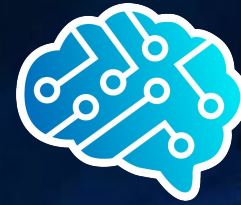




# YOUNG ICT - Explorers -



DIGITAL  
TECHNOLOGIES  
INSTITUTE



Curriculum-based Project Ideation  
How to make a good YICTE Project?  
21 May 2026



School Bytes

## Dr. Karsten Schulz



- Heading up Digital Technologies Institute
- Research Director at SAP Australia & Asia-Pacific
- Doctor of Computer Science (University of Queensland)
- Founder, Young ICT Explorers & Bebras Challenge Australia



- Involved with YICTE since 2014
- Serves as the primary point of contact for all YICTE enquiries
- Played a key role in YICTE's transition to virtual delivery following COVID
- Oversees all operational aspects of the YICTE program

# Certificates, Recording, Workshop Slides

Will be emailed tomorrow morning

## Post-Workshop Survey

<https://forms.gle/VeGb6ojJoxcEmqWj9>

# Purpose of this Webinar



- Explore how teachers can help students **identify** meaningful **problems** at scale.
- **Choose** suitable **digital solutions** that are achievable, assessable, and suitable for Young ICT Explorers.
- **Guide students** to identify users and manage project scope

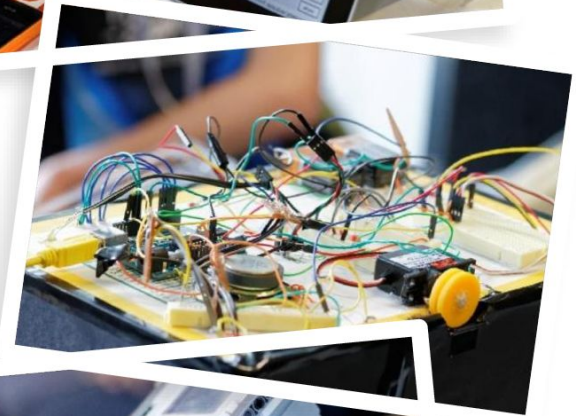
# About Young ICT Explorers



- YICTE is an engagement activity
- Started in 2010 to inspire students to have a go at Digital Tech
- National not-for-profit STEM competition
- Open to students of all technical levels
- Runs annually

# YICTE Design

- Highest degree of freedom.
- Students can work on their projects for as long as they like. With YICTE being their focal point to showcase the ideas once a year.
- Accommodates classroom and extracurricular projects.
- Our focus is the student. YICTE is a platform that should deliver great value to her/him.



# Judging Core Criteria



Criteria	Main aspect	Maximum Points
Creativity and Innovation	How unique and imaginative is the idea?	10
Project Difficulty	How difficult is the work? What is the student's own contribution vs use of existing frameworks?	10
Quality and Completeness	How well does the project do what it is designed to do?	5
Presentation and Documentation	How much effort have the students put into their presentation, have they provided or documented any data and workflow in the presentation.	5

We endeavour to accept all projects so long as there is a clear link to **digital technologies**.

YICTE's design and judging criteria are intentionally agnostic of the type of project

How do I bootstrap a YICTE project?

# Typical YICTE Projects



- Mobile apps
- Robots
- Websites
- Wearables
- Games, Animations, Quizzes, ...

# Common misconception



We start with a **delivery vehicle** and struggle to fill it with purpose:

Quiz, game, app, website, data dashboard, chatbot, simulation, interactive story, sensor-based system, automated reminder system, AI image or sound classifier, educational tool, digital map, decision-making tool, robot, ...

# Finding a good problem is hard



“What kind of problem?”

“Where do I look?”

“How big should it be?”

“Who is it for?”

One idea might be conceivable, but how to do this at scale ?

Instead of starting with a delivery vehicle or a problem, we could start with the curriculum.

**STEP BACK**  
TO GAIN PERSPECTIVE  
AND MOMENTUM



**STEP FORWARD**  
TO ACHIEVE GROWTH  
AND PROGRESS



The **curriculum** is not just a list of things to teach. It is a rich corpus of relevant **contexts**, **concepts**, and **topics** that can become starting points for meaningful student projects.

Our task is to **identify curriculum topics** and help students move from there to a **problem** worth exploring. Once the problem is clear, the **digital solution** can follow naturally.

## Curriculum-aligned Project Ideation



Curriculum-aligned project ideation does **not** mean **limiting student creativity**. It means giving students a solid starting point, a meaningful context, and a clear and assessable way to show what they have learned.

# Step 1

Start with “What are students already learning about?”

Something you already need to teach, for example:

Ecosystems, sustainability, data, forces, local history, healthy habits, online safety, democracy, patterns, measurement, energy, migration, weather, waste, accessibility ...

Do not concern yourself with digi-tech details, such as variables, if-statements, loops, data structures, ...

