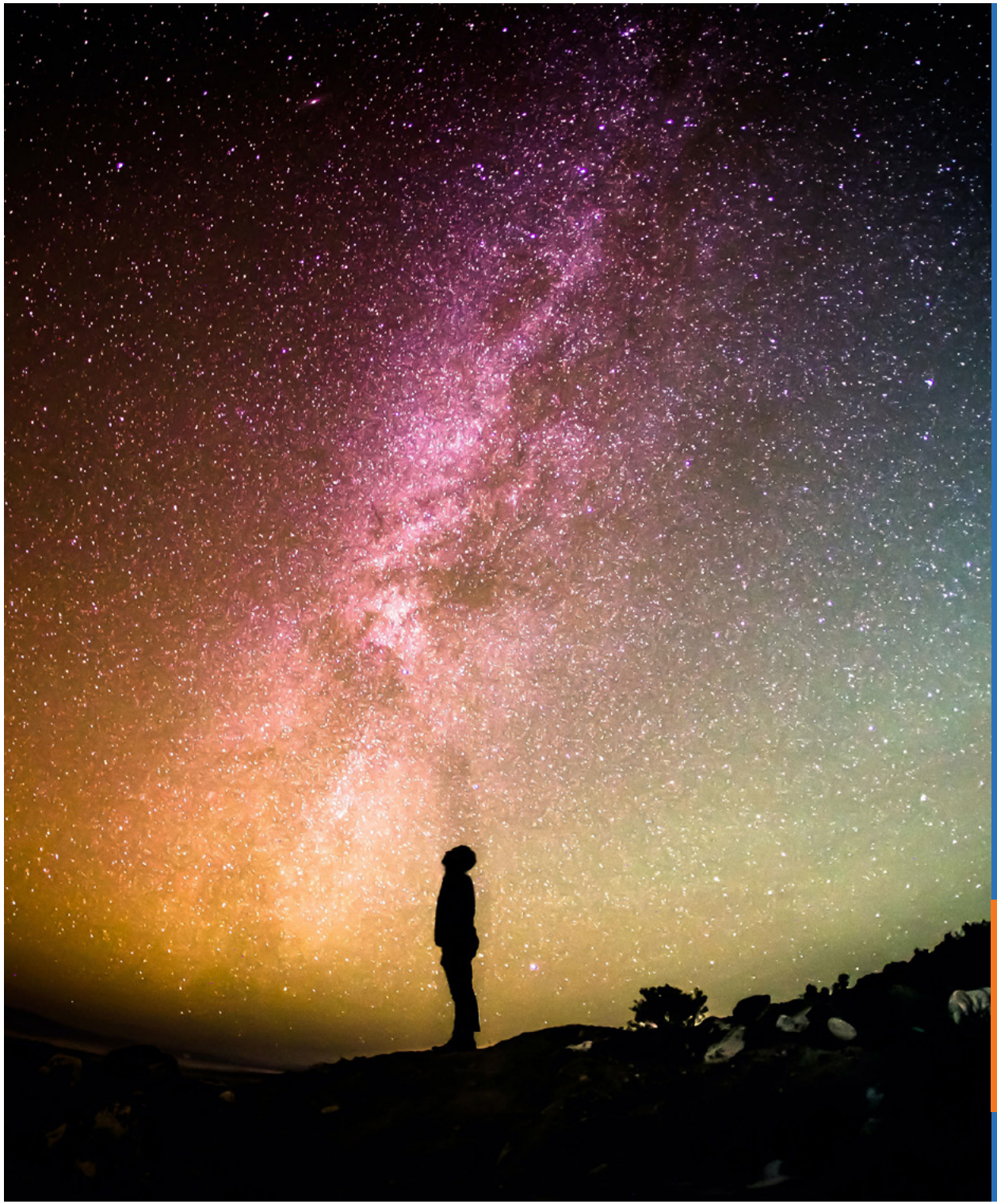

FUTURE/CURIOUS

Climate Change: prepare today, live well tomorrow

Huringa Āhuarangi

WHAKARERI MAI KIA HAUMARU ĀPŌPŌ

MODULE SEVEN

Meaningful connections: critical thinking and communication

HURINGA ĀHUARANGI: WHAKAREERI MAI KIA HAUMARU ĀPŌPŌ
Climate Change: prepare today, live well tomorrow

