



# Tautoko Ako Tau

## Welcome to the Wonderful World of Learn & Teach

**Ko te tikanga ako ko 'Ako me te Whakaako! Akohia te oranga katoa!**

1<sup>st</sup>Ako, ka marama, timata ki te whakaako.I roto i te maatauranga kore utu ka ako nga akonga tere ki te ako puhoi.I te mahi ka whakangungu te kaimahi mohio i nga tangata hou. I te kainga, ka ako nga koroua i nga tamariki, nga mokopuna. Ka ako nga matua i nga tamariki.

### Tohutohu ako

I te wa e ako ana, e whakaako ana ranei kaua e rangahau noa i tenei aratohu engari he maha atu ano.I te wa e rapu ana koe i tetahi waahanga tuhi paiPlagiarizenga waahanga e hiahia ana koe me te whakawhānui ake i enei(e pa ana ki nga Tohunga me nga Kaiako).



Whakahaere:taki takikupu me te taki wetereo. Tāpiri:te tae,  
nga whakaahua me nga ororongo i hiahiatia.

Panui panui, mena e tika ana me whakarereke. Mahia  
to mahi 'Mana pupuri kore utu' ka whakaputa.

### WhaiarongaTau

Tāpiri ripanga ~ Tau ~ Tau tikanga ~ Tau makutu ~  
Whakamahinga tau ~ Uara tau ~ Tohu Math ~ Ine ~



### 1 Kei te tatari te Atua kia rongo mai koe!

**MātaurangaTe pure**

WhakanuiaTe Ra Mātauranga 6.1.7.NAtm

Arohanui**1 te Atua**, Kaihanga o te Ao tino ataahua To koutou  
kaitiaki pono tino whakaiti(**1<sup>st</sup>ingoa**) He oati ki te rapu, ki te whiwhi,  
ki te whakamahi i te Matauranga mo te wa roa Ki te Ako me te  
Whakaako ma te Matauranga Koretu  
Hei tautoko i te matauranga kore utu mo te iwi  
Tukuna atu nga wheako ora ki nga reanga e whai ake nei  
**Mo te Kororia o 1 TE ATUAmekia te Pai o te Tangata**



Ka whakamahia tenei karakia i roto i te karaehe me te Ra Matauranga



## Tāpiri tepu

Kei roto i te ripanga taapiri e 400 nga taapiri. Ka haere mai i te maui ki te taha matau i tetahi rarangi, mai i runga ki raro ranei i tetahi pou, he 1 ake ia tau hou(+)atu i te tau o mua(kaimuri). Ko nga kairiwhi he raupapa tau hei tauira $0,1,2,3,4,5, \dots$  Ko nga pouaka whakamarumaru he taurua o nga mati penei $2+2=4$

+	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

O(**kore**)kaore i whakauruhia; taapiri O(**kore**)ki tetahi tau ka puta he tau kotahi. Tipakohia he tau(**mati**)i runga i te raina whakapae; tāpiri(+) me te tau kei te taha maui ki te raina poutū. Nuku matau i runga i tenei raina poutū kia tae ra ano te rarangi whakapae e tika ana. **Hei tauira** $3+5=8$  **Tuhipoka:** He rite te hua o te  $3+5$  ki te  $5+3=8$  Ka taea te whakawhititanga taapiri he rite tonu te hua.

## Tau

### Tauhe mea nui me7he atua!

I te wa i timata ai te tangata ki te whakamahi i nga nama kua reri ki te huri ki tona Destiny:Kaitiaki o te Ao Tinana. Na te nama i taea te whakaahua me te ine i te rahinga, te tere,..., te hanga ariā pangarau.E whakapono ana nga Kaitiaki Tiaki ko nga nama te kohatu kokonga nui o te hinengaro o te tangata.

Ko nga tau te kaupapa o te ariā pangarau e whakamahia ana e te tangata ki te hanga ariā pangarau ake.I ahu mai nga nama ki te putaiao e taea ai e tatou te anga whakamua me te maarama ake**1 TE ATU**Anga mea hanga.Na Numbers i hanga nga ao me te whakangaro ia ratou. Ko te huringa o te "Tīmatanga, Whakamutunga me te Hangarua".

Nga nama e whakaaetia ana te tatau:

**Maihao i te ringa 1, 2, 3, 4, 5.Hua(tohu:=)5 maihao.**

**Te taapiri(tohu:+)**taea ki te hanumi neke atu i te 1 hua tatau. Maihao ki nga ringa  $25+5 = 10$  maihao ki nga ringa e rua.

