Future Focused Curriculum

A guide for secondary school educators to design concept-based curricula

Grow Waitaha

Acknowledgments

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This resource was written in 2023 by Tamara Yuill Proctor as part of Grow Waitaha for the use of educators across Aotearoa. The Connected Curriculum Learning Design framework (CCLD) was developed by Tamara as a pedagogical framework to support educators to co-create coherent, concept-based curricula across subject areas.

We also acknowledge the contributions of the Grow Waitaha Storytelling team to this mahi from conception through to content creation.

Grow Waitaha is a multi-year project designed to support schools in post-earthquake greater Christchurch through citywide educational transformation.

We welcome ongoing feedback on how you have used this resource and suggestions you would like to contribute. Please email:

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About this guide

We want our young people to create new knowledge for our local, national, and global communities with skills and values that benefit humanity and our environment.

Use this guide to inform kōrero / talanoa / discussions as you collaboratively plan across subject areas.

This guide:

+ Provides a straightforward framework to support you to co-design connected curricula across different subject areas.
+ Supports you to take a concept-based approach to issues and problems relevant to ākonga.
+ Enables you to use a range of teaching strategies that are agentic for ākonga.

> “To be future-focused is to understand that as educators we need a shift in role from ‘teacher-driven’ to ‘student-driven’ that provides the student with a more active role in their learning” (Yuill Proctor, 2022).

Poipoia te kākano kia puāwai | Nurture the seed and it will blossom

Contents

What is a concept-based curriculum?

A concept-based curriculum is a coherent curriculum.

Using concepts as the basis of curriculum and instruction helps students to make links between the knowledge they're learning and the world around them (Erickson, 2002).

+ Ākonga and kaiako co-design the curriculum based on real-world issues and problems selected by ākonga.
+ A concept-based curriculum teaches broad concepts, e.g., freedom, conflict, poverty balance, or power.
+ Subject specialists collaborate to co-design a connected learning program using The New Zealand Curriculum (NZC).

Our Aspirations

Agency for our ākonga and kaiako.

Connect subject-specific curricula.

Tackle real-world issues.