Introduction

The term 'wicked problem' is used in science, planning and education to describe problems that are extremely complex in nature. Anthropogenic climate change is one such problem. Because there is no one-size-fits-all solution, no quick fix, climate change can be difficult to get your head around, let alone teach or respond to. This resource aims to help teachers/kaiako and their learners to understand the immediacy and complexity of this 'wicked problem'. It offers a range of practical and proactive strategies for responding to the challenges.

A collective and inclusive response is needed to mitigate and adapt to the predicted impacts of climate change. This response asks that we recognise the interconnectedness of all life on earth, as the impacts of climate change will be widely and diversely felt by all living things. Also essential to this response is the ability to communicate, listen to and respect varying perspectives and ideas. We are all in this together and can all be part of the solution.

'Huringa Āhuarangi: whakareri mai kia haumaru āpōpō | Climate Change: prepare today, live well tomorrow' is a science-based, integrated learning programme. It focuses on Earth's systems, the interconnectedness of the living world, and the impacts of anthropogenic climate change.

It encourages learners to interpret, analyse and engage with science, and to understand that science knowledge changes over time.

There is opportunity to consider a mātauranga Māori perspective in the learning programme, particularly around the interconnectedness of life on earth as expressed through the relationship between Papatūānuku and Ranginui. Other indigenous knowledge bases will contribute to a broader understanding of the interconnectedness of life on earth and help to inform possible responses.

The programme builds understanding of climate change through an exploration of critical global, national, and local responses aimed at mitigating and adapting to predicted impacts. It is critical to consider indigenous responses, and – in particular for Aotearoa – to include those of whānau, hapū and iwi.

In exploring the challenges of climate change, ākonga are encouraged to develop and apply critical thinking, literacy skills, and communication competencies. They are prompted to think beyond themselves, to tautoko/support others, and to connect with the intergenerational community responding to the problem.

Most importantly, the resource supports and empowers all learners to have a voice, to take action, and to play their part in a larger, systematic response.

Teaching and learning modules

The modules can be applied in sequence or independently, depending on learners' existing awareness of climate change. For those who have limited prior learning it is suggested that the programme be followed in its entirety, and in the order suggested in the 'User guide'. This will encourage a sound understanding of climate change science and explore potential responses to the challenges of climate change, whilst also supporting wellbeing.

Climate change wellbeing guide

Teachers/kaiako and ākonga will have different reactions when learning about and responding to climate change, with some experiencing strong emotions. Background information and activities to support wellbeing are included. Look for to connect to the 'Climate Change Wellbeing Guide', a companion resource to the learning programme.

"Divided we fall, united we stand strong"

LUKE

MODULE SEVEN

Meaningful connections: critical thinking and communication

Specific learning intentions

In alignment with Te Ao Māori and mātauranga Māori, learners will:

- explore the idea that there are differing perspectives on the problem of climate change
- investigate and apply critical thinking skills; apply these skills to analysing fake news and to forming opinions about climate change
- reflect on individual and collective capabilities, exploring factors that influence differing perspectives and experiences of climate change and inform responses
- consider the experiences of others; explore the importance of listening before planning for, and responding to, climate change.

Success criteria

Learners will be able to:

- understand and respect that people can have different perspectives stemming from their experiences and worldviews
- apply critical thinking skills to ensure well-informed decision-making when exploring topical issues such as climate change
- listen to and evaluate a range of perspectives relating to climate change including differing positions on its impacts, and on the necessary responses
- appreciate the importance of listening to others when planning for and responding to climate change.

Background information for teachers and kaiako

Climate change is one of the most pressing problems facing the planet. Yet despite a very strong consensus that the rapid changes in Earth's climate are due to human activity, there remains hesitancy around the urgency and direction of the response required.