**Tangohia atu(tohu:-)**taea ki te whakaiti i te hua o mua. Ko te ringa kotahi me nga maihao e 5 kua tapahia te maihao kotahi( aituā ): $5-1 = 4$  maihao ka toe ki te ringa.

**Whakareatia(tohu: •)**tuku(maamaa ake)te tatau i te maha o nga mea rite.Maihao ki nga ringa  $33\cdot5$ (he ngawari ake i te  $5+5+5=15$  maihao ki nga ringa e 3.Ina whakareatia te tau kotahi a**Manato**hu-ka whakamahia: $2\cdot2\cdot2\cdot2(2^5$ mana o 5)= 32 te mana tuarima o te 2.

Ka taea e nga nama te hanga a**Raupapao** nga tau,**0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233,...(tohu:...)**i muri i te 2 tau tuatahi, ko ia tau te tapeke o nga tau e 2 o mua.

Ka whakamahia e te Kaitiaki Tiaki te punaha nama 10.Ko nga tohu mati 1 i whakamahia:**0(kore), 1(kotahi), 2(Rua), 3(toru), 4(wha), 5(rima), 6 (ono), 7(e whitu), 8(waru), 9(iwa).**Tau:**0, 2, 4, 6, 8**ka kiia he rite;**1, 3, 5, 7, 9**ka kiia he odd. Whai muri i te 9,2mati(ka karangahia 10's)ka whakamahia:  
**10, 11, 12, 13, 14, 15, 16, 17, 18, 19.**

Ko te**0**ka whakanohoia ki te taha matau o tetahi o nga tau 9 ka hanga he tau mati 2 e kiia nei ko te 10's(**tekau**), hei tauira**70**.Rua**00**ka kiia ko 100's(**ngā rau**), hei tauira**700**.Torutoru**000**ka kiia ko 1000's(**mano**),hei tauira**7000**.Ko ia tau e **3** ka tatauhia mai i te taha matau ka wehea e te pikohei tauira **1,000,000(1 miriona)**.

**ōrau(tohu:%)tikanga rau.**Ka taea hoki te whakaatu te hautau 100 hei ōrauhei tauira $7/100 = 7\% \text{ā-ira ranei} 0.07$

(.)Ka whakamahia he ira hei whakaatu uara iti iho i te 1hei tauira 0.1(ka karangahia te ira). 0.1(Iraira)ka taea hoki te whakaatu hei hautau ma te whakamahi i te tohu wehenga  $1/100.1 = 1/10$ ōrau ranei10%

Ka whakamahia nga nama ki te hoahoahua:Tapatoru 3 taha, Tapawhā tapawhā 4,Tapawhā,Taparima 5 taha, Hexagon 6 taha,**7-sided Heptagon**(tohu o 1 WHAKAPONO), 8 taha Octagon.Tapawhā<sup>2</sup>(2 ahu), Matapihi<sup>3</sup>(3 ahu), Koekoe, Porotakaro...



**7**he atua no te mea i mau**1 ATUA 7**nga ra\*ki te hanga i te Ao Tinana me te Tangata.**6 rā mahi + 1 rā whakatā = 1 wiki.**

\* **Tuhipoka!****1 TE ATUA**she rereke te wiki mai i te wiki CG Kalender.

Ra 1	Ra 2	waenganui wiki	Ra 4	Ra 5	wiki	Ra ngahau
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**1 TE ATUA**hiahia**7 Nga iwi.**E 7 nga Porowini~

**1 WHAKAPONO**i runga i**7 Panuku**~tohu:**Heptagon**(7 taha, 7 koki) **1 Hahi:**E 7 nga whakahaere porowini motuhake a nga Kaitiaki o te Ao(Oracle)~

7 Ko nga kino he he o te tangata,**Ko te 'Chain of Evil'** e 7 nga hononga~ 7\_7 Ture:**he komiti e rite ana te ahua 7 HE me 7 SHE~**

## Tautikanga

**0**Mai i te kore**1 TE ATUA**hanganga te Universe tinana.Ko Zero te te maha o te hanganga.**He kino:**Ko te kore te maha o te whakangaromanga.

**1**Ko te timatanga, ko te tuatahi, ko te 1 me te anake. **1TE ATUA1 WHAKAPONO 1 Hahi.**  
**He kino:**Ko te mutunga, ko te whakamutunga, kei te tata. Ko te tini.