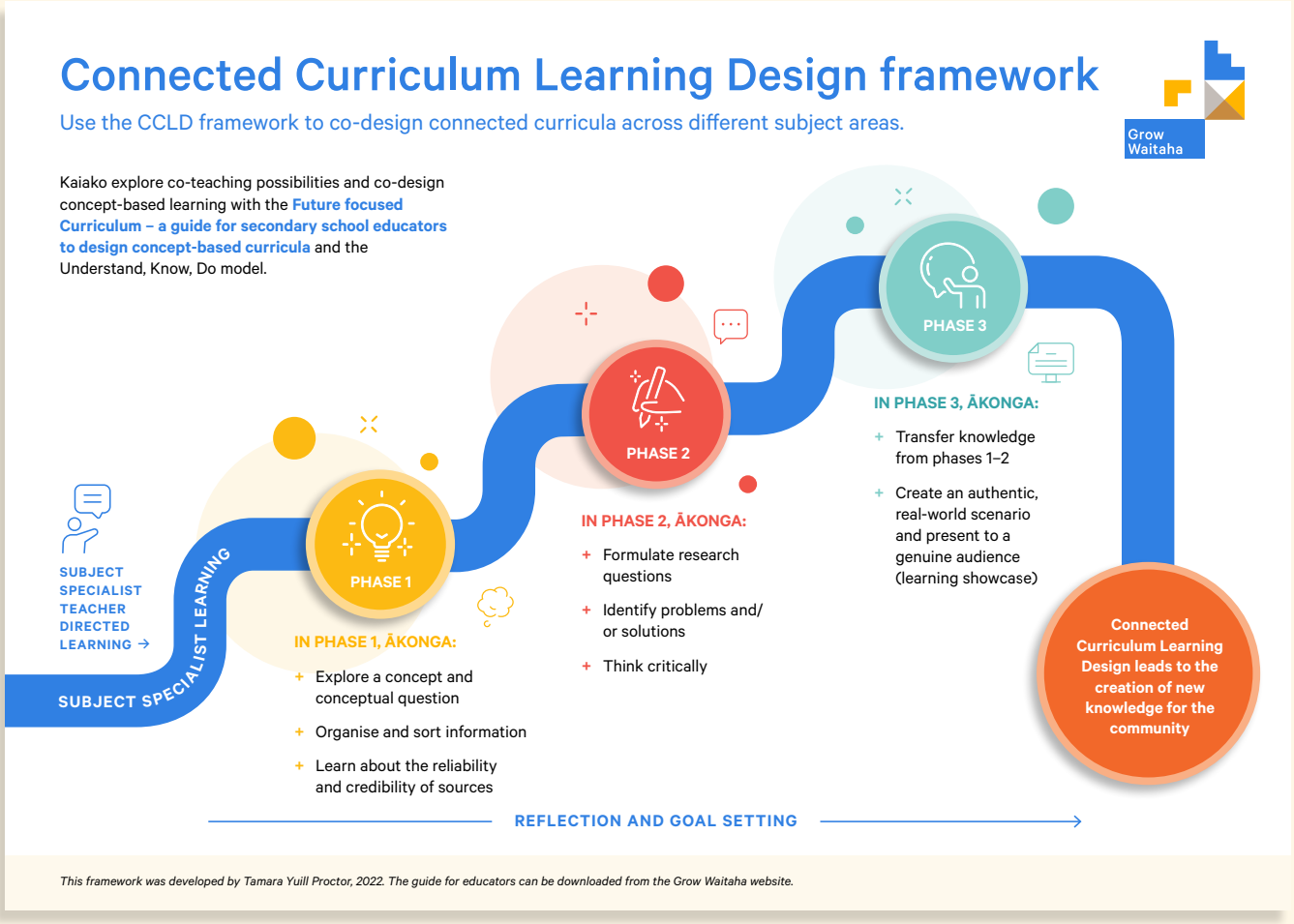
Embrace a range of pedagogical approaches including project-based learning, student-led learning, and assessment for learning (valued added learning).

Embed local curriculum design and 21st-century skills.

Connected Curriculum Learning Design framework

Use the CCLD framework to collaboratively plan a concept-based curriculum in your kura.

