

CRACK IT! THINKING CRITICALLY



DESCRIBE

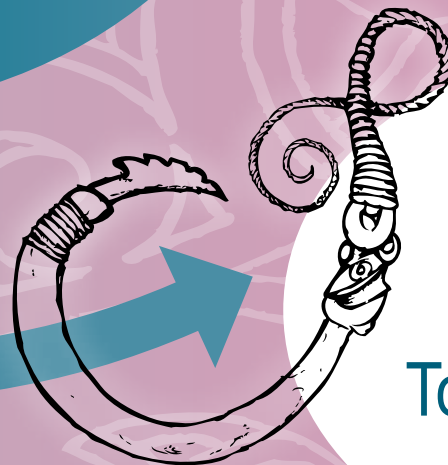
What?
Who?
Where?

**TOPIC,
QUESTION,
ISSUE ...**



ANALYSE

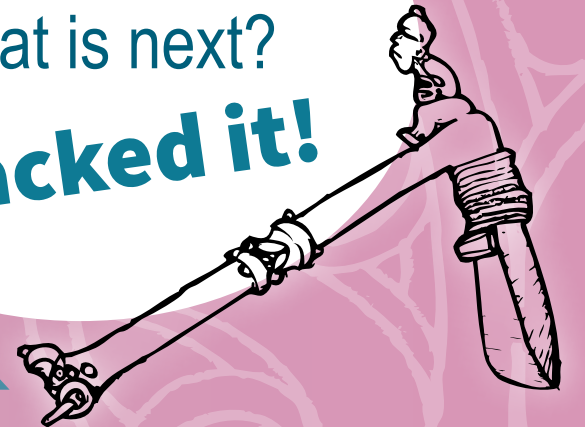
Can ...?
Why?
Why not?
How?



EVALUATE

How well ...?
What if ...?
To what effect ...?
How would ...?

CONCLUDE
So what?
What is next?
Cracked it!



TEACHER NOTES

Topics and Issues

Critical thinking is an essential skill in the 21st century. As teachers, we need to provide opportunities for students to think deeply, logically, clearly, rationally, and with an open mind about a range of topics. Here are some topics, issues, and questions to stimulate your own ideas about concepts you might pose to give students practice in thinking critically.

Te Reo Māori	English	Mathematics ¹	Science	The Arts	PE and Health	Social Sciences
Tōku whānau. Tētahi mahi tino pai ki a au. Tō mātou rohe. He kōrero mō tētahi tangata rongonui. “Ahakoa he iti, he pounamu.” “Tamaiti ākona i te kāinga, tū ki te marae tau ana.” Whāia ngā kōrero a ō tīpuna.	What I would do if I won Lotto. The driving age should be raised to 18. How effective was the author in achieving the purpose of the text? How, and to what effect, is symbolism used in the text? Write a personal response to a short written text. Text messaging has led to a generation of poor quality users of English. “A rose by any other name would smell as sweet.”	Explain the strategy you used to solve this problem. Draw a picture to represent the problem. Explain your picture. Why is the scale on the vertical axis of the graph shown in fives? Explain why time is a continuous variable. Which scale is most useful for this map? Why? Explain the usefulness of the Pythagoras theorem.	Five things you would put in your survival kit. How is a mirage created? Pollination sustains life. How can humans survive in outer space? Science knowledge is tentative. What have we learned from famous scientific ‘failures’ over the last 100 years? Scientific technology is both helpful and harmful to people.	Analyse a portrait from a Māori cultural context. Discuss an artist who consistently uses a special feature that you admire. Listening to music improves physical performance. Compare and contrast two different musical genres. When does kapa haka become creative dance?	Self-management strategies. Physical activity reduces stress. Obesity is a dying issue. Barriers to physical activity. Breakfast is the most important meal of the day. How effective is the advertising of healthy foods? Poverty creates poor health.	Do people change culture or do cultures change people? The changing face of Aotearoa. Justice today equals justice tomorrow. Inspiring leaders. Human rights are everyone’s concern. Conflict is part of human nature. Intermarriage breaks down cultures.