**2**Harmony, Holy matrimony, mating, mahanga.

**He kino:**Ko te weriweri, ko te wehewehe, ko te karekau, ko te noho takakau.

**3**Tapatoru taima, 3 nga pou karakia(**1 TE ATUA1 WHAKAPONO 1 Hahi**).  
**He kino:**Ko te 3 he mano, he karakia, he ru.

**44** taima(**koanga, raumati, ngahuru, takurua**)o te tau, quattro tau, 4 ahunga(**te raki, te rawhitit, te hauauru, te tonga**), 4 huāngā(**ahi, wai, whenua, hau**), tapawha, poraka, ture hanganga.**He kino:**te hepohepo, te rangirua kahore he ture, te kore o te whakakotahitanga, te ture a Murphy.

**5**Te tirohanga, te paonia, te manawanui, te mahi.

He kino:aukati, roving, taunga.

**6**Te roopu, te hapori, te tika o te hapori, te mataaratanga tata, te whare karakia.

He kino:Hermit, wehe, elitist, taonga apartheid, roopu.

**7**1 Te poroi hopea a te Atua, Te Homai Ture, Whakaaroaro, IP (taonga hinengaro), poropiti. He kino:Te wawata, te wawata, nga karere rūpahu, te mana pupuri, te patent.

**8**Te tika, te huarahi mahi, te kawenga, te whakawhirinaki. He kino:Kore ture, he kore mahi, he pakeke, he pirau, he teka.

**9**He tangata whakahoahoa, he harikoa, he hoa, he korero mo te iwi. He kino:Mokemoke, karekau, kare e korero.

## 1 Kei te tatari te Atua kia rongo mai

koe! TauTe pure

Panuku 1 whakau 6 LGM

Arohanui**1 te Atua**, Kaihanga o te Ao tino ataahua To koutou kaitiaki pono tino whakaiti(1<sup>st</sup>ingoa) Nga mihi ki a koe mo nga tau

Ka awhina a Numbers ki te mohio ki te Universe Numbers hei awhina i nga mahi kaitiaki kaitiaki Numbers mo te whakaongaonga hinengaro me te ngahau.

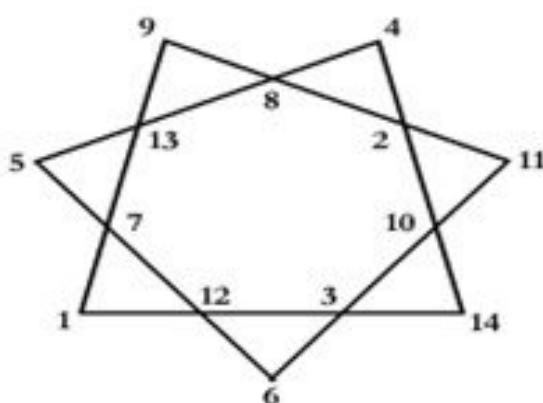
Mo te Kororia o**1 te Atuame** te Pai o te Tangata



Ka whakamahia tenei inoi ina hiahiatia!



## Te makututau



Ko te**Heptagram makutu**Ka whakatakotohia nga tau ki ia poupou me ia wahanga kia 30 nga tau e 4 o ia raina!



Waihangatia he whetu heptagon ra makutu 7 tohu?

Te ngahau i roto itapawha makutu Ko te meka ahakoa he aha te taapiri i nga tau o te tapawha:poutū(v), whakapae(h)hauroki ranei(d) he rite tonu te hua.

## Magic squares

Tapawhā makutu me te 9, 16, 25 tau

Magic Squares			v15	v15	v15	d15	v34	v34	v34	v34	d34
8	1	6	h15	5	10	11	8				h34
3	5	7	h15	9	6	7	12				h34
4	9	2	h15	4	15	14	1				h34
			d15	4 corners = 34							
v65			v65	v65	v65	v65	v65	d65			
11	24	7	20	3				h65			
4	12	25	8	16				h65			
17	5	13	21	9				h65			
10	18	1	14	22				h65			
23	6	19	2	15				h65			
			4 corners + middle = 65				d65				

Waihangahia he tapawha makutu 49 tau?

## Challenge

### Tauwhakamahinga

A:**He rerekee**Ko nga nama ko te 1, 3, 5, 7, 9, me nga tau katoa ko te mati whakamutunga tetahi o enei.

B:**Ahakoa**Ko nga nama ko te 0, 2, 4, 6, 8, me nga tau katoa ko te mati whakamutunga ko tetahi o enei.

C:**Katoahe** tau kehe me te tau taurite.