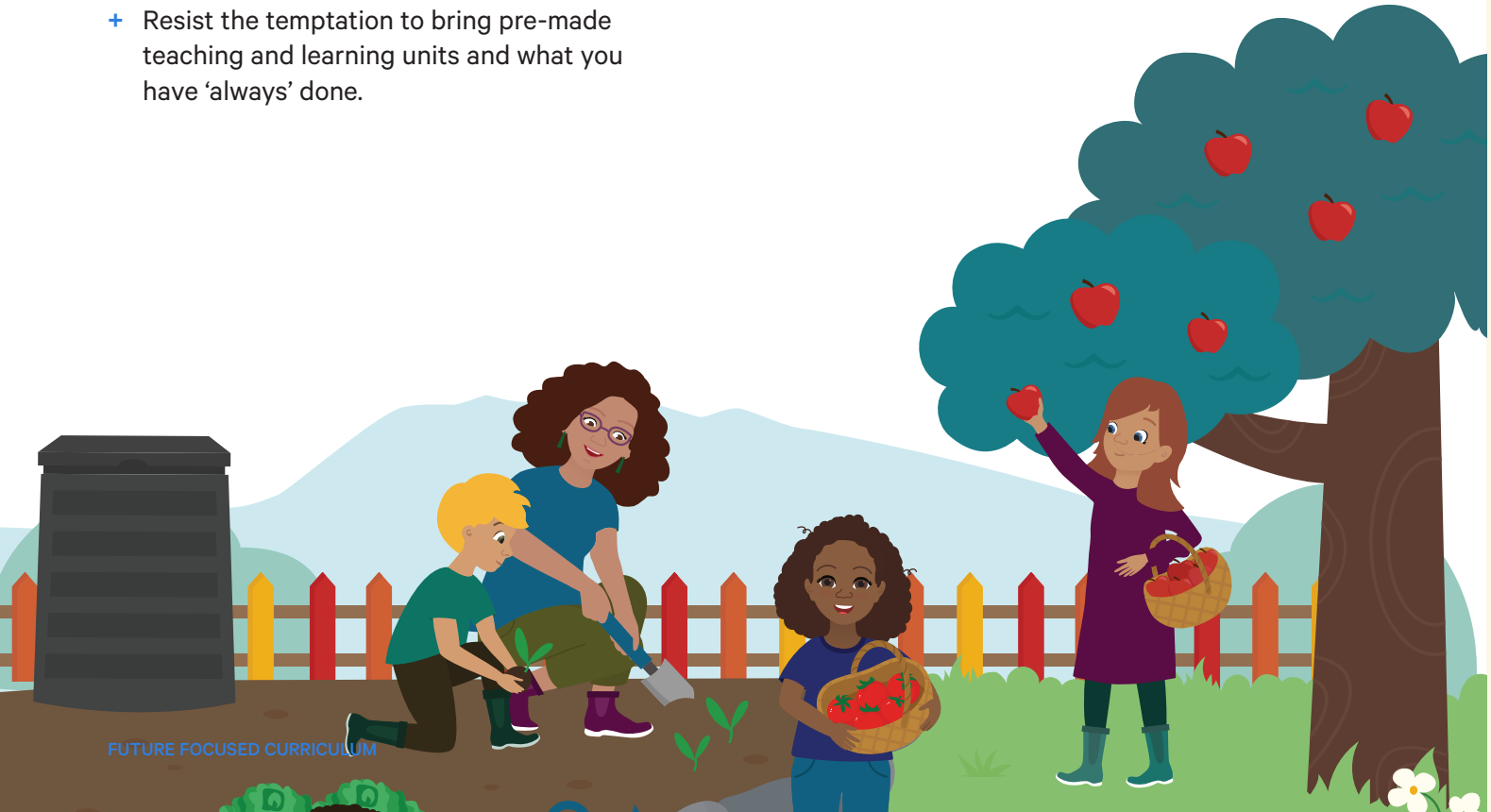
The Connected Curriculum Learning Design framework, used in conjunction with practical planning documents, offers a way for ākonga to move through three phases of learning. The innovative pedagogies that facilitate these three phases of learning include student-led inquiry and project-based learning centred on a concept-based issue or problem (Yuill Proctor, 2022).



What's involved?

Getting started

+ Find a kaiako from another subject area to have a kōrero / talanoa / face-to-face discussion with.
+ Bring *The New Zealand Curriculum* (NZC) and be open to thinking about your curriculum area in a new way.
+ Resist the temptation to bring pre-made teaching and learning units and what you have 'always' done.
+ Explore the CCLD framework.
+ Explore co-teaching possibilities.
+ Focus on the ākonga in front of you and your mutual interests and skills.



Co-teaching = English and social studies kaiako teach the same class in the same space at the same time, or one teacher in front of the class at a time, or a mixture of both depending on how your school timetable is structured.

What's involved?

Follow a co-design process

+ Identify key skills from your subject areas and the transferable skills that you would like ākonga to develop.
+ Identify the concept. This could be chosen by you, with ākonga, or by ākonga.
+ Create a conceptual question.
+ Create a scenario for the learning showcase. This can be designed by you, with ākonga, or by ākonga.
+ Backwards map from the learning showcase. Plan goal setting, time for reflection, lesson sequences, and key learning tasks for the term to align with the learning showcase.
+ Identify when you can evaluate learning on a specific skill/s or content.
+ Plan reflection and goal setting opportunities throughout the learning. Ākonga design questions and work through the process individually, in groups, or as a class.

When I first started, I used 'sustainability' as a concept and The Sustainable Development Goals (SDGs) to frame the concept questions. ~ Tamara

How can we create opportunities for ākonga to share their learning?

Can we create EOTC opportunities for ākonga to work together?

Where will the student-led inquiries fall?

What is the subject-specific learning that needs to happen?