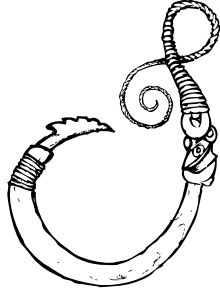
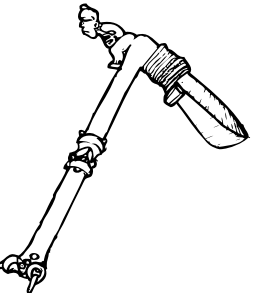
¹ Adapted from Christensen, I. (2010). *Te Reo Pāngarau*. Palmerston North: He Kupenga Hao i te Reo, pp. 372-385.

Cross-curriculum

- Te ao tōrangapū.
- Te ao taiohi.
- Ngā atua Māori:
 - Te wao nui a Tāne
 - Tangaroa
 - Tāwhirimātea
 - Rūaumoko.
- Ko au ko te awa, ko te awa ko au.
- Tā moko.
- He tapu tō te wahine, he tapu anō tō te tāne.

Questions

During the process, students will investigate their topic by responding to a range of questions designed to generate thinking. Key question words are presented on the front of this wallchart. These are only starters and can be extended into a wide range of questions appropriate to the topic or issue being considered. The following table presents a range of questions that will help students develop their thinking in various ways.

Describe	Analyse	Evaluate	Conclude
What is this about? What exactly does this mean? What do we already know about this? What is the context? What is the main point being looked at? What is the point of this question/topic? What is an example of that? What is another way to explain that? What are some of the problems? Who was involved? Who benefits from this? Who is affected? Who has an interest in the topic? Where is it happening? When does it happen?	 Why did things change? Why is that happening? Why was it done like that? Why did that occur? Why did ... happen when ...? Why do you think that would work? Why did that problem occur? How is this similar to that? How did that happen? How does one thing affect another? How does this relate to other things we know? How did you work that out? What was the problem with ...?	 What do you think about that? What else could we assume? What evidence is there to support what you are saying? What if there was a problem? What would the effect have been? What if ... happened? What if something changed? Why are you saying that? Is the change a good or bad thing? Do you believe that? How do you know? How would you feel if ...? How effective are ...? How would you have handled ...? How well was that achieved? How would you rate that? Why?	 So what has been learnt? So what might happen next? So what changes would you recommend? So what does this mean? How would you change things? Is there a better solution to ...? What are the lessons from this? What needs to be considered now? How could it be applied elsewhere? How would you improve it?

WHEWHERAHIA! TE WHAKAARO AROHAEHAE

TE KAUPAPA...



TE WHAKAAHUA

He aha?
Ināhea?
Ki hea?
Ko wai?



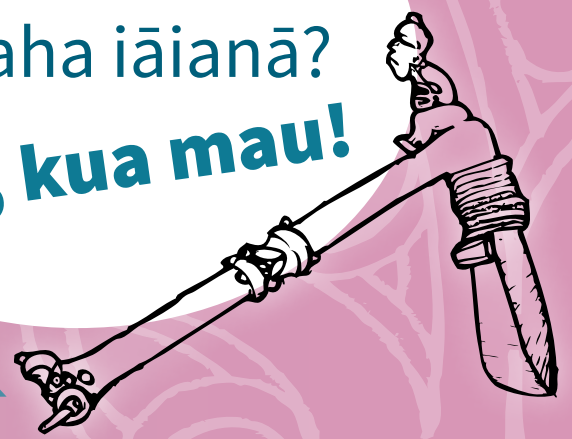
TE TĀTARI

He aha ai?
He pēhea?



TE AROTAKE

He aha te hua?
Ka pēhea?
I tutuki?



TE WHAKAKAPI

Nō reira ...
Kua aha iāianā?
Anā, kua mau!