D:**Aruarua**Ko nga tau he punaha tau turanga 2 e whakamahi ana i nga tohu e 2, 0, 1.

E:**ōrau(%)**ki te kimi 15 % o te 50 whakareatia te % me te tau whakawehe ki te 100 =  $7.5$  ! $15 \cdot 50 : 100 = 7.5$

Whakaatuhi a te % kua hoatu hei hautau, whakareatia  $15 \cdot 100 / 100 = 15$

Whakaatuhi a te % kua hoatu hei tau-ira, whakareatia  $0.15 \cdot 100 = 15$

F:**Hautau**E 3 nga hikoinga hei huri i te 15% ki te hautau noa 3/20 :1. waiho te tohu %.2.wehea ki te 100 \_  $15 / 100$ .3.whakaiti

ki nga kupu iti rawa \_ 3 / 20 .

**G:ā-irahurihia** te 15% ki roto i te ira. Waiho te tohu %. Katahi ka nukuhia te ira ira o te % rua nga waahi ki te taha maui= 0.15

**H:Te raupapa taiao**ka taea e nga tau te hanga raupapa tau hei tauira 0, 1, 1, 2, 3...i muri i te 2 tau tuatahi, ko ia tau te tapeke o nga tau e 2 o mua.

**ahau:****Pirimatau**, kimihi(ka wehea nga tau katoa ma ratou ano)Hei tauira, kimihiha nga tau matua katoa ki te 20. Whakarārangihia nga tau katoa mai i te 2 ki te 20. Miramirahia te 2 ka warewarehia nga taurea katoa o te 2. Miramirahia te tau e whai ake nei  
**(3)e** kore e miramirahia, waihotia ona tini katoa. Whakahokia kia tae ra ano ki te mutunga o te rarangi. Ko nga piriti nga tau kua tohua.  
2,3,5,7, 11, 13,17, 19,

**J:Roma**Ko nga nama kei runga i etahi o nga reta o te piapa kua honoa hei tohu i te tapeke, i te rereketanga ranei o o raatau uara.

1 I, 2 II, 3 III, 4 IV, 5 V, 6 VI, 7 VII, 8 VIII, 9 IX, 10 X, 11 XI, 12 XII,... 20 XX, 30 XXX, 45 XLV, 50 L, 76 LXXVI, 100 C, 500 D, 1000 M.

## Uara tau

**0 > Kore**

**1 > Kotahi**

**5 > Rima**

**7 > Whitu**

**10 > Tekau**

**50 > Rima tekau**

**100 > Rau**

**500 > Rima rau 1,000**

**> Mano**

**5,000 > Rima mano**

**10,000 > Tekau mano**

**50,000 > Rima tekau mano**

**100,000 > Haere mano**

**500,000 > Rima rau mano**

**1,000,000 > Miliona**

**10,000,000, > Tekau miriona**

**100,000,000 > Rau miriona**

**1,000,000,000 > Miliard**

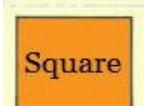
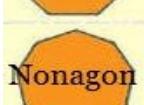
**10,000,000,000 > Tekau miriari**

**100,000,000,000 > Rau miriona**

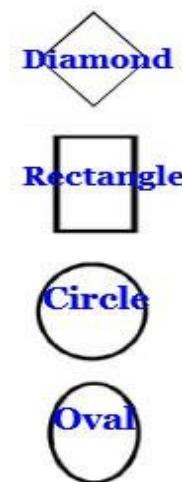
**1,000,000,000,000 > Piriona**  
**10,000,000,000,000 > Tekau piriona**  
**100,000,000,000,000 > Rau piriona**  
**1,000,000,000,000,000 > Trillion**  
**10,000,000,000,000,000 > Tekau trillion**  
**100,000,000,000,000,000 > Rau trillion**  
**1,000,000,000,000,000,000 > Piriona**  
**10,000,000,000,000,000,000 > Tekau piriona**  
**100,000,000,000,000,000,000 > Rau piriona**

Tuhipoka! Mai i te taha matau ki te maui ka whakatakotoria he piko i muri i ia 3<sup>rd</sup>matimati.