What's involved?

Working together as a teaching team

+ Meet each week to discuss where ākonga are at, what the next steps are, and where plans might need to change.
+ Be responsive to what is happening in the other subject areas especially if you are not co-teaching.
+ Keep the lesson sequence up to date.
+ Plan opportunities for ākonga reflection throughout the unit.
+ Create an authentic context for the learning showcase.

Learning showcases might be an exhibition for whānau and caregivers or a Dragons' Den where ākonga pitch to an expert.

Overview of the learning phases

Ākonga can move forwards and backwards between the phases depending on the learning taking place. Curiosity drives learning.

PHASE 1: Surface to deep learning

SUBJECT SPECIALIST KNOWLEDGE AND SKILLS →

+ Ākonga inquiry into understanding the 'What' of the learning, for example:
  What is sustainability?
  What is climate change?
+ Or a student-led inquiry based on specific subject area content knowledge or skill.

Surface learning does not mean superficial learning. Rather, surface learning is a time when students initially are exposed to concepts, skills, and strategies. Surface learning is critical because it provides a foundation on which to build as students are asked to think more deeply. (Hattie, Fisher and Frey, 2017)

PHASE 2: Develop critical thinking

+ Ākonga inquiry into potential problems and/or solutions or a specific subject area content knowledge or skill.
+ Deeper understanding, moving into the 'Why' of learning, for example:
  Why is sustainability important?
  Why is climate change an issue?
  How do we solve climate change?

We define deep learning as a period when students consolidate their understanding and apply and extend some surface learning knowledge to support deeper conceptual understanding . . . We think of this as a 'sweet spot' that will often take up more instructional time, but can be accomplished only when students have the requisite knowledge to go deeper. (Hattie, Fisher and Frey, 2017)

PHASE 3: Synthesise knowledge

+ Using project-based learning to create something new with knowledge gained from phases 1 and 2.
+ Presenting a learning showcase.

Transfer learning [is] the point at which students take their consolidated knowledge and skills and apply what they know to new scenarios and different contexts. It is also a time when students are able to think metacognitively, reflecting on their own learning and understanding. (Hattie, Fisher and Frey, 2017)

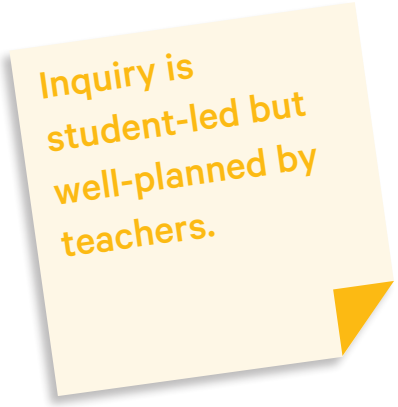
PHASE 1: Surface to deep learning – the what

In PHASE 1, kaiako support ākonga to build content knowledge, subject-specific skills, and transferable skills.

What does PHASE 1 look like?

In a well-designed PHASE 1 student-led inquiry, ākonga:

+ Explore basic research into the concept (surface level).
+ Organise and sort information.
+ Create an opportunity for learning about the reliability and credibility of sources.
+ Identify potential areas of interest for PHASE 2.



Think about these questions as you guide PHASE 1 student-led inquiry:

+ What teaching strategies support the process of student-led inquiry?
+ How can you tap into what ākonga already know? How can you gather data on prior knowledge?
+ How can you co-design inquiries with ākonga?
+ How will you differentiate to meet the needs, interests, and learning styles of ākonga?
+ When will ākonga need teacher-directed learning to develop specific skills e.g., understand how to analyse the credibility and reliability of sources?
+ How can we connect student-led inquiries to other subject areas?

“

Underpinning inquiry approaches is the idea that using an explicit process will enhance students’ understanding of how learning occurs and support them to develop critical thinking, information literacy, learning to learn, and reflection skills” (Boyd & Hipkins, 2012).

PHASE 2: Deep learning – the why

In PHASE 2, student-led inquiry focuses on deeper learning.

What does PHASE 2 look like?