TE TĀHUHU O TE MĀTAURANGA
MINISTRY OF EDUCATION

Te Kāwanatanga o Aotearoa



Haemata™

AKO PANUKU

Inspiring Learning

HE KŌRERO HEI ĀRAHI I TE POUAKO

He Kaupapa hei Whakaara Whakaaro

I tēnei ao e noho nei tātou, he pūkenga tino nui te wānanga, te whakaaro arohaehae. Ko tētahi mahi mā tātou, ngā pouako, he whakatakoto horopaki e noho ai te ākonga ki te āta wānanga i ngā take huhua noa, i runga i te arorau, i te mārama, i te whai tikanga, me te hinengaro tuwhera. Anei rā ētahi kaupapa, ētahi pātai hei whakahihiko i a koe ki te whakatakoto kaupapa whakapakari i te whakaaro arohaehae o ngā ākonga, kia tū ai ko te whakaaro taikākā.

Te Reo Māori	Te Reo Pākehā	Pāngarau ¹	Pūtaiao	Ngā Toi	Hauora	Tikanga ā-iwi
<p>Mehemea ko koe te Tumuaki o te kura, he aha ētahi tikanga kura ka whakaritea e koe?</p> <p>He pai ake te noho i Aotearoa, i te noho ki whenua kē.</p> <p>Kua wini i a koe te Lotto. Ka aha ināianei?</p> <p>Tēnei mea te whaikōrero.</p> <p>Tētahi tino rangatira.</p> <p>“Koia kei a koe!” – me whakamihī te matua i tana tamaiti, ka tika.</p> <p>Āe rānei he taonga te tamaiti?</p>	<p>“Tōku reo, tōku ohooho ...”</p> <p>Āta tirohia te rerekē o te hā o te reo o ētahi kaituhi e rua, ko tētahi me tangata Māori, ko tētahi me tauīwi.</p> <p><i>Contrast the styles of two authors – one Māori and one non-Māori.</i></p> <p>Tuhia ōu ake whakaaro whaiaro ki tētahi taiopenga ahurea.</p> <p><i>Write a personal response to a cultural event.</i></p> <p>Te tū reorua – ko taku mōhio ki te reo Māori kei te āwhina i a au ki te ako i te reo Pākehā.</p> <p><i>Being bilingual – speaking Māori helps me to learn English.</i></p> <p>Me whakapiki te taipakeke e whakaetia ai te kai waipiro ki te 20 tau.</p> <p><i>The drinking age should be raised to 20.</i></p> <p>Te pakiwaitara rawe katoa ki a au.</p> <p><i>My favourite story.</i></p> <p>Ko au anō tōku reo, ko tōku reo anō ahau.</p> <p><i>I am what I speak.</i></p>	<p>Whakamāramatia mai te rautaki i whāia e koe hei whakaoti i te rapanga.</p> <p>Tuhia he pikitia hei whakaatu i te rapanga. Whakamāramatia mai tō pikitia.</p> <p>He aha i mawhiti-rima ai te āwhata i te tuaka pou o te kauwhata?</p> <p>He aha i kīia ai he taurangi motukore te wā?</p> <p>Ko tēhea te āwhata e tino whai hua ana mō tēnei mahere? He aha ai?</p> <p>Whakamāramahia mai te pānga o te ture a Pythagoras ki a tātou.</p>	<p>Ētahi mea e rima ka kuhuna e koe ki te kete whakaora whawhati tata.</p> <p>Tēnei mea te ‘haka a Tānerore’ – he aha tōna pūtakenga mai?</p> <p>Ko te ruiuinga o te hae te tīmatanga o te ora.</p> <p>Me pēhea e ora ai tātou, te tangata, i te noho ki tuarangi?</p> <p>He tārewa tonu tēnei mea te mātauranga pūtaiao – kāore anō i tatū rawa.</p> <p>He aha ngā mea kua ako tātou mai i ngā “whakatau hē” rongonui a te ao pūtaiao i te 100 tau kua pahure ake?</p> <p>Ko te hangarau pūtaiao he tuku painga, he tuku kino anō ki te tangata.</p>	<p>Tātarihia, i runga i te whakaaro Māori, tētahi mahi toi peita ko te kanohi tangata te aronga.</p> <p>Matapakia tētahi ringatoi he rite tonu tana hāpai ake i tētahi tikanga toi, āhuatanga toi rānei e tino pai ana ki a koe.</p> <p>Mā te rongo o te taringa i ngā puoro e pai ake ai te mahi a te tinana.</p> <p>Matapakia ngā mea e rite ana me ngā mea e rerekē ana i ētahi momo puoro e rua.</p> <p>Kia pēhea rawa te rerekē o ngā mahi kapa haka e kīia ai he kanikani auaha kē?</p>	<p>Ngā rautaki e pai ai tō whakataki i a koe anō.</p> <p>Ko te kori o te tinana hei patu i te pōkaikaha o te hinengaro.</p> <p>Ko te taumaha hārukiruki o te tinana he poka tata ki te mate.</p> <p>Ngā mea e aukati ana i te kori o te tinana.</p> <p>Ko te kai o te ata te kai whai take katoa o te rā.</p> <p>Āe rānei kei te tino whaihua ngā pānui whakatairanga i ngā kai tōtika?</p> <p>Nā Pōhara, ko Tūhaumate.</p>	<p>Ko te iwi kei te whakatau i te āhua o ngā tikanga ā-iwi, ko ngā tikanga ā-iwi rānei kei te whakatau i te āhua o te iwi?</p> <p>Te kanohi hurihuri o Aotearoa.</p> <p>Kia hāpaitia te tika, te pono i tēnei rā, ka puta tonu ōna hua i ngā rā kei tua.</p> <p>Whakahihiri kaihautū; kaihautū whakahihiri.</p> <p>Ko ngā motika tangata he mea kia mātua hāpaitia e ngā tāngata katoa.</p> <p>Ko te riri, ko te pakanga, he umanga nā te tangata e kore rawa e ngaro.</p> <p>Ki te moea e koe he tangata nō waho o tōu ake momo, o tōu ake iwi whānui, ko te memeha haeretanga tēnā o tōu momo, o tōu iwi.</p>