Climate change presents both opportunities and challenges. Some view it as a positive opportunity to live more sustainably, as one part of Earth's ecosystem. However, for many of us, the word 'sustainable' presents significant challenges: to the way we think, live, work and/or play. Confronting fundamental life change isn't easy, and this is especially true when we feel we have something to lose. On the other hand, change can bring discoveries and rewards that we couldn't have anticipated. Given the very real – and personal – nature of this dilemma it's little wonder that climate change creates major disagreement and division. Very few people are entirely on one 'side' or the other: most of us feel conflicted.

As individuals and groups, our response to climate change is influenced by our worldview: the overall perspective from which we see, explain and interpret the world and our place within it. Worldview can include: natural philosophy; fundamental, existential, and normative postulates; themes, values, emotions, and ethics. *(Source: Palmer, Gary B. (1996)).*

What is a Māori worldview? *(Source: Pauline Waiti, Ahu Whakamua Ltd)*

Knowing where you come from, who you are descended from, who and what you have relationships with, and the nature of these relationships in the world – all these elements inform your beliefs, your understandings of your world, your worldview.

For Māori it is commonly held that our Māori worldview develops from knowing about and understanding whakapapa and the many concepts and principles that derive from this knowledge: knowledge concerning our relationships with each other, and with te ao tūroa, the natural world. We believe that Ranginui and Papatūānuku and their offspring are our ancestors and part of our whakapapa.

This knowledge is described through mātauranga Māori, and, more explicitly, through nga kōrero tuku iho o nga tūpuna (wisdom handed down by our ancestors). This knowledge comes to us in many ways and forms, using imagery and metaphor. This includes karakia, pūrākau, oriori, whakatauki, waiata, haka, raranga, tukutuku, whakairo and many more.

At a personal level, whakapapa includes who you descend from. However, in its totality, it is so much more. You don't have to know every detail of your whakapapa. Just knowing you actually have one because you are Māori is important. Why? Because our belief and understanding that Ranginui, Papatūānuku and their offspring are our tūpuna (ancestors), means that we, and the natural world we live in, are all interconnected. This knowledge underpins and informs our Māori worldview.

"A difference in worldviews can mean that although people may agree on the fundamental truth that climate change is a problem and something should be done, they may differ in how and what policies should be implemented, as well as in their willingness to change their own behaviour." *(Source: Komendantova & Neumueller – 'From Climate Change Awareness To Action', 2020).*

Therefore, taking the time to listen to and understand different climate change perspectives could support the much needed shift from awareness and acceptance to collective and connected action.

Critical thinking during a critical time

Climate change science is evolving. Governments, including ours, are planning and responding based on the latest evidence and predictions. However, many around the world are becoming frustrated about the (perceived) lack of urgency. Others are pushing back against the changes needed to avoid catastrophic temperature rise. To really understand the worldviews underpinning conflicting perspectives we need to listen as well as talk. It takes courage to consider a perspective that differs from our own, to listen respectfully and without judgement. But while it may be difficult, it's also essential, if genuine understanding and learning are to take place.

Without doubt, there are difficult conversations and decisions ahead of us. How do we build the informed and empathetic thinking required to have these conversations? How do we begin undertaking the most critical and urgent steps – finding agreement, implementing the necessary policies, and changing our own behaviour?

Applying critical thinking skills to climate change discussions can support key learning and behaviour. Critical thinking is about practicing how to think, not what to think. It is about asking the right questions – those that assess the meaning and significance of claims and arguments. Skills in critical thinking support the ability to assess and evaluate information and points of views. They provide an opportunity to step back and see all angles of a situation – essential skills to use when planning for and responding to climate change.

Being a critical thinker means identifying the key points, analysing the source ofinformation, weighing up different types of evidence and putting it all together in an independent, considered point of view. It is important to emphasise to learners that 'critical' thinking doesn't mean attacking or finding flaws. It is about being creative, reflective and adaptable – key capabilities for responding to climate change.