In a well-designed PHASE 2 student-led inquiry, ākonga:

+ Formulate research questions based on student-led inquiry 1 and any additional learning.
+ Develop skills to analyse the reliability and credibility of sources.
+ Explore their own areas of interest to identify problems and/or solutions.
+ Think critically.
+ Evaluate the knowledge that they are learning.
+ Create their own problems or solutions.
+ Connect their inquiry to the learning showcase.

Think about these questions as you guide PHASE 2 student-led inquiry:

+ What teaching strategies support deeper inquiry?
+ How will you differentiate to meet the needs, interests, and learning styles of ākonga?
+ When will ākonga need teacher-directed learning to develop specific skills?
+ How can we connect student-led inquiries to other subject areas?

PHASE 3: Synthesising of knowledge

The aim is for ākonga to transfer their learning from the term into a new learning context, and create the learning showcase.

What does PHASE 3 look like?

In a well-designed PHASE 3, ākonga:

+ Transfer knowledge from other phases of learning, and from one context to another context.
+ Integrate transferable skills such as collaboration, communication, and creativity.
+ Manage their own learning.
+ Reflect on what they did and what they need to do next time.
+ Create an authentic, real-world scenario and present to a genuine audience.

Think about these questions as you lead PHASE 3:

+ Will kaiako design the learning showcase?
+ Will you co-design the learning showcase with ākonga?
+ Will ākonga design the entire learning showcase themselves?
+ How will you invite the wider school, staff, whānau and caregivers, hapū, iwi, and the wider community to be the real live audience?

If a student doesn't complete the scenario, this is also learning, especially when integrated with reflection and goal setting.

The learning showcase shouldn't be assessed as a summative assessment, but rather seen as a celebration of learning.

Presentations could be business pitches, 3D models to show sustainable city plans, social actions, infographics, or online blogs. The opportunities are limitless!

Useful ways to evaluate learning

Evaluating learning throughout the teaching and learning sequences is a useful approach. The aim is for you and your ākonga to understand where they are at and what their next steps are.

Evaluate learning through:

+ kōrero, talanoa, discussions
+ micro activities
+ peer assessments
+ ākonga feedback
+ kaiako feedback
+ observations
+ rubrics based on progress outcomes
+ formal tasks.

Think about these questions:

+ Will you, as kaiako, choose which learning to evaluate?
+ How could ākonga themselves decide what learning to be evaluated on and when they want to be evaluated?

How do specialist subject teachers fit into this?

Credit: Subject Specialist Teacher-Directed Hexagon, T Yuill Proctor, 2022 (adapted from Shulman 1987)

Where do I start?

- Find 1 or 2 kaiako to co-design with.
- Explore this guide and the ‘Understand, Know, Do’ model.
- Create an online, collaborative planning tool – see page 20 for examples.
- Frame learning around a broad concept and a conceptual question.
- Create a learning showcase.
- Negotiate and decide what subject-specific skills each kaiako will teach.
- Reflect on the teaching strategies you currently use and what you might like to try with ākonga.
- Plan your student inquiry approach and lesson sequences/activities.
- If you get stuck, email Tamara.

How do I teach my subject-specific skills?

- As you normally would – the CCLD framework empowers subject-specific kaiako to make professional judgements about what needs to be taught.
- What power-sharing / student-centred pedagogies could you try that you don’t already use? How could ākonga demonstrate this new knowledge in the learning showcase?

How will I know what my ākonga need to learn?

- Begin by creating learning activities that tap into what ākonga already know. Gather data on prior knowledge.
- Differentiate learning based on the needs of ākonga.
- Use rubrics and learning outcomes with ākonga to make learning explicit and visible.
- Use the curriculum document rather than premade units to identify the learning outcomes necessary for ākonga.

How do specialist subject teachers fit into this?

Credit: Subject Specialist Teacher-Directed Hexagon, T Yuill Proctor, 2022 (adapted from Shulman 1987)

How will I know when they have learned something?

- Use a range of methods for understanding progress e.g., reflections, rubrics, professional judgments, discussions, and the completion of activities.