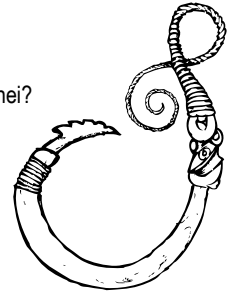
¹ I ahu mai i Christensen, I. (2010). *Te Reo Pāngarau*. Papaioea: He Kupenga Hao i te Reo, wh. 372-385.

Putā noa i te marautanga

- Te ao tōrangapū.
- Te ao taiohi.
- Ngā atua Māori:
 - Te wao nui a Tāne
 - Tangaroa
 - Tāwhirimātea
 - Rūaumoko.
- Ko au ko te awa, ko te awa ko au.
- Tā moko.
- He tapu tō te wahine, he tapu anō tō te tāne.

He pātai

Kia whiriwhiri ngā ākonga i tētahi kaupapa, mā ētahi pātai whakaara whakaaro rātou e ārahi ki te āta tūhura i te kaupapa. Kei te tūtohi nei ētahi kupu uiui matua. Heoi, he tīmatanga noa ērā – me whakawhānui atu kia hāngai pū ki te kaupapa e tirohia ana. Kei raro nei ētahi pātai hei ārahi i te ākonga ki te whakapakari i ōna pūkenga wānanga.

