ōrite te hua o ngā whārite me te kore tatau.

Ina oti i ngā ākongā ngā whakaaro, tuhia tēnei ki te papa, ka whakahau i ngā ākongā ki te pātai me te mahi tahi me rātou ki te whakamahine i te whakaaro me te whakapai ake mā te reo pāngarau.

Hoatu he wā ki ngā ākongā ki te tūhura i ā rātou whakaaro me te whakamātau ki ētahi atu tau me ngā rauemi raima.

Mō te tūmahī takitahi, me whakawātea ngā kaitatau, ngā kupiki rānei.

Whakaaro Matua o te Ao Pāngarau

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā taurira me ngā pātahitanga i roto i ngā huarahi maha.

Ko te tikanga o te āhuratanga whakawhitiwhiti he ōrite te 3×6 ki te 6×3 nō reira $6 \times 3 = 3 \times 6$.

Wā toha

Tīpakohia ngā ākonga hei tiritiri ko wai e mōhio ana, e whakamārama ana hoki i te āhuatanga whakarea. Ki te whakamātau i ngā whakaaro, tīpakohia ngā ākonga ki te tiritiri i runga i ngā whakaaro i roto i te raupapa e whai ake nei:

Ngā tohenga e whakamahi ana i ngā tauira tau tauwhāiti (ngā momo tau rerekē).

Ngā tohenga e whakamahi ana i tētahi tauira raima tauwhāiti (he huānga, tauira rānei).

Ko ngā tohenga e whakamahi ana i tētahi tauira raima hei whakawhānui (e tohu ana ka mahi te huānga mō tētahi tau ahakoa te nui, te iti rānei).

Hono

E mahi ana te whakaaro mō ētahi atu mahi? [tāpiritanga, tangohanga, wehewehenga]

Whakaaturia tō whakaaro mā te whakamahi i ngā tohu i roto i te rerenga tau.

[$\blacktriangle \times \blackstar = \blackstar \times \blacktriangle$] or [$a \times b = b \times a$]

Whainganga ako Ka ako ngā mokopuna ki te:

Whakawhanake i tētahi whakaaro mō te āhuatanga whakarea i roto i te whakareatanga.

Tautuhia he pono te āhuatanga whakawhitiwhiti mō te tāpiritanga me te whakareatanga.

Tūhura me te whakamataui i tētahi whakaaro mā te whakamahi i ngā rauemi.

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

*Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23*

*Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$*

*Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$*

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Whakarea, ōrite, whakareatanga, maha, huinga o, ngā huānga, orite, tauoti, tāpiritanga tukurua, utu

Rapanga Motuhake

He pono, he hē rānei ēnei rerenga tau? Whakamāramatia he aha.

$$10 \times 9 = 9 \times 10$$

$$6 + 6 + 6 + 6 = 4 \times 3$$

$$30 = 3 \times 10$$

$$34 \times 89 = 89 \times 10$$

$$7 \times 3 = 7 + 7 + 7$$

Kimihia te tau ngaro:

$$23 \times 6 = 6 \times \underline{\quad}$$

$$5 + 5 + 5 + 5 = 5 \times \underline{\quad}$$

$$\underline{\quad} = 11 \times 6$$

$$\underline{\quad} + 8 + 8 + 8 = 5 \times 8$$

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 6

Kai te haupae nga pō ki te haere ki te tiki kai. Kia ora e Pōpokorua!

E 35 ngā pōpokorua, ā, ka uru rātou ki ngā haupae e 5.
E hia katoa ngā haupae?

E 99 ngā pōpokorua, ā, ka uru rātou ki ngā rārangi e 9.
E hia katoa ngā haupae?

E 72 ngā pōpokorua, ā, ka uru rātou ki ngā haupae e 6.
E hia katoa ngā haupae?

Hei āwhina i te kaiako

Whakaritea he kaitatau hei whakamahi mā ngā ākonga hei whakatauiria i te raru.

Whakangāwari i ngā ākonga kia mōhio he tere ake, he ngāwari ake hoki te whakamahi i te hanganga hei whakaoti i ngā tūmahi i te tataui, i te whakamahi rānei i te whakamātautau me te hapa.