Applying critical thinking to climate change questions

Critical thinking skills help us to clarify an idea or point of view. These skills can include: gathering information (what's relevant?); applying information (asking critical questions based on evidence); considering implications; exploring other points of view (why would others be drawn to ideas, what is the appeal?). The table on the following page shows how critical thinking skills can be applied to common concerns and questions about climate change science, behaviour and policies.

What do New Zealanders think about climate change?

In April 2021, the Ministry for the Environment commissioned research to better understand what New Zealanders think about climate change, water and waste. Key climate findings included 61% support for a more ambitious emissions target. 62% of New Zealanders are optimistic that individuals can make a difference. However, many show a reluctance to 'walk the talk' by changing their behaviours.
'Understanding New Zealanders' attitudes to the environment' report.

Leaving no one behind: Just Transitions

Responding effectively to climate change means committing to a low emission economy. To achieve this, Aotearoa New Zealand will need to actively plan for a future economy that is going to look very different in decades to come. New technologies, globalisation and demographic shifts will also impact the ways in which New Zealanders work, and the jobs they do. The Ministry for Business, Innovation and Employment (MBIE) refers to these shifts as 'Just Transitions'. A Just Transition (to a low emissions economy) is one that strives to be inclusive, sustainable and productive: a transition that ensures no one is left behind. "The Government has committed to making this process a "just transition" – one that is fair, equitable and inclusive. A just transition is about making sure that the Government works in partnership with iwi, communities, regions and sectors to manage the impacts and maximise the opportunities of the changes brought about by the transition to a low emissions economy" *(Source: MBIE)*. Ideally, this would involve addressing present and past inequities, a process that may require a transformational shift in the economic system itself.

For more information about 'Just Transitions', please refer to the short video 'Prime Minister Jacinda Ardern – Just Transition Summit' on YouTube.

Applying critical thinking skills to common concerns and questions about climate change science, behaviour and policies

The climate change question	**"We had a big dry back in 1968, and the floods of 1972. Isn't this just the weather being the weather?"**	**"I get that changes need to be made if we are to manage the impacts of climate change – but isn't that the government's responsibility? Anything I do will be too insignificant to make a difference to the climate – but it will make my life more difficult or less enjoyable."**	**"The government is developing rules that are intended to reduce our emissions of greenhouse gases. But won't people just find ways to get around them? It's like taxes – people are good at evading them."**
The information (the evidence that is relevant)	What do we know about the relationship between weather and climate? Are "extreme" weather events becoming more extreme (i.e., are droughts longer, or floods bigger) and are extreme events becoming more frequent (droughts more often, floods a common occurrence)? What do climate statistics tell us about this?	What can systems thinking (a focus on interconnected structures, patterns and cycles instead of isolated or reductive data) tell us about the role and importance of the individual? Why is our place in the world important? What do history and politics show us about the power of acting collectively?	What's the link between regulation and behaviour change? Have rules/laws about behaviours like smoking or health and safety actually produced better outcomes for society? What's the role of compliance and enforcement in changing behaviour? If climate change is a global problem, how important are international agreements like the Paris Accord, in ensuring concerted responses? What about the moral importance of "doing the right thing"? Does that count?
Apply the information	Is this question based on personal observation or from talking to others who have "been around a long time"? How do we respect and use local knowledge in these situations? How do we recognise the legitimacy of the observations but place them in the wider context needed to understand the reality of climate change? Some climate trends occur over intergenerational time-scales. How does personal experience or observation help us to pick up on small permanent shifts in our climate that are masked by the high variability that occurs over short time scales?	Why might I not want to do some of the things that are suggested in module five and six? What is the down side? I.e. what is the single biggest reason I wouldn't (for example) want to cycle or walk to school? What are the up sides? Are there benefits I hadn't thought of? What incentives would encourage me to make the change? (Consider both intrinsic and extrinsic rewards/incentives.) How important are the attitudes of my friends/ family/ whānau when it comes to considering/making adjustments to the way I live? How might I influence them to change?	Are "rules" important? (Consider local, national and international implications.) How do we put rules about climate change mitigation into a global systems context? How does the rules "system" interact with the climate "system"? Why might different countries "opt out" and what are the consequences of this happening? (E.g., why did President Trump pull out of the Paris Accord? Were his concerns valid? How might different worldviews impact on compliance with international responsibilities?)
The implications	What would happen if we accepted that floods and droughts were not connected to a changing climate?	What happens when we don't acknowledge the importance of the social/economic/cultural factors that impact on our willingness and ability to make changes? What are the implications if 8 billion of us fail to form a team?	What would happen if governments moved away from making policies and rules about climate change and left it to individuals to take action, backed by strong education and advocacy programmes?
Points of view: Why would people be drawn to this?	How do you show people where their observations/ experiences "sit" in the bigger climate picture? For example, the weather is very real to us because we experience it every day, but climate change is incremental and harder to spot as it occurs. How then do we extend our ability to consider things that might not be immediately obvious to us?	Change is hard – particularly when the "costs" are felt straight away but the benefits are either more intangible or are realised over much longer time scales. How might we reconcile that tension? What experiences can we draw on of making changes that were "worth it in the long run"?	Worldviews are really important to this discussion. Some of us think that, as a matter of principle, governments should get out of people's lives as much as possible, relying instead on our individual capacity to behave rationally and act in the best interests of society. Others however, believe that governments need to intervene more strongly and in a more directive way to achieve good outcomes for us all.