## Mathematical symbols

=hua rite ki	$\neq$ e kore e rite ki	$\equiv$ rite rite ki	
+ te tāpiri hanumi neke atu i te 1 hua tatau			 Triangle
- tango-atu ka whakaiti i te hua o mua			 Square
$\pm$ te taapiri, te iti ranei	$\mp$ haunga, taapiri ranei		 Pentagon
• ranei <del>xwhakarea</del> ( <i>ngawari ake</i> ) te tatau i te maha o nga mea rite			 Hexagon
$\div$ te wehewehe i te wahanga o te hua o mua			 Heptagon
> nui ake i	<iti iho i te		 Octagon
$\geq$ he rite ki te nui ake ranei	$\leq$ he rite ki te iti iho ranei		 Nonagon
$\neq$ kaua e nui ake	$\neq$ kaua e iti iho i te		 Decagon
%ōrau	%permil		
$\sim$ he rite ki	$\approx$ he rite tonu ki		
$\Omega$ Omeka, te tapeke o nga whakareatanga tauwehe tuatahi			
$\square$ e hāngai ana ki	$\Delta$ Delta, rereke		
$\pi$ Pi, hua o $\sqrt{ }$	$\Sigma$ Sigma, tapeke o		
pakiaka tapawha	{ }taiapa, huinga kau { , }huinga o /		
[ ]taiapa tapawha	<i>whakapūtā</i> {...}&na runga,		
( )whakapuru	huinga mutunga kore		
:no reira	:no te mea, mai		

⊆huinga-iti	⊇huinga super
∈huānga o	∉ehara i te huānga
∅huinga kau	o Uhuinga ao
ʃwhai wāhi	ʃkua oti te kati
ʃʃtaurua	ʃʃmata kati
ʃʃʃtapatoru	ʃʃʃkua kati te rōrahi whakauru



## Nga mehua

Ka whakamahia e te Kaitiaki Tiaki nga paerewa New Age(NA)ki te ine.He putanga ineine kua whakahoutia.He ratonga hapori UCG.

**Turanga Roawae:mita(m)~**

**Paerewa Rohewae:mita tapawha( $m^2$ )~3D mita( $m^3$ )~**

**Turanga Volumewae:rita(l)~ Taumaha turangawae:  
karamu(g)**

**Te ine i nga prefix.** Whakamahihia nga tohu matua mo nga mana pai.

Prefix	Tohu	Mana[ ]Uara	
Yotta	Y	10[24]	1,000,000,000,000,000,000,000,000
Zetta	Z	10[21]	1,000,000,000,000,000,000,000,000
Exa	E	10[18]	1,000,000,000,000,000,000,000,000
Peta	P	10[15]	1,000,000,000,000,000,000,000,000
Tera	T	10[12]	1,000,000,000,000,000,000,000,000
Giga	G	10[9]	1,000,000,000
Mega	M	10[6]	1,000,000
Myria	Taku	10[4]	10,000
Kiro	K	10[3]	1,000
Hecto	H	10[2]	100
Tekau	D	10[1]	10
turanga	b	10[0]	1
deci	d	10[-1]	0.1
centi	c	10[-2]	0.01
miri	m	10[-3]	0.001
moroiti	μ	10[-6]	0.000,001

nano	n	$10[-9]$	0.000,000,001
pico	p	$10[-12]$	0.000,000,000,001
femto	f	$10[-15]$	0.000,000,000,000,001
atto	a	$10[-18]$	0.000,000,000,000,000,001
zepto	z	$10[-21]$	0.000,000,000,000,000,000,001
yocto	y	$10[-24]$	0.000,000,000,000,000,000,000,001

**Turanga Roawae:**mita(m)~ small letter prefixes are( $\leq$ )uara o te turanga.[0]Ko nga taiapa e whakaatu ana i te uara mana.Te tawhiti i waenga i nga tohu 2.Hei tauira 0..à..

$10 = 10$

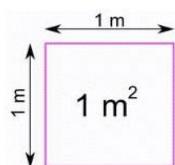
Prefix	Tohu	Mana[ ]Uara	
1 Iota	Ym	$10[24]$	1,000,000,000,000,000,000,000
1 Zeta	Zm	$10[21]$	1,000,000,000,000,000,000,000
1 Exa	Em	$10[18]$	1,000,000,000,000,000,000,000
1 Peta	Pm	$10[15]$	1,000,000,000,000,000,000
1 Tera	Tm	$10[12]$	1,000,000,000,000
1 Kika	Ko Gm	$10[9]$	1,000,000,000
1 Mega	Mm	$10[6]$	1,000,000
1 Myria	Mym	$10[4]$	10,000
1 Kiro	Km	$10[3]$	1,000
1 Hekto	Hm	$10[2]$	100
1 Tekau	Dm	$10[1]$	10
1 mita	m	$10[0]$	1
1 tetehi	dm	$10[-1]$	0.1
1 hereni	cm	$10[-2]$	0.01
1 miri	mm	$10[-3]$	0.001
1 moroiti	μm	$10[-6]$	0.000,001
1 nano	nm	$10[-9]$	0.000,000,001
1 pico	pm	$10[-12]$	0.000,000,000,001
1 wahine	fm	$10[-15]$	0.000,000,000,000,001
1 atu	am	$10[-18]$	0.000,000,000,000,000,001
1 hepe	zm	$10[-21]$	0.000,000,000,000,000,000,001
1 ioka	ym	$10[-24]$	0.000,000,000,000,000,000,000,001