E arotahi ana tēnei tūmahi ki te whakawehe i tētahi kohinga ahanoa ki te maha o ngā rōpū ōrite. E kīia ana tēnei ko te wehenga tiritiri, te wehenga wāhanga rānei.

Whakangāwari i ngā ākonga kia kite ina tiritiri rātou i tētahi rōpū ahanoa, ka inea e rātou, ā, ka mahi whakamuri kia mōhio ai e hia ngā rōpū kua hangaia e rātou. Ka tuhia tēnei mā te tuhi whakawehenga, te tangohanga tukuruua rānei.

Kia mōhio ki ngā ākonga e mōhio ana he ōrite te wehenga ki te tangohanga tukuruua. Whakamahia he raina-tau hei whakaahua i te āhua o te tango auau me te whakareatanga e auau ana te tāpiri.

Mō te tūmahi takitahi, me whakawātea ngā kaitatau.

Wā toha

Tīpakohia ngā ākonga hei tiritiri kua whakamahi i tētahi huarahi hanganga hei wehe i ngā pōpokorua. Kei roto pea i tēnei ko te whakamahi huānga, te whakamahi i te pātahitanga kōaro, te whakawehe rānei ki ngā wāhanga. Ki te kore ngā ākonga e whakaoti i te tūmahi i runga i te hanganga, whakatauiria tēnei mō ngā ākonga.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā tauira me ngā pātahitanga i roto i ngā huarahi maha.

He ōrite te tangohanga tukuruua ki te wehewehenga.

Hono

Ka purua e Tito Ant ngā pōpokorua katoa ki ngā haupae pēnei kia kitea ai te maha o ngā haupae:

X X X X
X X X X
X X X X
X X X X
X X X X
X X X X
X X X X

He aha tēnei e kōrero ana ki a koe mō te whanaungatanga i waenga i te whakareatanga me te wehewehenga?

Whainganga ako Ka ako ngā mokopuna ki te:

Tohu, whakamārama hoki he pēhea te tohu o te huānga i tētahi rōpū.

Whakaaturia tētahi huānga i runga i te hanganga.

Whakamahia te whakarōpū hei whakatika i ngā raru whakawehenga me te kore tatau i ia ahanoa.

Whakaotia ngā raruraru whakawehenga e pā ana ki te whakawehe i tētahi tau mati-rua ki te tau mati-kotahi kāore he toenga.

Rapanga Motuhake

Kai te haupae nga pōpokorua ki te hīkoi ki te tiki kai.

E 66 ngā pōpokorua, ā, ka uru rātou ki ngā haupae e 6.
E hia katoa ngā haupae?

E 75 ngā pōpokorua, ā, ka uru rātou ki ngā haupae e 5.
E hia katoa ngā haupae?

E 42 ngā pōpokorua, ā, ka uru rātou ki ngā haupae e 7.
E hia katoa ngā haupae?

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua,
whakamuri i te 1,000, ka
tatau māwhiti-2, māwhiti-3,
māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-
2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te
whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga
whakawehe mā te huri
kōaro i te whakawehe hei
whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga
whakawehe tauoti ki te
tauwehe mati-1, kāore he
toenga.

Ngā tini mata o te Reo Pāngarau

Wehewehe, tau wehea,
tuutohi, huri koiaro,
whakarea, ngaa
raarangi, ngaa tiwae

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 7

Kei te kōmaka a Timo i ngā kākano putiputi ki roto i ngā pōkai hei hoko i te rā māketē.

E 42 ana kākano hei puru ki roto i ngā pōkai e 3.
E hia ngā kākano kei roto i ia pōkai?

E 52 ana kākano hei puru ki roto i ngā pōkai e 4.
E hia ngā kākano kei roto i ia pōkai?

E 78 ana kākano hai puru ki roto i ngā pōkai e 6.
E hia ngā kākano kei ia pōkai?

Hei āwhina i te kaiako

Whakaritea he kaitatau hei whakamahi mā ngā ākonga hei whakatauirā i te raru.