Referenced worksheets can be found at the end of the module.

Session one: Understanding our differences

Learning intentions

Ākonga explore the concept of perspectives and points of view.

Activity: Getting a perspective

What you need:

- paper and something to press on
- pencils
- an object that is relatively easy to draw and looks different depending on where you are sitting e.g. upright clock
- a container/box with defined labels.

Invite the ākonga to sit in a circle with a piece of paper, something to press on, and a pencil. With a stool or similar in the middle of the circle and an object that is relatively easy to draw and looks different depending on where you are sitting (e.g. an upright clock, or container/box with defined labels), explain that your learners will have (specify time) to draw the object as they see it from where they are sitting i.e. from their point of view. At the end of this time, share and discuss their pictures. How are they the same/different? What may have influenced the differences and similarities? What are the benefits of having different 'viewpoints' of the object?

If it hasn't been discussed earlier, introduce the term 'perspectives' (the way things are seen from a particular point of view).

Invite the ākonga to imagine that climate change was an object just like the one they've drawn. How does the idea of 'perspective', or seeing things from a particular point of view, relate to climate change?

- In this context, discuss how our way of thinking about and understanding an issue can be influenced by where we 'sit' and 'see' it – i.e., it can be influenced by our worldview.
- Discuss with the ākonga their understanding of the term 'worldview'.
- A worldview is the overall perspective from which a person or group sees, explains and interprets the world. It includes an understanding of big life questions such as the ones listed above, in 'Background information for teachers and kaiako'.
- Worldviews shape and inform our experiences of the world around us. Like spectacles with coloured lenses, they affect what we see, and how we see it. Worldviews strongly influence our opinions on issues that are important to us, to our lives and to our wider environment – issues like climate change.

With ākonga, discuss the different perspectives people may have about climate change and explore the factors that might have led to their point of view. With reference to some of the potential adaptation and mitigation actions from earlier modules – constructing seawalls, not building in certain areas, reducing waste, planting native trees, eating less meat – consider a range of potential perspectives and viewpoints. Conversely, what is that we can find appealing about sticking to a fixed or limited viewpoint? Explore the factors that could influence those viewpoints. Discuss why it's important to see and understand different perspectives. What do we gain when we step back and consider all 'angles' in a situation?