**mita tapawhawae:**mita(m<sup>2</sup>)~ small letter prefixes are( $\leq$ )uara o te turanga.[0]Ko nga taiapa e whakaatu ana i te uara mana.Te whanui, te whanuitanga o te waahi kua whakanuia .

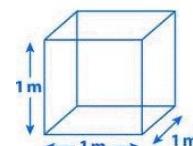
Hei tauira  $10 \cdot 10 = 100 \text{ m}^2$

Prefix	Tohu	Mana[ ]Uara
1 Iota	Ym <sup>2</sup>	$10[24]$

1 Zeta	$Zm^2$	$10[21]$	1,000,000,000,000,000,000,000
1 Exa	$Em^2$	$10[18]$	1,000,000,000,000,000,000
1 Peta	$Pm^2$	$10[15]$	1,000,000,000,000,000
1 Tera	$Tm^2$	$10[12]$	1,000,000,000,000
1 Kika	$Gm^2$	$10[9]$	1,000,000,000
1 Mega	$Mm^2$	$10[6]$	1,000,000
1 Myria	$Maama^2$	$10[4]$	10,000
1 Kiro	$Km^2$	$10[3]$	1,000
1 Hekto	$Hm^2$	$10[2]$	100
1 Tekau	$Dm^2$	$10[1]$	10
1 mita	$m^2$	$10[0]$	1
1 tetehi	$dm^2$	$10[-1]$	0.1
1 hereni	$cm^2$	$10[-2]$	0.01
1 miri	$mm^2$	$10[-3]$	0.001
1 moroiti	$\mu m^2$	$10[-6]$	0.000,001
1 nano	$nm^2$	$10[-9]$	0.000,000,001
1 pico	$pm^2$	$10[-12]$	0.000,000,000,001
1 wahine	$fm^2$	$10[-15]$	0.000,000,000,000,001
1 atu	$am^2$	$10[-18]$	0.000,000,000,000,000,001
1 hepe	$zm^2$	$10[-21]$	0.000,000,000,000,000,000,001
1 ioka	$ym^2$	$10[-24]$	0.000,000,000,000,000,000,000,001



Tapawhā  
mita  
( $m^2$ )



Pūtoru  
mita  
( $m^3$ )

**mita pūtoruwae:**mita( $m^3$ )~ small letter prefixes are ( $\leq$ ) uara o te turanga.[0] Ko nga taiapa e whakaatu ana i te uara mana.Ko te whanui, te whanui, te hohonu o te waahi ka whakanuia .Hei tauira  $10 \cdot 10 \cdot 10 = 1000 m^3$

Prefix	Tohu	Mana[ ]Uara	
1 Iota	$Ym^3$	$10[24]$	1,000,000,000,000,000,000,000,000
1 Zeta	$Zm^3$	$10[21]$	1,000,000,000,000,000,000,000,000
1 Exa	$Em^3$	$10[18]$	1,000,000,000,000,000,000,000,000
1 Peta	$Pm^3$	$10[15]$	1,000,000,000,000,000,000,000,000
1 Tera	$Tm^3$	$10[12]$	1,000,000,000,000,000,000,000,000
1 Kika	$Gm^3$	$10[9]$	1,000,000,000
1 Mega	$Mm^3$	$10[6]$	1,000,000
1 Myria	$Taku^3$	$10[4]$	10,000
1 Kiro	$Km^3$	$10[3]$	1,000

1 Hekto	$Hm^3$	$10[2]$	100
1 Tekau	$Dm^3$	$10[1]$	10
1 mita	$m^3$	$10[0]$	1
1 tetehi	$dm^3$	$10[-1]$	0.1
1 hereni	$cm^3$	$10[-2]$	0.01
1 miri	$mm^3$	$10[-3]$	0.001
1 moroiti	$\mu m^3$	$10[-6]$	0.000,001
1 nano	$nm^3$	$10[-9]$	0.000,000,001
1 pico	$pm^3$	$10[-12]$	0.000,000,000,001
1 wahine	$fm^3$	$10[-15]$	0.000,000,000,000,001
1 atu	$am^3$	$10[-18]$	0.000,000,000,000,000,001
1 hepe	$zm^3$	$10[-21]$	0.000,000,000,000,000,000,001
1 ioka	$ym^3$	$10[-24]$	0.000,000,000,000,000,000,000,001