Whakangāwari i ngā ākonga kia mōhio he tere ake, he ngāwari ake hoki te whakamahi i te hanganga hei whakaoti i ngā tūmahi i te tatau, i te whakamahi rānei i te whakamātautau me te hapa.

E arotahi ana tēnei tūmahi ki te whakawehe i tētahi kohinga ahanoa ki te maha o ngā rōpū ōrite. E kīia ana tēnei ko te wehenga tiritiri, te wehenga wāhanga rānei.

Whakangāwari i ngā ākonga kia kite ina tiritiri rātou i tētahi rōpū ahanoa, ka inea e rātou, ā, ka mahi whakamuri kia mōhio ai e hia ngā rōpū kua hangaia e rātou. Ka tuhia tēnei mā te tuhi whakawehenga, te tangohanga tukuruā rānei.

Tūmanako kia tāhopu ngā ākonga mā te tuhi wehewehenga.

Mō te tūmahi takitahi, me whakawātea ngā kaitatau.

Wā toha

Tīpakohia ngā ākonga hei tiritiri kua whakamahi i tētahi huarahi hanganga hei wehe i ngā kākano. Kei roto pea i tēnei ko te whakamahi huānga, te whakamahi i te pātahitanga kōaro, te whakawehe rānei ki ngā wāhanga. Ki te kore ngā ākonga e whakaoti i te tūmahi i runga i te hanganga, whakatauirā tēnei mō ngā ākonga.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā tauira me ngā pātahitanga i roto i ngā huarahi maha.

He ōrite te tangohanga tukuruā ki te wehewehenga.

Hono

I whakaaro a Timo ka kitea e ia e hia ngā kākano putiputi i roto i ia pōkai mā te whakamahi i tēnei aratuka:

$$30 \div 3 = 10$$

$$12 \div 3 = 4$$

$$10 + 4 = 14$$

E mahi ana tēnei?

Me pēhea e whakatika ai a Timo i ērā atu raruraru?

Whainganga ako Ka ako ngā mokopuna ki te:

Tohu, whakamārama hoki he pēhea te tohu o te huānga i tētahi rōpū.

Whakaaturia tētahi huānga i runga i te hanganga.

Whakamahia te whakarōpū hei whakatika i ngā raru whakawehenga me te kore tatau i ia ahanoa.

Whakaotia ngā raruraru whakawehenga e pā ana ki te whakawehe i tētahi tau mati-rua ki te tau mati-kotahi kāore he toenga.

Rapanga Motuhake

Whakaotia ngā raru i raro nei:

$$72 \div 8 =$$

$$55 \div 5 =$$

$$36 \div 3 =$$

$$60 \div 4 =$$

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Wehewehe, tau wehea, tuutohi, huri koiaro, whakarea, ngaa raarangi, ngaa tiwae

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 8

Kei te āwhina a Leva ki te whakarite i ētahi o ngā kete taro hei koha mō tētahi hifi ulu (hui tapahi makawe). E 96 ana taro.

E hiahia ana a Leva ki te puru i te 4 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

Mēnā e hiahia ana a Leva ki te puru i te 8 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

Mēnā e hiahia ana a Leva ki te puru i te 2 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

Hei āwhina i te kaiako

Me wātea he kaitatau, he pikitia taro rānei hei whakatauiria i te raru mēnā e hiahiatia ana.

Whakangāwari i ngā ākonga kia mōhio he tere ake, he ngāwari ake hoki te whakamahi i te hanganga hei whakaoti i ngā tūmahi i te tiritiri mā te whā, i te whakamahi rānei i te whakamātautau me te hapa.

Tūmanako kia tohu ngā ākonga mā te whakamahi i tētahi huānga me ētahi atu rautaki rongoā hanganga.

E arotahi ana tēnei tūmahi ki te tango auau i tētahi rōpū mai i te tau tapeke kia kore rā anō he mea e toe ana. E kīia ana tēnei ko te wehenga tangohanga, te wehenga whakahua rānei.

Mō te mahi takitahi, me whakawātea ngā kaitatau, ngā pīni tiēre rānei.

