

# AI Tools for NZ Teachers

*Reducing workload & sparking creativity*

Wellington, NZ  
November 2025



# Workshop Overview

This session explores how generative AI can help Kiwi teachers reduce their workload and inspire creative learning experiences.

- Intro & Today's Learning Outcomes
- GenAI & Prompt Engineering - 5min
- Tools & Platforms - 5min
- Workflows & Examples - 10min
- Hands on Prompt Library & Examples - 25min
- [Flow21](#)

## Surfing & Trigonometry Example

### Worksheet: Surfing with Trigonometry

#### Part 1: Trigonometric Functions

Define sine, cosine, and tangent in your own words.  
Given a right triangle with sides of 3, 4, and 5 units, calculate the sine, cosine, and tangent of the angles.

#### Part 2: Wave Analysis

Draw a sine wave and label its amplitude and period.

If a wave has an amplitude of 2 metres and a period of 10 metres, sketch the wave.

#### Part 3: Surfing Application

Calculate the angle of elevation for a surfer riding a wave if the height of the wave is 1.5 metres and the horizontal distance covered is 3 metres.

Design your ideal surfboard for the wave described above. Explain your design using trigonometric concepts.

### Quiz: Understanding Trigonometry in Surfing

True/False: The height of a wave can be represented using a sine curve.

Multiple Choice: Which function would best help determine the steepness of a wave?

A) Sine

B) Cosine

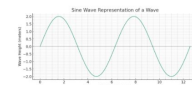
C) Tangent

D) None of the above

Problem Solving: A surfer is on a wave 2 metres high. If the surfer rides down the wave at a 45-degree angle, what is the horizontal distance covered?

Short Answer: Explain how the knowledge of trigonometry can benefit a surfer.

### Surfing & Trigonometry - Lesson Plan, Worksheet & Quiz



Here's a detailed lesson plan focused on integrating trigonometry with the theme of surfing, along with a corresponding worksheet and quiz.

### Lesson Plan: Surfing the Waves with Trigonometry

**Objective:** To understand and apply basic trigonometric concepts (sine, cosine, tangent) in the context of surfing.

**Grade Level:** Middle School (Ages 12-14)

**Duration:** 1 Hour

**Materials:** Whiteboard, markers, printed worksheets, protractors, rulers, calculators, videos or images of surfers and waves.

#### Introduction (15 minutes)

- **Topic Introduction:** Briefly introduce trigonometry and its importance in various fields, including surfing.
- **Engagement Question:** Ask students how they think trigonometry might be related to surfing. Encourage guesses and hypotheses.

#### Instruction (20 minutes)

- **Concept Explanation:** Explain sine, cosine, and tangent functions, using the whiteboard

# Frontier LLM Models

These are the main frontier models:

- [ChatGPT](#)
- [Claude.ai](#)
- [Google Gemini](#)
- [CoPilot](#)
- [Grok.com](#)
- [Meta.ai](#)

# What is Generative AI?

Generative AI produces new content (text, images, code, etc.) in response to prompts. It can draft lesson plans, suggest activities and summarise content, but it doesn't replace teachers.

- Teachers remain central: check outputs, tailor to learners
- AI drafts lesson ideas and administrative texts
- Great for brainstorming, summarising and scaffolding

# Prompt Engineering

The practice of designing inputs for generative AI tools that will produce optimal outputs

Be specific...Quality In ...Quality Out!