**Turanga Volume**wae:rita(l)~ small letter prefixes are(≤)uara o te turanga. [0]Ko nga taiapa e whakaatu ana i te uara mana.Rōrahi i waenganui i te 2 mehua.Hei tauira 0..à..10 = 10

Prefix	Tohu	Mana[ ]Uara	
1 Iota	YI	$10[24]$	1,000,000,000,000,000,000,000,000
1 Zeta	ZI	$10[21]$	1,000,000,000,000,000,000,000,000
1 Exa	EI	$10[18]$	1,000,000,000,000,000,000,000
1 Peta	PI	$10[15]$	1,000,000,000,000,000,000
1 Tera	TI	$10[12]$	1,000,000,000,000
1 Kika	GI	$10[9]$	1,000,000,000
1 Mega	MI	$10[6]$	1,000,000
1 Myria	Myl	$10[4]$	10,000
1 Kiro	KI	$10[3]$	1,000
1 Hekto	HI	$10[2]$	100
1 Tekau	DI	$10[1]$	10
1 rita	I	$10[0]$	1
1 tetehi	dl	$10[-1]$	0.1
1 hereni	cl	$10[-2]$	0.01
1 miri	ml	$10[-3]$	0.001
1 moroiti	μl	$10[-6]$	0.000,001
1 nano	nl	$10[-9]$	0.000,000,001
1 pico	pl	$10[-12]$	0.000,000,000,001
1 wahine	fl	$10[-15]$	0.000,000,000,000,001
1 atu	al	$10[-18]$	0.000,000,000,000,000,001
1 hepe	zl	$10[-21]$	0.000,000,000,000,000,000,001

1 iokayl	10[-24]	0.000,000,000,000,000,000,000,001	
Rōrahi (l)	Taumaha (g)		

**Taumaha turangawae:** karamu(g)~ small letter prefixes are (≤)uara o te turanga.[0] Ko nga taiapa e whakaatu ana i te uara mana. Taumaha i waenganui i te 2 mehua. Hei tauira 0..à..  
 $10 = 10$

Prefix	Tohu	Mana[ ]Uara	
1 Iota	Ko Yg	10[24]	1,000,000,000,000,000,000,000,000
1 Zeta	Zg	10[21]	1,000,000,000,000,000,000,000,000
1 Exa	Hei tauira	10[18]	1,000,000,000,000,000,000,000,000
1 Peta	Pg	10[15]	1,000,000,000,000,000,000
1 Tera	Ko Tg	10[12]	1,000,000,000,000
1 Kika	Gg	10[9]	1,000,000,000
1 Mega	Mg	10[6]	1,000,000
1 Myria	Mg	10[4]	10,000
1 Kiro	Kg	10[3]	1,000
1 Hekto	Hg	10[2]	100
1 Tekau	Dg	10[1]	10
1 karamu	g	10[0]	1
1 tetehi	dg	10[-1]	0.1
1 hereni	cg	10[-2]	0.01
1 miri	mg	10[-3]	0.001
1 moroiti	µg	10[-6]	0.000,001
1 nano	ng	10[-9]	0.000,000,001
1 pico	wh	10[-12]	0.000,000,000,001
1 wahine	fg	10[-15]	0.000,000,000,000,001
1 atu	ag	10[-18]	0.000,000,000,000,000,001
1 hepe	zg	10[-21]	0.000,000,000,000,000,000,001
1 ioka	yg	10[-24]	0.000,000,000,000,000,000,000,001

**PS-1(Packaging-paerewa)**kapi i nga hiahia o nga kaihoko:pono ngāwari ki te whakatairite rahiinga hua', tākai.Ka taea te hangarua te takai.

Me whakarite e te Kawanatanga te rahi o te kohinga ihirangi: totoka (karamu, Kg), wai(rita).Ko te paerewa me pa ki nga kohinga arumoni, ahumahi me te tangata.Me hangarua ano te kete.

Universe Kaitiaki Kaiitiaki Packaging Paerewa Ripanga.

Nga taumaha totoka(g, Kg)me nga taumaha wai(l)ka taea anake te kiki, tohatoha-

uted, hokona i roto i te 14 rahiinga whakaaturia i roto i te tepu.