Wā toha

Kōwhiria ētahi ākonga kia tukuna mai ā rātou kōrero mō te wāwāhi i te taro mā tētahi āhua hangarite – pēnei i te whakamahi i tētahi rārangi, te wāwāhi ki ngā wāhanga, te whakamahi rānei i te hononga tauaro ki te whakarea. Ki te kore ngā ākonga e whakaoti i te tūmahi i runga i te hanganga, whakatauiria tēnei mō ngā ākonga.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakarōpū me te tatau i ngā ahanoa o tētahi huinga kia whiwhi ai i te tapeke whakamutunga.

Ka taea te whakarōpū i ngā tau i roto i ngā huarahi mutunga kore - ka noho ōrite tonu te tau i roto i tētahi huinga ahakoa pēhea te whakaritenga, te whakaaturanga rānei.

He tauira ki ngā āhuratanga o te hanganga o ngā tau.

Ka taea te whakarōpū i ngā ahanoa o tētahi huinga kia takirua, kia whā rānei kia whiwhi ai i te tapeke whakamutunga.

Ka taea te whakarōpū i ngā tau i roto i ngā huarahi mutunga kore - ka noho ōrite tonu te tau i roto i tētahi huinga ahakoa pēhea te whakaritenga, te whakaaturanga rānei.

Ka taea e te huānga te tohu i tētahi rōpū.

Hono

Whakapūketetia ngā whārite me ngā hua mō ngā raru e toru:

$$96 \div 4 = 24$$

$$96 \div 8 = 12$$

$$96 \div 2 = 48$$

He aha ngā tauira e kitea ana e koe?

Whainganga ako Ka ako ngā mokopuna ki te:

Wehea tētahi huinga ahanoa kia rua, whā, me te waru.

Whakamahia te whakarōpū hei whakatika i ngā raru whakawehenga me te kore tatau i ia ahanoa.

Whakaahuatia he pēhea te tohu o te huānga i tētahi rōpū.

Whakaaturia tētahi huānga i runga i te hanganga.

Wehewehea mā te whakamahi i ngā wāhanga wāhanga

Rapanga Motuhake

Kei te āwhina a Leva ki te whakarite i ētahi o ngā kete taro hei koha mō tētahi hākari tapahi makawe. E 70 ana taro.

E hiahia ana a Leva ki te puru i te 5 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

Mēnā e hiahia ana a Leva ki te puru i te 10 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

Mēnā e hiahia ana a Leva ki te puru i te 2 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

Mēnā e hiahia ana a Leva ki te puru i te 7 taro ki ia kete. E hia ngā kete ka taea e ia te whakakī?

He aha ngā tauira e kitea ana e koe?

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Wehewehe, ōrite ngā rōpū, te wehenga, te huānga, ngā huinga.

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 9

Kei te āwhina a Tiare ki te hanga i ētahi 'ei katu.

E 78 ana putiputi whero.

E hiahia ana a Tiare ki te hoatu kia 6 ngā putiputi whero ki ia 'ei katu. E hia ka taea e ia te mahi?

Mēnā e hiahia ana a Tiare ki te hoatu kia 2 ngā putiputi whero ki ia 'ei katu. E hia ka taea e ia te mahi?

Mēnā e hiahia ana a Tiare ki te hoatu kia 3 ngā putiputi whero ki ia 'ei katu. E hia ka taea e ia te mahi?

Hei āwhina i te kaiako

Me wātea he kaitatau, he pikitia putiputi rānei hei whakatauiria i te raru mēnā e hiahiatia ana.

Whakangāwari i ngā ākonga kia kite he tere ake, he ngāwari ake hoki te whakamahi i te hanganga hei whakaoti i ngā tūmahi i te tiritiri mā te ono, i te whakamahi rānei i te whakamātautau me te hapa.

Tūmanako kia tohu ngā ākonga mā te whakamahi i tētahi huānga me ētahi atu rautaki rongoā hanganga.

Kia mōhio mēnā ka whakamahi ngā ākonga i te pātahitanga kōaro i waenga i te whakareatanga me te wehewehenga.

E arotahi ana tēnei tūmahi ki te tango auau i tētahi rōpū mai i te tau tapeke kia kore rā anō he mea e toe ana. E kīia ana tēnei ko te wehenga tangohanga, te wehenga whakahua rānei.