# Step 2

Use the Curriculum Search Engine to find curriculum connections

Example: Weather and Climate

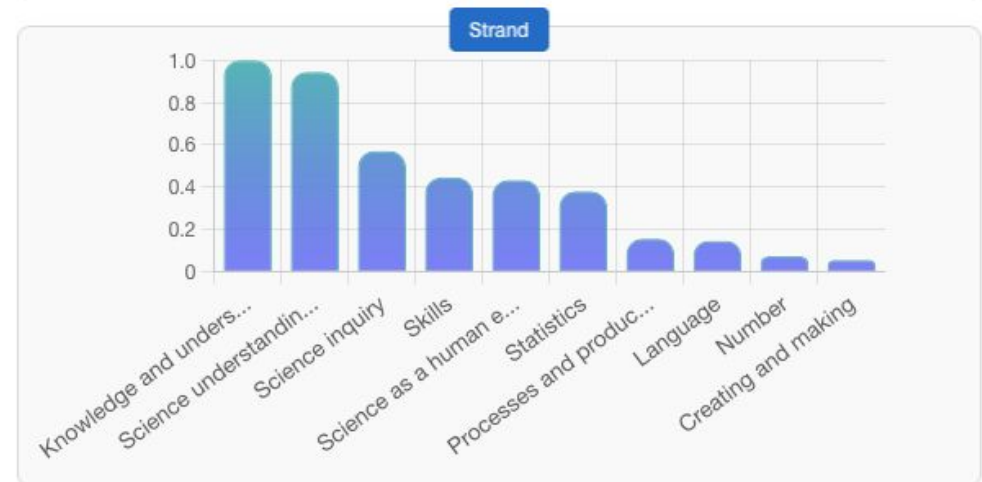
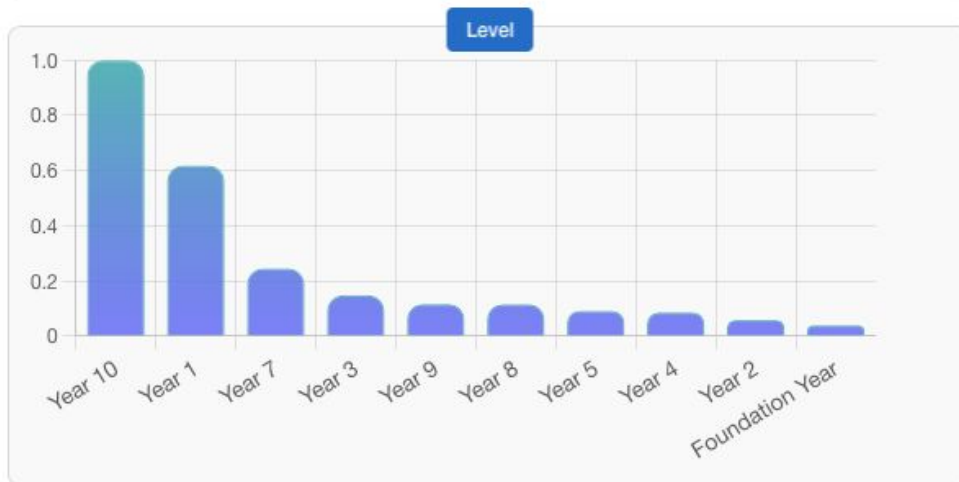
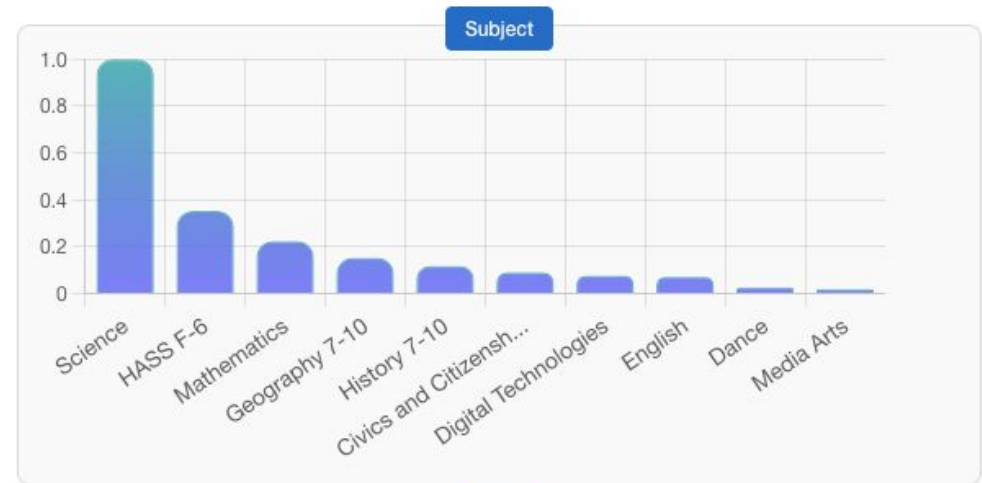
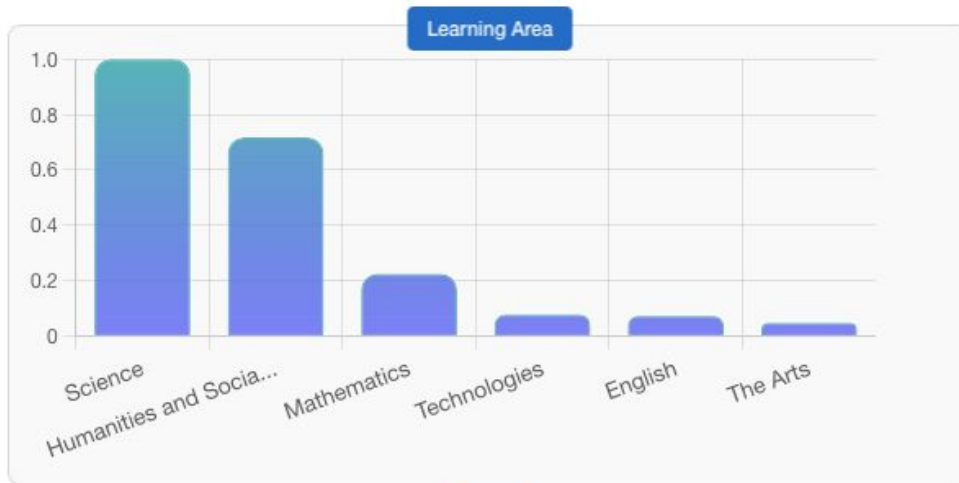
weather and climate