How will I help them learn?

- Encourage goal setting and reflection.
- Make the learning visible; ākonga need to understand what they are learning, where they are at and what their next steps are.
- Co-design learning with ākonga, provide opportunities for ākonga to design their learning e.g., student-led inquiry, social action, designing their own experiments, allowing ākonga to identify their next steps.
- Partner with ākonga to support learning.

How long will this take to get my head around this?

- Take time to learn how best to deliver a concept-based curriculum and student-led inquiry to project-based learning.
- Each cycle of the connected curriculum takes one term (10 weeks).
- Plan for 3 cycles (terms) to become fully comfortable working with and delivering learning with the CCLD.
- Take time to come up with tools and systems to work effectively together and plan for 6 months to build your confidence together.
- Plan for 4 hours a week for someone to coordinate design, implementation, and support for your connected classes.
- Plan a review meeting at 18 months – 2 years. By then you'll need less planning time and support.
- Build a community of practice; coordinate professional learning conversations based on the needs in your kura.

How can school leaders enable concept-based learning?

This mosaic is designed for tumuaki and curriculum leaders to kōrero about the enablers and constraints of a concept-based curriculum. It is flexible and designed as a springboard to identify next steps.

Kaiako need time to come up with tools and systems to work effectively together.

Kaiako may need support to develop a collaborative planning template – this may involve several iterations. They may need time to become familiar with online collaborative planning tools.

Consider how your systems support a connected curriculum: timetables or lesson lengths, staffing of subjects, and the technology used for planning, teaching, and communication.

Support kaiako to collaborate, view their curriculum areas in a new light, and design the learning programmes.

Kaiako need support to focus their discussions on solutions and agree on how to proceed.

Support kaiako to identify the similarities between different subject areas.

Allow time for kaiako to have face-to-face discussions to understand the skills taught in the other classes.

Kaiako and the Heads of Departments (HODs) need to view their subject through a different lens and change or develop their teaching practice.

Leaders may benefit from a strong community of practice, to support them to lead change.

Allow time for kaiako to understand curriculum integration as a continuum that kaiako can move along, to give them the agency and confidence to adjust their level of integration based on the needs of kaiako and ākonga.

Relational trust among kaiako/leaders is critical to creating an environment where kaiako are willing to share their practice; what works but also what doesn't work.

Build your school character and culture – shift the school towards a future-focused curriculum and provide opportunities for kaiako to develop new/innovative pedagogical approaches.

Support kaiako to create a strong community of practice, with high trust, a structured approach to meetings, and effective communication.

Consider appointing a coordinator to provide support and guidance to kaiako in the face of ambiguity.

The coordinator facilitates discussion between kaiako and ensures consistency across the classes.

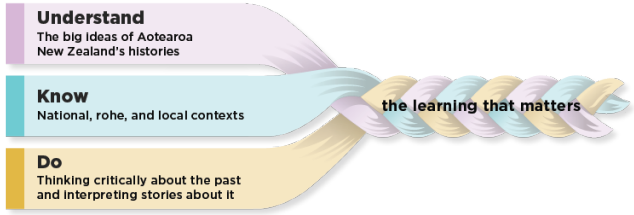
Take time to develop the capabilities of kaiako – best achieved through practical experience.

Kaiako need support to try new methods and pedagogical approaches.

The form teacher is the point of contact and connection between kaiako, ākonga, and whānau.

Examples of practical planning documents

The Understand, Know, Do model with the CCLD framework		
Understand Big Ideas	**Know** Contexts	**Do** Practices
Concept – Identity A conceptual question – What do people do to preserve their culture and social traditions in our community?	Explore 'culture and collective identity' through student-led inquiry.	Deeper student-led inquiry and any additional learning such as skills to analyse the reliability and credibility of sources, thinking critically, identifying values and perspectives, and finally selecting knowledge for the learning showcase.