Mō te tūmahi takitahi, me whakawātea ngā kaitatau.

Wā toha

Tīpakohia ngā ākonga hei tiritiri ko wai i whakamahi i tētahi huarahi hanganga hei wehe i ngā putiputi, tae atu ki te whakamahi i tētahi huānga me te wehewehe, te whakawehe ki ngā wāhanga, te whakamahi rānei i te pātahitanga kōaro ki te whakareatanga.

Ki te kore ngā ākonga e whakaoti i te tūmahi i runga i te hanganga, whakatauiria tēnei mō ngā ākonga.

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakarōpū me te tatau i ngā ahanoa o tētahi huinga kia whiwhi ai i te tapeke whakamutunga.

Ka taea te whakarōpū i ngā tau i roto i ngā huarahi mutunga kore - ka noho ōrite tonu te tau i roto i tētahi huinga ahakoa pēhea te whakaritenga, te whakaaturanga rānei.

He tauira ki ngā āhuetanga o te hanganga o ngā tau.

Ka taea te whakarōpū i ngā ahanoa o tētahi huinga kia takirua, kia whā rānei kia whiwhi ai i te tapeke whakamutunga.

Ka taea te whakarōpū i ngā tau i roto i ngā huarahi mutunga kore - ka noho ōrite tonu te tau i roto i tētahi huinga ahakoa pēhea te whakaritenga, te whakaaturanga rānei.

Ka taea e te huānga te tohu i tētahi rōpū.

Hono

E whakaaro ana a Tiare ka taea e ia te mahi e hia ngā 'ei katu ka taea e ia mā te huri i te raruraru ki:

$$6 \times \underline{\quad} = 78$$

Ka mahi tēnei?

Whainga ako Ka ako ngā mokopuna ki te:

Wehea tētahi huinga ahanoa kia rua, e toru, kia ono.

Whakamahia te whakarōpū hei whakatika i ngā raru whakawehenga me te kore tatau i ia ahanoa.

Tautuhia ngā taura i roto i te wehenga ina wehe ki ngā whakawehe pātahi.

Whakaahuatia he pēhea te tohu o te huānga i tētahi rōpū.

Whakaaturia tētahi huānga i runga i te hanganga.

Wehewehea mā te whakamahi i ngā wāhanga wāhanga.

Rapanga Motuhake

Kai te hanga pāhi pai a Sosefina mo tōna rā whānau.

E 36 ngā M&Ms a Sosefina hei puru ki roto i ngā pāhi e 3.
E hia ngā M&M kei ia pēke?

E 80 nga pīni tiēre a Sosefina hai puru ki roto i nga pēke e 5.
E hia ngā pīni tiēre kei roto i ia pēke?

E 28 nga lollipops o Sosefina. E hiahia ana a ia ki te puru i te 2 ki ia pēke.
E hia ngā pēke ka taea e ia te whakakī?

E 36 nga hua rākau o Sosefina. E hiahia ana a ia ki te puru i te 4 ki ia pēke.
E hia ngā pēke ka taea e ia te whakakī?

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Wehewehe, ōrite ngā rōpū, te wehenga, te huānga, ngā huinga.

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 10

Kei te whakatō rīwai ngā akomanga. E ngana ana rātau ki te mahi ko tēhea karaehe te nuinga o ngā tipu rīwai.

Ka taea e koe te āwhina i a rātau mā te mahi ko tēhea te huarahi ka tino nui?

Ka wehea e te Rūma Tuatahi tētahi pēke rīwai kākano e 32 ki waenganui i ngā rōpū e rua.

Ka wehewehea e te Rūma Tuarua tētahi pēke rīwai kākano e 48 ki waenganui i ngā rōpū e whā.

Ka wehewehea e te Rūma Toru tētahi pēke rīwai kākano e 76 ki waenganui i ngā rōpū e waru.

He aha te hautanga o te pēke rīwai kākano ka riro i ia rōpū i roto i ngā akomanga rerekē?