Activity: Exploring perspectives

Read the article 'Foulden Maar: Fossils or Food?' from *Connected 2020 Level 4 – Feeling the Heat*. The article explains the formation of Foulden Maar, the remains of an ancient lake formed by a volcanic eruption millions of years ago. As layers of silica-rich mud built up over thousands of years, it provided perfect conditions for fossilising the remains of plants and animals that fell to the bottom of the lake. However, the silica also has commercial value. The article explores the perspectives of a range of stakeholders with differing opinions about the best future of the maar. It prompts critical thinking and finishes with a call to social action. Read the article 'Foulden Maar: Fossils or Food?'.
You can read the article as a class, or in groups, using the Google slides.
At the end, discuss page six: 'Who makes the decisions?' and refer to 'Activity 1 – Fossils or food?' via the TSM.

Session two: Critical thinking during a critical time

Learning intentions

Ākonga consider the topical issue of fake news and learn how to apply critical thinking skills.

Activity: Fake facts

The polarising nature of the debate about climate change can make it hard to separate anecdotal, subjective commentary from hard fact. This makes it all the more important to equip ākonga with skills that will support their ideas and actions, including the ability to identify accurate, evidence-based information. 'Fake Facts', by Aimie Cronin (on Literacy Online) addresses the topical issue of fake news. It encourages ākonga to take a critical view of information, and suggests strategies for evaluating whether or not information is based on solid factual evidence.

Ask ākonga to share their understanding of fake facts, encouraging them to think of examples they've heard of, or have personally experienced. If they haven't already made the link, build on their understanding by asking how fake facts might relate to climate change. Referring to 'Session One: Understanding our Differences', ask the ākonga why some points of view on climate change may enable or encourage the dissemination of fake facts.

Introduce the article 'Fake Facts', by Aimie Cronin, accessed via Google Slides.

Break the class into seven groups (number of slides), giving each group one of the printed slides. Explain that they have five minutes to read their slide and summarise key points to share with the class. Bring the groups back together. Go through the Google slides in order, asking each group to share their key facts. As one group, summarise the key learning from the article.

Extra: Illustration and climate change information. The illustrations by Gavin Mouldey in the article 'Fake Facts' communicate the complexity of navigating information, including fake news. Teachers and kaiako may want to explore the role illustration can play in sharing complex ideas and themes. Ākonga may be motivated to create illustrations that express their point of view or explore the concept of fake news.

Activity: Introducing critical thinking

Teacher and kaiako PLD: Connect with critical thinking resources and literature that can help incorporate critical thinking into teaching or programme and course design on Te Herenga Waka Victoria University of Wellington website.

Invite the ākonga to share their understanding of what it means to be a critical thinker. How might this apply to fake news?

Being a critical thinker means identifying key points, considering the source of information, weighing up different types of evidence, and putting it all together in an independent, considered point of view. It is not about being critical or finding flaws. Rather, it's about being creative, reflective and adaptable – essential climate change skills.

Critical literacy is the art of seeing beyond words to the motivations that produced them. The most important element in critical thinking and literacy is considering the source of information.

Activity: Applying critical thinking to climate change

The following critical thinking questions will help ākonga to analyse a source of information:

- What is the writer's/speaker's motivation?
- What is motivating their interaction with their audience i.e., are they aiming to educate, to help, to get votes, or to make money?
- What is their history? Have they been truthful/helpful in the past? Are their words and actions consistent – i.e., do they 'walk the talk'?
- What expertise, knowledge, skills, education do they bring to their position?
- Have their statements/comments/communications undergone any kind of quality control?

Referring to earlier activities around worldview and perspectives, ask the ākonga to consider some of the challenges to critical thinking. For example:

- Emotions: Emotions can have a significant effect on the way we think and solve problems. For example, we may act/speak impulsively when we're upset or stressed, saying or doing something we regret when we're calmer.
- Defending a position: Sometimes we act from a desire to protect our 'worldview', our livelihood, or our status. We might reject information that makes us frightened or uncomfortable and look for information that confirms our pre-existing beliefs.
- Explicit bias: These are the attitudes and beliefs we hold about ourselves and/or others on a conscious level.
- Implicit bias: These are the attitudes and beliefs we hold about ourselves and/or others on a subconscious level.