3 Things to Know:

- Persona
- Context
- Task

*You are a leading expert for year 9 maths. I am teaching year 9 students from New Zealand. Please generate a detailed, step by step relevant lesson plan for 14 year old Aotearoa New Zealand students that lasts 45 minutes. It should include a way for students to demonstrate their learning and instruct teachers to use any relevant New Zealand reading materials or videos that they possess. The objective of the lesson is that students will know how to solve algebraic equations using the zero-product property (where several expressions multiply to be zero, then one of them must be zero)*

# Reducing Teacher Workload

**Surveys show teachers are using generative AI to lighten the load:**

**62%** of NZ primary teachers find ChatGPT  
beneficial

**55%** say it reduces workload

- Draft lesson plans & unit outlines
- Compose emails, reports & letters
- Generate quizzes, worksheets & rubrics
- Summarise readings & create study guides

# Creative Visual Tools

## Bring ideas to life with AI visuals:

- Use tools like ChatGPT, Claude, Gemini, Grok, Meta to create diagrams & artwork
- Instantly map concepts with chat-based tools, Analogies, Metaphors
- Explain abstract processes with custom visuals

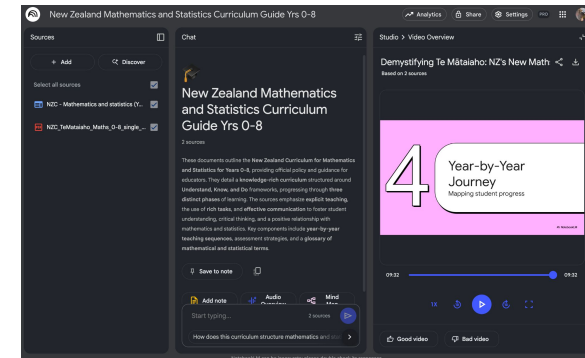
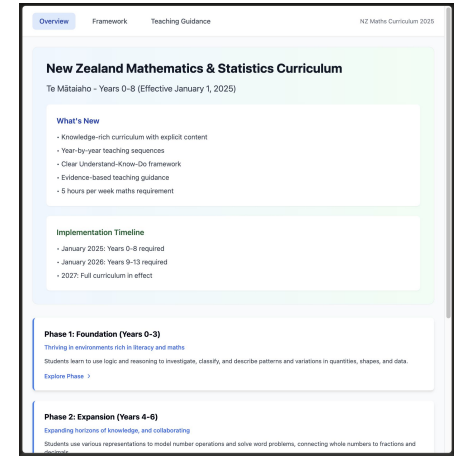


# AI Workflow - A Process of Distillation

1. Get Resource - AI generated or files, videos images etc
2. Select your AI Tool/Platform
3. Create Visual Artifact - Using Vibe Coding

Example - [PLD Math Curriculum](#)

- [NotebookLM](#)





# Prompt Library Highlights

Our prompt library empowers you to generate lesson plans, worksheets, quizzes & rubrics tailored to the NZ curriculum.

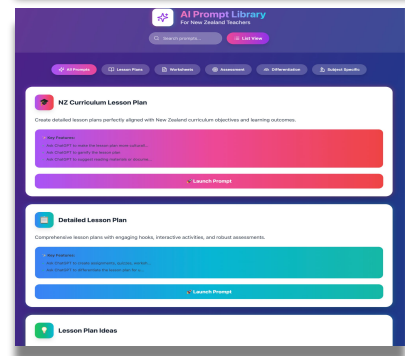
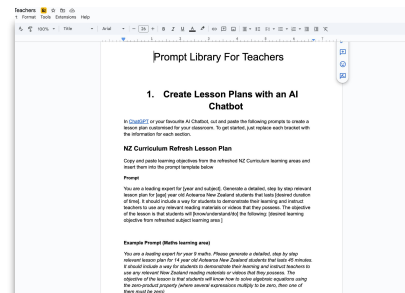
- Lesson plans with hooks, videos & scaffolds
- Custom worksheets & answer keys
- Quizzes from scratch or based on texts
- Differentiation for unique learning needs
- Rubrics with criteria & five-point scales

[Prompt Library Doc](#)

[Prompt Library  
Artifact/App](#)