Hei āwhina i te kaiako

Whakangāwari i ngā ākonga kia mōhio ina kōrero koe mō tētahi huinga pīni he kotahi te huinga, ā, kei te kitea e rātau tētahi hautanga o taua huinga. Me aro atu hoki ki te tautapa hei whakaingoa i te mea kua wehea te katoa.

Tirohia ngā ākonga e āhei ana ki te tāutu i te whanaungatanga i waenga i te kimi hautanga o tētahi huinga me te wehewehenga.

Wā toha

Kōwhiria ētahi ākonga kia tukuna mai ā rātau kōrero mō te wehe i ngā pēke rīwai tipu mā te whakakopaki, te wehe wehe ki ngā poro, me te whakamahi i tētahi hanganga – kua ko te toha kotahi ki ia tangata.

Hono

Mēnā e 12 ngā rīwai kākano hei tiritiri i roto i ngā pēke e rua. E hia ngā rīwai kei ia pēke?

He aha te haurua o te 12?

Whakapūketetia hei $12 \div 2 = 6$ me te $1/2$ o te $12 = 6$

Mēnā e 20 ngā rīwai kākano hei tiritiri i roto i ngā pēke e whā. E hia ngā rīwai kei ia pēke?

He aha te hauwhā o te 20?

Whakapūketetia hei $20 \div 4 = 5$ me te $1/4$ o te $20 = 5$

He aha tāu e kite nei?

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā tauira me ngā pātahitanga i roto i ngā huarahi maha.

He ōrite te tāpiritanga tukuruā ki te whakareatanga.

He ōrite te tangohanga tukuruā ki te wehewehenga.

Whaingā ako Ka ako ngā mokopuna ki te:

Wehea tētahi huinga ahanoa kia rua, whā, me te waru.

Whakamahia te whakarōpū hei whakatika i ngā raru whakawehenga me te kore tatau i ia ahanoa.

Whakaahuatia he pēhea te tohu o te huānga i tētahi rōpū.

Wehewehea mā te whakamahi i ngā wāhanga wāhanga.

Tautuhia te hononga i waenga i te wehenga me ngā hautanga.

Rapanga Motuhake

Whakapūketetia ēnei e whai ake nei hei wehenga, hei hautanga hoki:

Hei tauira: He aha te haurua o te 60?

$$\frac{1}{2} \text{ o te } 60 = 30$$

$$60 \div 2 = 30$$

He aha te haurua o te 20?

He aha te hauwhā o te 40?

He aha te haurua o te 80?

He aha te haurua o te 100?

He aha te hauwhā o te 100?

He aha te haurua o te 60?

He aha te hauwhā o te 60?

He aha ngā tauira me ngā pātahitanga e kitea ana e koe?

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua,
whakamuri i te 1,000, ka
tatau māwhiti-2, māwhiti-3,
māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-
2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te
whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga
whakawehe mā te huri
kōaro i te whakawehe hei
whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga
whakawehe tauoti ki te
tauwehe mati-1, kāore he
toenga.

Ngā tini mata o te Reo Pāngarau

Whakarea, ōrite,
whakareatanga, maha,
huinga ō, wehewehe,
haurua, division,
hauwhā, tookeke,
hautau, hauwaru

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 11

E 65 nga kapu i tunua e te kaihanga parāoa.
Ka tiria e ia ki runga i ngā paepae e 5.
He aha te hautanga o ngā kapu kei ia paepae?
E hia ngā keke kai ia paepae?

E 69 nga kapu i tunua e te kaihanga parāoa.
He ōrite tana tiritiri i runga i ngā paepae e 3.
He aha te hautanga o ngā kapu kei ia paepae?
E hia ngā keke kai ia paepae?

Hei āwhina i te kaiako

Whakangāwari i ngā ākonga kia mōhio ina kōrero koe mō tētahi huinga pīni he kotahi te huinga, ā, kei te kitea e rātou tētahi hautanga o taua huinga. Me aro atu hoki ki te tautapa hei whakaingoa i te mea kua wehea te katoa.

Tirohia ngā ākonga e āhei ana ki te tāutu i te whanaungatanga i waenga i te kimi hautanga o tētahi huinga me te wehewehenga.