What you need: Worksheet 1: Glaciers and global warming, or access to the Assessment Resource Banks ARBs (NZCER)

(Please note: This activity has been used with the permission of NZCER)

'Glaciers and global warming' from the Assessment Resource Banks ARBs (NZCER) asks ākonga to formulate questions about glaciers and climate change. The questions should demonstrate understanding of the fact that informed opinions are based on inter-related aspects of evidence, and not on individual instances. In groups, or as individuals, ask the ākonga to complete the task. Ask them to share their questions. Using critical thinking and literacy when considering a source, allow time for ākonga to find answers to their questions. Once completed, ākonga share their evidence, including sources, and explain the informed decision they've reached regarding recent changes to glaciers.

Teacher/Kaiako reflection and wellbeing check.

Session three: Meaningful connections

Learning intentions

Ākonga apply their learning from the sessions above to a chosen role-play centred on a climate change question or impact. There is an opportunity to introduce 'Just Transitions' (to a low emissions economy) when considering their own role, and the role of others.

Activity: Forest ecosystems – connections in nature

This activity from DOC reconnects ākonga with the concepts of ecosystems, biodiversity and interdependence within the forest community, and with the impacts of human behaviour on natural systems. Whenever we refer to climate change and its impacts, this includes all living things and their interactions and connections. Access the activity 'Forest ecosystems' (DOC website).

Activity: Role-play: climate change perspectives

Climate change is an issue that can promote strong reactions. These can be related to the causes of climate change, its predicted impacts, the potential responses/solutions, responsibility for the problem, and to the time frame for taking action. The following activity provides an opportunity for ākonga to use their knowledge and understanding of climate change. They will be required to apply critical thinking and listening skills while respecting and learning about different perspectives.

At this stage, teachers/kaiako may want to introduce the concept of 'just transitions'. A 'just transition' (to a low emissions economy) is one that strives to be inclusive, sustainable and productive. "The Government has committed to making this process a "just transition"– one that is fair, equitable and inclusive. A just transition is about making sure that the Government works in partnership with iwi, communities, regions and sectors to manage the impacts and maximise the opportunities of the changes brought about by the transition to a low emissions economy" (MBIE). For some it may present opportunities, for others, a threat to their way of life, including employment, housing etc.
Watch 'Prime Minister Jacinda Ardern – Just Transition Summit' on YouTube.

Invite the ākonga to brainstorm some of the big questions or impacts relating to climate change. Teachers and kaiako may want to refer to "Applying critical thinking to climate change questions", from the background material. For example: "We had a big dry back in 1968, and the floods of 1972. Isn't this just the weather being the weather?" etc.

From the question brainstorm, collectively choose one question or impact. It could be general, such as the examples provided, or specific, such as those shared in the 'Be the Change Charades' game in Module Six or the 'Adaptive Futures' game in Module Five. Discuss some of the people or 'stakeholders' involved in discussing and/or experiencing the situation.

For example, in the case of the comment, "We had a big dry back in 1968, and the floods of 1972. Isn't this just the weather being the weather?", the 'stakeholders' may include meteorologists and/or climate scientists, local councils, farmers, local hapū and iwi, generational representatives such as local kaumatua or grandparents, local school principal, homeowners, and local businesses. You may also want to consider including the perspective of an animal that may be impacted by the floods and droughts, e.g. through habitat loss.

Once the group has collectively confirmed the situation and relevant stakeholders, split the class into 'stakeholder groups' and give ākonga a specified time to research their role and point of view. When the ākonga are ready, introduce the '5 ways to (respectfully) disagree' by asking how you could talk to someone who thinks differently to you in a way that makes them more likely to listen to and respect your point of view.

To support positive conversations that encourage active listening and respect, share the '5 Ways to (Respectfully) Disagree': Don't make it personal; avoid putting down the other person's ideas and beliefs; use "I" statements to communicate how you feel, what you think, and what you want or need; listen to the other point of view; stay calm.

Teachers and kaiako may want to display the five points so learners can refer to them during the role-play. The dialogue could include sample questions ākonga could use to help them understand the point of view of others.