Te Whakaahua	Te Wherawhera/Tātari	Te Whakawā/Arotake	Te Whakakapi
<p>He aha te tikanga o tēnei?</p> <p>He aha te tino tikanga o tēnei?</p> <p>He aha te tino o tēnei?</p> <p>He aha tā tātou kua mōhio kē e pā ana ki tēnei?</p> <p>He aha tā tātou e mōhio kē ana mō tēnei?</p> <p>He aha te horopaki?</p> <p>He aha te iho/tino o te mea e tirohia ana?</p> <p>He aha te tino tikanga/aronga o tēnei pātai/kaupapa?</p> <p>He aha tētahi taurira o tēnā?</p> <p>He aha tētahi atu huarahi hei whakamārama i tēnei?</p> <p>He aha tētahi atu whakamārama e taea ana mō tērā?</p> <p>He aha ētahi o ngā raruraru?</p> <p>Ko wai i whai wāhi atu?</p> <p>Ko wai mā i roto i te kaupapa?</p> <p>Mō wai ngā painga?</p> <p>Ki a wai ngā painga?</p> <p>Ko wai mā ka rongo i ngā hua kino, i ngā hua pai (o tēnei mahi/āhuatanga)?</p> <p>Ko wai mā e whai pānga atu ana ki te kaupapa?</p> <p>Kei hea ake tēnei kaupapa e kawea ana/e tū ana?</p> <p>Āhea ara ake ai?</p>	 <p>I aha i pā ai aua rerekētanga?</p> <p>He aha i pēnā/pērā ai?</p> <p>Nā te aha i pēnā/pērā ai?</p> <p>He aha i pērā ai te mahi?</p> <p>He aha i mahia pērātia ai?</p> <p>I aha i ... ai i te ... o te ...?</p> <p>He aha koe e whakaaro nā ka whaihua tēnā?</p> <p>He aha/Nā te aha i ara ake ai tēnā raruraru?</p> <p>He aha ngā āhuatanga o tēnei i āhua rite ki tērā?</p> <p>He aha te pūtakenga mai o tēnā?</p> <p>He aha te pānga o tētahi ki tētahi?</p> <p>He aha ngā hononga o tēnei ki tā tātou kua mōhio kē?</p> <p>He pēhea te hono o tēnei ki ētahi atu mea e mōhio ana tātou?</p> <p>I pēhea tō whiriwhiri i tērā?</p> <p>I ahu mai tēnā whakatau i hea?</p> <p>Nō hea tēnā whakaaro ōu?</p> <p>He aha te mate o te ...?</p>	 <p>He aha ō whakaaro ki tēnā?</p> <p>He aha ētahi atu whakapae ka taea?</p> <p>He aha ngā taunakitanga hei tautoko i tāu e kī nei?</p> <p>Kei hea ngā kōrero hei taunaki i tāu e kōrero/whakapae nei?</p> <p>Ka pēhea mēnā i ara ake he raruraru?</p> <p>He aha te hua?</p> <p>He aha te putanga?</p> <p>Ka pēhea (tātou, te ao/...) mēnā ... ?</p> <p>Ka pēhea mēnā i rerekē noa tētahi mea?</p> <p>He aha i pēnā ai tō kōrero/whakaaro?</p> <p>Ko te āhuatanga hou nei he hanga pai, he hanga kino rānei?</p> <p>Koinā tonu tō whakapono?</p> <p>E tino whakapono ana koe ki tēnā?</p> <p>He aha koe i mōhio ai?</p> <p>Me pēhea koe e mōhio ai?</p> <p>Ka pēhea koe mehemea ...?</p> <p>Ka pēhea ōu nā kare ā-roto ina ...?</p> <p>He pēhea rawa te whaihua/whaikōrero o ...?</p> <p>(Mēnā i a koe te tikanga,) kua pēhea tāu nā whakahaere/whakataki i ...?</p> <p>Āe rānei i tutuki/i eke panuku te kaupapa rā?</p> <p>Ka pēhea tāu nā whakatau i te whaihua o te ...? He aha ai?</p>	<p>Nō reira, he aha ngā mea kua ākona?</p> <p>He aha ngā mātauranga hou?</p> <p>Kua aha iāianā?</p> <p>Kua pēheatia (te mea rā/te kaupapa rā/...) ināianei?</p> <p>Nō reira, he aha ngā mea me whakarerekē?</p> <p>He aha ngā whakatikatika?</p> <p>Nō reira, ka pēhea tāu nā huri/whakatika i tēnei āhuatanga?</p> <p>He rongoā anō ka taea, he rongoā pai ake?</p> <p>Nō reira, ka pēhea tō whakamāori i tēnei tūāhua?</p> <p>He aha ngā mea hei ako mā tātou i tēnei tūāhua?</p> <p>He aha kei tua tata atu hei whiriwhiri mā tātou?</p> <p>Me pēhea te kawea atu / te whakahāngai atu ki ētahi horopaki kē atu?</p> <p>Ka pēhea tāu nā whakapai ake / whakatika ake i tēnei tūāhua?</p> 