Wā toha

Tīpakohia ngā ākonga hei tiritiri nā wai i wehe i ngā kapu mā te whakarōpū, te wehenga, te hanganga rānei, kua te tiritiri takitahi.

Hono

He aha te ture ka taea e koe te whakamahi hei kimi i tētahi hautanga wae o tētahi huinga?

Me pēhea e kitea ai tētahi haurua? Me pēhea koe e kite ai i te tuatoru?
Me pēhea e kitea ai tētahi tuarima?

E mahi ana tēnei i ngā wā katoa?

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā tauira me ngā pātahitanga i roto i ngā huarahi maha.

He ōrite te tāpiritanga tukuruua ki te whakareatanga.

He ōrite te tangohanga tukuruua ki te wehewehenga.

Whaingā ako Ka ako ngā mokopuna ki te:

Wehea tētahi huinga ahanoa mā te toru, me te rima.

Kimihia te tuatoru o te huinga.

Kimihia te rima o te huinga.

Whakamahia te whakarōpū hei whakatika i ngā raru whakawehenga me te kore tatau i ia ahanoa.

Whakaahuatia he pēhea te tohu o te huānga i tētahi rōpū.

Wehewehea mā te whakamahi i ngā wāhanga wāhanga.

Tautuhia te hononga i waenga i te wehenga me ngā hautanga.

Rapanga Motuhake

E 45 nga kapu i tunua e te kaihangā parāoa.
Ka tiria e ia ki runga i ngā paepae e 5.
He aha te hautanga o ngā kapu kei ia paepae?
E hia ngā keke kai ia paepae?

E 51 nga kapu i tunua e te kaihangā parāoa.
He ōrite tana tiritiri i runga i ngā paepae e 3.
He aha te hautanga o ngā kapu kei ia paepae?
E hia ngā keke kai ia paepae?

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua,
whakamuri i te 1,000, ka
tatau māwhiti-2, māwhiti-3,
māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-
2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te
whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$: $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga
whakawehe mā te huri
kōaro i te whakawehe hei
whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga
whakawehe tauoti ki te
tauwehe mati-1, kāore he
toenga.

Ngā tini mata o te Reo Pāngarau

Whakarea, ōrite,
whakareatanga, maha,
huinga o, wehewehe,
tiritiri tika, hautanga,
tōkeke, tuatoru,
tuarima.

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Rapanga 12

He aha te tau ngaro:

$$12 + 12 + 12 + 12 + 12 = 12 \times \underline{\quad}$$

$$42 + 42 + 42 + 42 = \underline{\quad} \times 42$$

$$21 \times 14 = \underline{\quad} \times 21$$

$$\frac{1}{2} \text{ o te } 22 = 22 \div \underline{\quad}$$

$$\frac{1}{4} \text{ o } \underline{\quad} = 16 \div 4$$

$$64 \div 2 = \underline{\quad} \text{ o } 64$$

$$124 \div 3 = \frac{1}{3} \text{ o } \underline{\quad}$$

$$\underline{\quad} \times 5 = 5 \times 16$$

He aha ngā tauira me ngā pātahitanga i whakamahia e koe ki te kimi i ngā tau ngaro?

He aha ngā whakaaro ka taea e koe?

Hei āwhina i te kaiako

Whakangāwari i ngā ākonga kia kite i te āhuatanga whakawhitiwhiti e pā ana ki te tāpiritanga me te whakareatanga anake, ā, kāore e pā ana ki te wehewehenga. Matapakihia te āhua o te tāpiritanga tukuruā, ā, ko te wehenga he tangohanga tukuruā.

Kia mōhio mēnā ka whakamahi ngā ākonga i te whakaaro whanaungatanga, kaua ki te tātai ki te kimi i ngā tau ngaro

Wā toha

Tīpakohia ngā ākonga hei tiritiri ko wai ka taea te kimi i ngā rerenga tau ngaro mā te whakamahi i ngā pātahitanga puta noa i te tohu ōrite

Hono

He aha tāu i kite ai i roto i ngā tauira rerekē?