Prompt Library Doc: <http://bit.ly/47WmBH4>

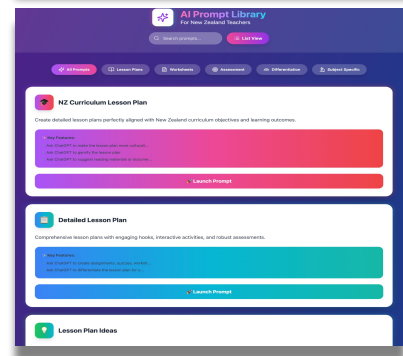
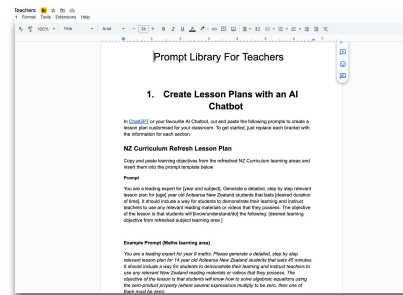
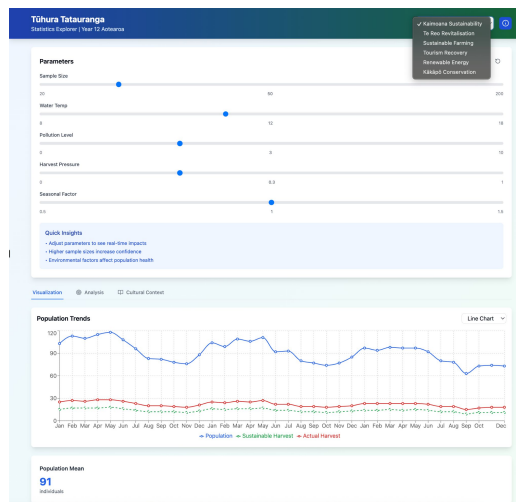
Prompt Artifact: <http://bit.ly/49VT5CP>



# Artifact Examples

Examples of artifacts for your students:

- [Exploring Quadratic Functions](#) - Gamified
- [Water Cycle Learning Game](#)
- [Statistics Explorer](#)



# Implementation & Guidelines

## Policy & Safeguards:

- Do not use AI for summative marking or NCEA externals
- Check outputs for accuracy & cultural relevance
- Respect data privacy & avoid student Pii
- Be mindful of age restrictions and bias

## NZ School Examples:

- Aotea College formed an AI working group, updated policies & provided PD
- Hobsonville Point updated assessment policies & trained teachers to verify students' understanding
- Schools emphasise authentic assessment: track version histories & use verbal questioning

# Opportunities & Next Steps

- **Start small:** experiment with drafting emails or lesson hooks
- **Collaborate:** form a working group & develop school policies
- **Be transparent:** let students know when AI assists
- **Personalise:** adapt prompts for Māori & Pasifika contexts
- **Upskill:** join workshops & share success stories

# Conclusion

## Generative AI is a powerful assistant—use it to reclaim time for relationships and creativity.

Teachers remain the human heart of education; AI helps with the heavy lifting, but you provide context, culture and care.

*Remember: prompt, specifically, thoughtfully, verify rigorously and share your discoveries.*

*“Students aren’t unmotivated.*

*They’re just allergic to meaningless tasks.”*

*Learning becomes intrinsically motivating when:*

- *the challenge is right*
- *the feedback is instant*
- *the student feels competent*
- *the context feels meaningful*
- *and they feel in control of the journey*

# Want More AI Workshops at Your School?

We offer tailored PLD to help schools:

- Save time with AI-generated lesson plans, assessments & resources
- Differentiate learning with ease
- Build staff confidence in using AI safely & effectively
- Align everything with the NZ Curriculum
- We have our own platform [Flow21.ai](https://flow21.ai) we want to co-develop with teachers
- [Blog Flow Theory & Education](#)
- Flow21 transforms lesson plans into learning experiences that trigger intrinsic motivation, using AI to adapt challenge, personalise pathways, and align everything with curriculum standards — so learners enter flow and teachers get their time back.

 We also run AI Camps for students while teachers train in AI.

**Let's talk.**

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