After the role-play, reflect on each of the roles. Each group shares how it felt and what they learned about perspectives and climate change. Ask if there was an opportunity to use critical thinking skills to strengthen their point of view or to understand someone else's ideas more fully. Teacher's/kaiako may want to explore other situations or topics shared, or, using the same one, ask the ākonga to swap roles. Invite ākonga to reflect on the importance of understanding and listening to other points of view when understanding and responding to the impacts of climate change.

Wellbeing check

Student and ākonga tip sheet. Climate change – Wellbeing action pages 7–8

Teacher/Kaiako reflection and wellbeing check.

Additional resources and activities to support all sessions

'Ra'ui: Giving It Back to the Gods' by Monica Evans, *Connected 2020 Level 3 – Kaitiakitanga*. This article explores a scientific issue from a Pacific worldview. It describes how the people of the Cook Islands have attempted to manage and protect their marine resources with the tradition of ra'ui. The article highlights the very real issues that make success difficult and the diversity and validity of different people's perspectives on ra'ui.
Read the article 'Ra'ui: Giving It Back to the Gods'.

Why do humans instinctively reject evidence contrary to their beliefs? Do we understand why and how people change their minds about climate change? Is there anything we can do to engage people? In the context of climate science these three significant questions make a powerful trio. The following articles from 'The Conversation' explore these questions and offer some potential answers:

- **'Climate explained: why do humans instinctively reject evidence contrary to their beliefs?'** Read the article on The Conversation website
- **'How do you know that what you know is true? That's epistemology.'** Read the article on The Conversation website

'Climate change contrarians': This 5 min video on TVNZ discusses a new study showing that climate change contrarians are getting 49% more media coverage than scientists who support the consensus view that climate change is man-made. Watch the TVNZ 'Climate change contrarians' video.

'Taranaki Views' by Steph Matuku. 'Taranaki Views' is a lengthy article that offers a range of perspectives on Taranaki Mounga ("Mounga" is a Taranaki iwi pronunciation and spelling – spelt 'maunga' by most other iwi.) The text is written in two parts, the first presenting historical and geographical information about the mounga and incorporating the views of scientists and mana whenua. The second part is based on interviews with local people and focuses on what the mounga means to them. The article provides an example of how different perspectives on a given topic can play out.
Read the article 'Taranaki Views'.

Approaches to Social Inquiry: Through social inquiry ākonga ask questions, gather information, and examine the background to important societal ideas and events. They are able to explore and analyse values and perspectives relating to these ideas and events. They develop an understanding of the issues, and of the ways in which people make decisions and participate in social action. Find out more about social inquiry on the TKI website.

Pūtātara: This resource supports schools and teachers to develop learning opportunities that are place-based, inquiry-led, and focused on participation for change. Visit the Pūtātara website.

Civics and Citizenship Education Teaching Guide: A comprehensive resource that supports primary and secondary school teachers to develop their understanding and practice in relation to effective civics and citizenship education in Aotearoa New Zealand.
Civics and Citizenship Education Teaching Guide on the TKI website.

WORKSHEET 1: Glaciers and climate change

Some people say glaciers worldwide are getting smaller and that this is a sign that climate change really is happening.
But some glaciers, such as Franz Josef in Aotearoa New Zealand, have got bigger in the past.

So other people say this proves climate change is not happening!

1. To make an informed decision about something, it is important to gather enough evidence. Use each piece of information about glaciers in the table below to write a question you would need to ask about Franz Josef before you could make an informed decision about whether its recent changes are evidence either for or against climate change and global warming.

Fact	Question
1. There are many glaciers in the South Island and elsewhere in the world.	Is Franz Josef changing in the same way as other glaciers?
2. Glaciers in steep, narrow valleys are less affected by small overall temperature changes than wider glaciers.	
3. Some glaciers have a layer of rubble on top. It makes them look dirty but also acts like a cooling layer of insulation that traps the cold.	
4. Changes to glaciers are related to weather that happened several years ago.	
5. Glaciers have always gone through periods of retreat (shrinking) and advance (growing).	

2. Why is it important to think about more than one piece of evidence before you make up your mind about something?