Read the Understand, Know, Do model from the Ministry of Education aotearoahistories.education.govt.nz/about/content-structure

An online collaborative planning document template

CONCEPT	

CONCEPTUAL QUESTION	

PROGRESS OUTCOMES		
English	Science	Social Studies

KEY LEARNING ACTIVITIES	

IDEAS	

LESSON SEQUENCE				
Week 1	English	Science	Social Studies	Reflections
Week 2	English	Science	Social Studies	Reflections
Week 3	English	Science	Social Studies	Reflections

Examples of scenarios for learning showcases

Concept: Kaitiakitanga

TITLE: Kaitiaki of the environment

TASK: Pitch to the Dragon's Den

You can work in pairs or as individuals.

Create a proposal to protect, renew, or create something sustainable in Waitaha. It could involve recreation, food gathering, community, and/or biodiversity.

Your presentation will include one of the following:

- 3D diorama
- 2D annotated diagram on paper
- 2D or 3D online model or annotated diagram
- other visual aids (for example, a video, handout, model, wall chart, flip chart, infographic, sound, etc).

Concept: Sustainability

TITLE: Energy consultants

TASK: Pitch possible sources of energy

SCENARIO: An island off the coast of Ōtautahi is having an energy crisis. It is a beautiful place to live and is known internationally for its natural beauty and adventure tourism. It has been importing diesel to power generators which have met energy needs until now, but with a growing population and increasing tourism, the government needs to look at alternative energy sources. They are worried that if they use non-renewable resources the island will lose its reputation as a clean and green place to visit. Furthermore, there is a traditional food gathering area in Shallow Bay.

TASK: Pitch three possible sources of energy

You are an energy consultant. You have been asked to recommend three possible sources of energy that will meet the island's needs now and into the future. **Your pitch should:**

- explain why you chose each energy source and the possible drawbacks
- provide at least one positive and one negative outcome for that energy source
- share your expert opinion, on what source or combination of sources is the most suitable for the island
- include a map of the island illustrating how you will make your energy source a reality.

Examples of scenarios for learning showcases

Concept: Sustainability Environmental Protection

TITLE: Mission to Mars – Noah's ark

SCENARIO: Hello, my fellow scientists. Gosh, we're lucky you're here – we have begun planning our relocation to Mars and could really use your expert knowledge on a few important matters. We need to relocate and preserve the natural world as it should be, and this is where you come in! We hope to populate Mars with a selected number of species that live on Earth. Again, we need to preserve the natural world and its biodiversity, so we have chosen a range of animals to ensure this.

TASK: Design the biomes on Mars

You will be working in pairs.

You are responsible for organising environments on Mars for animals from Earth. You will be presenting your plan to an international committee of leaders.

The mission is a modern Noah's Ark to Mars. You will need to design the biomes on Mars and create an infographic where you provide the details for the biomes you have designed to enable animals to survive on Mars. Discuss how they will survive and potential adaptations.

PART 1: Design the Biomes using Minecraft Edu, 3D models, drawing or another tool.

PART 2: Create an infographic about the Biomes using Canva, Minecraft Edu, or Book Creator.

Concept: Sustainability

TITLE: Sustainable city

SCENARIO: You are now the leading experts on sustainable cities and have been asked to work together to design a prototype for a new sustainable city to be built off the coast of Ōtautahi.

TASK: Design a prototype of a sustainable building

You will work in groups that are responsible for specific aspects of the city e.g., the Residential Committee. Each person will build a prototype of a sustainable building for your committee and a visual display with key information. The final iteration will be made from card.

When the card prototype is complete your group will need to use Spero to create a tour of your aspect of the city. There are several elements in this design you will need to address. The final presentation will be at an expo for whānau and members of our school community.

Final thoughts

This guide is not a “to-do” list, but we hope it might inspire you to try something different.

Space for your reflection

+ One thing I can do today to get started in my setting is ...

+ What actions do we need to take?

+ How will this guide support change in our kura?

+ What could we explore further?

> “For students to grow and flourish, we need to encourage and create opportunities for teachers to redesign learning programs based on research, understanding, knowledge and skills, and with a curriculum grounded in a strong pedagogy” (Yuill Proctor, 2022).

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