10 mg > 20 mg > 50 mg > 100 mg 200  
mg > 500 mg > 1 g > 10 g > 50 g 100 g  
> 200 g > 500 g >  
1 Kg > 2 Kg > 5 Kg > 10 Kg > 50 Kg 100  
Kg > 500 Kg > 1000 Kg > 2000 Kg



10 ml > 20 ml > 50 ml > 100 ml  
200 ml > 500 ml >  
1 l > 10 l > 50 l > 100 l > 200 l  
500 l > 1000 l > 2000 l

**Arataki Kaihoko:** Mārō, Taumaha wai me whakaatu te utu mo te 1 kg, 1 l hei whakataurite i nga utu + te taumaha me te utu. Me hangarua te kete.

He hua me te iti rawa o te kg, l te utu ko te '**Tauhokohoko**'.

Ko nga ohanga whai hua ka taea e te hunga hara moepuku '**Pukenga tinihanga**(**tinihanga**)'. Me whakamarumaru nga kaihoko mai i te tinihanga, te apo, te whai hua, nga kaihanga tinihanga, nga kaihanga me nga kaihokohoko e whakamahi ana i te 'Pokai tinihanga'(ihirangi iti te rahi) ki te tango painga(rip off) o nga kaihoko. **MSR3** **Tautoko PS-1** Whakapaipai i te paarewa me te pupuri i nga putea tinihanga.

**Tauira:** Ka tae mai he hua kaihanga ki roto i te kete 0.440 kg ma te whakamahi i ta raatau tapanga tohu. Ko taua hua ano ka tapaina hei tohu mo nga kaihoko kaainga, engari ka whakahekehia te ihirangi kete ki te 0.415 kg. Ka mahia tenei kia taea ai e te kaihokohoko te hoko i to raatau kaainga ki te utu iti ake i te waitohu kaihanga. He mahi hianga, he tinihanga, he apo hoki tenei hei whakapohehe i te kaihoko ki te whakaaro he pai te tohu o te kainga na te iti o te utu. I te mea pono, na te mea ka iti ake te hua o te kaihoko kaore he penapena me etahi wa ka nui ake te utu a te kaihoko.

Ko te 2<sup>nd</sup> Ka hokona e te kaiwhakanao he iti ake te utu, he rite tonu tana hua ki te utu. Na te mea he iti ake te hua o te 2<sup>nd</sup> no reira me hoko mo te iti ake te utu, kaua e waiho hei utu. Ko te 2<sup>nd</sup> Ko te tumanako a te kaiwhakanao i runga i te tinihanga, te tinihanga me te apo, kia kore te kaihoko e tirotiro i te taumaha na te mea he rite te ahua o tana kete ki nga hua whakataetae.

I te nuinga o nga wa ka tae mai te kohinga me te iti ake i te kiko o te ihirangi(**tākai rahi**). Ko te tikanga o tenei tinihanga ki te whakapohehe i nga kaihoko ki te whakapono ka whiwhi ratou

nui atu ka riro i a raatau!

Me whakarite e te Kawanatanga te rahi o te kohinga ihirangi: totoka (karamu, Kg)me te wai(rita).Ko te paerewa me pa ki nga kohinga arumoni, ahumahi me te tangata.Me hanqarua ano te kete.

# Morsewaehere

He tikanga e whakamahia ana i roto i te waea. **Te roanga tohu:ira, piira!**

Ko te roa o te ira he 1 wae! E 3 nga waeine a Dash! Ko te mokowhiti i waengau i nga wahanga o te reta kotahi he 1 wae. Mokowhiti i waenga i nga reta 3 waeine. Ko te mokowhiti i waenga i nga kupu e 7 nga waahanga.

A	• —	M	— — —	Y	— • — —
B	— • •	N	— •	Z	— — • •
C	— • — •	O	— — — —	1	• — — — —
D	— • •	P	• — — •	2	• • — — —
E	•	Q	— — — • —	3	• • • — —
F	• • — •	R	• — •	4	• • • • —
G	— — •	S	• • •	5	• • • • •
H	• • •	T	—	6	— • • • •
I	• •	U	• • —	7	— — — • •
J	• — — —	V	• • • —	8	— — — — •
K	— • —	W	• — —	9	— — — — —
L	• — • •	X	— • • —	0	— — — — —

## Ko te SOS he tohu pouri mo te waehere Morse

sos

• • • [REDACTED] [REDACTED] [REDACTED] • • •