Ka taea e koe te whakaaro mō te whakareatanga, te wehewehenga, me ngā hautanga mai i tāu i kite ai?

Whakaaro Matua o te Ao Pāngarau

Ka taea te whakawehe me te whakakotahi i ngā tau hei whakaoti i ngā raruraru tāpiritanga me te tangohanga matatini ake, me ngā raruraru whakarea me te whakawehenga ngāwari.

He maha ngā huarahi ka taea te whakaatu i ngā tau.

E whakaatu ana ngā whārite i ngā pātahitanga ōritetanga i waenga i ngā wāhanga i ia taha o te tohu ōrite.

Ka taea te whakamahi, te whakaaturanga me te whakawhānui i ngā tauira me ngā pātahitanga i roto i ngā huarahi maha.

He ōrite te tāpiritanga tukuruā ki te whakareatanga.

He ōrite te tangohanga tukuruā ki te wehewehenga.

Whaingā ako Ka ako ngā mokopuna ki te:

Tautuhia ngā rerenga tau e pono ana, e hē ana hoki e pā ana ki te whakarea me te wehewehenga.

Whakamahia ngā pātahitanga puta noa i te tohu ōrite hei tāutu mēnā he pono, he hē rānei ngā rerenga tau.

Whakatakoto whakaaro mō ngā āhuatanga o te whakarea me te wehewehenga.

Rapanga Motuhake

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

Aromatawai 1: Whakarea me te Wehenga

Aromatawai 2: Whakreatanga me te Wehenga

Ngā tini mata o te Marautanga

Tau 3

Te hanga o ngā Tau

Tatau whakamua, whakamuri i te 1,000, ka tatau māwhiti-2, māwhiti-3, māwhiti-5, māwhiti-10 hoki.

Whakautu whakarea mati-2 ki te mati-1:
h.t., 2×23

Mōhio ki te huri kōaro i te whakawehe hei whakarea.
h.t., $8 \times 99 = 99 \times 8$; $10 \div 5 \neq 5 \div 10$

Whakaoti rapanga whakawehe mā te huri kōaro i te whakawehe hei whakarea:
h.t., $40 \div 5 = 8 \rightarrow 5 \times 8 = 40$

Whakaoti rapanga whakawehe tauoti ki te tauwehe mati-1, kāore he toenga.

Ngā tini mata o te Reo Pāngarau

Whakareatia, ōrite, whakareatanga, maha, huinga o, wehewehe, wehenga, tāpiritanga tukurua, hautau, āhuatanga whakawhitiwhiti.

Mā te kaiako

Ngā Rongoā me ngā paku hapa

Aromatawai 1: Whakarea me te Wehenga

Kei te whakaharatau a Nancy i ana tākainga netipōro mai i ngā tūnga e 5 i roto i te porohita. E 16 ngā tākainga i whakamātauria e ia i ia tūnga. E hia ngā tākainga i whakamātauria e ia?

E 72 ngā kākano kāreti a Liliana hei whakatō. He mokowā tōna mō ngā haupae e 4. E hia ngā kākano kāreti ka whakatōkia e ia i ia haupae?

I roto i te hōro, e 14 ngā haupae me ngā tūru e 19 i ia haupae? E hia ngā tūru i reira?

Tuhia ō ake raruraru whakareatanga, wehewehenga rānei. Whakaaturia me pēhea koe e whakaoti ai.

Aromatawai 2: Whakareatanga me te Wehenga

E whakaharatau ana a Hōria i ana tākainga whutupōro mai i ngā tūnga e 7 i runga i te papa tākaro. E 12 ngā tākainga i whakamātauria e ia i ia tūnga. E hia ngā tākainga i whakamātauria e ia?

E 78 ngā kākano putiputi a Raniera hei whakatō. He mokowā tōna mō ngā haupae e 3. E hia ngā kākano putiputi ka whakatōkia e ia i ia haupae?

I roto i te hōro, e 18 ngā haupae me ngā tūru 13 i ia haupae? E hia ngā tūru i reira?

Tuhia ō ake raruraru whakareatanga, wehewehenga rānei. Whakaaturia me pēhea koe e whakaoti ai.