🔍 START CURRICULUM ANALYSIS

# Step 2a



## ▼ Learning Areas ⓘ



# Step 2b



Adjust the filters to your year levels and, optionally, learning areas

## Focus your Analysis

### Learning Areas

ALL ARTS ENGLISH HEALTH HUMANITIES MATHEMATICS SCIENCE TECHNOLOGIES

### Year Levels

ALL FOUNDATION LEVEL YEAR 1 YEAR 2 YEAR 3 YEAR 4 YEAR 5 YEAR 6 YEAR 7 YEAR 8 YEAR 9 YEAR 10 YEAR 11  
YEAR 12

# Step 2c

You can even inspect related content descriptors, elaborations, and achievement standards

AC9S7H04

Recent items

[AC9S7H04](#)

[AC9S7H04\\_E4](#)

[AC9HS1K04\\_E3](#)

descriptions	terms
explore the role of science communication in informing individual viewpoints and community policies and regulations	Science, Year 7, Science as a human endeavour, Use and influence of science, AC9S7H04
investigating how, through two-way approaches, First Nations Australians are communicating their knowledge and viewpoints, such as Caring for Country and Place initiatives to influence related policies	Science, Year 7, Science as a human endeavour, Use and influence of science, AC9S7H04, AC9S7H04_E1

AC9S7H04\_E4



Recent items

[AC9S7H04\\_E4](#)

[AC9HS1K04\\_E3](#)



descriptions	terms
examining how global reporting on high-impact weather events such as cyclones, tidal surges and heatwaves has led to the development of warning systems and evacuation policies	Science, Year 7, Science as a human endeavour, Use and influence of science, AC9S7H04, AC9S7H04_E4

# Step 3



Use the Curriculum Search Engine's Lesson Idea generator. The idea generator will take initial inspiration from the curriculum analysis you just did.

## Ready for Lesson Inspiration?

Tap the button below and let our AI advisor draft a set of tailored lesson ideas based on your curriculum search results.

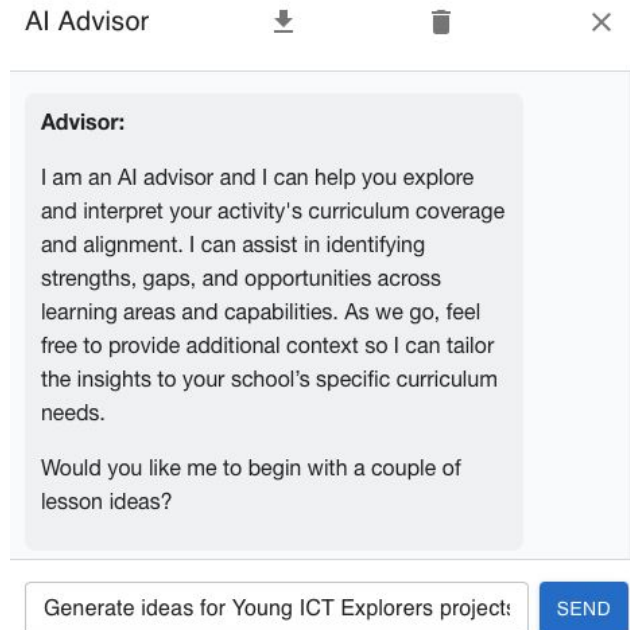


ASK AI FOR LESSON IDEAS

# Step 3a

At the prompt, type:

“Generate ideas for Young ICT Explorers projects”



AI Advisor

↓

🗑️

×

**Advisor:**

I am an AI advisor and I can help you explore and interpret your activity's curriculum coverage and alignment. I can assist in identifying strengths, gaps, and opportunities across learning areas and capabilities. As we go, feel free to provide additional context so I can tailor the insights to your school's specific curriculum needs.

Would you like me to begin with a couple of lesson ideas?

Generate ideas for Young ICT Explorers project! **SEND**

# Step 3b



The advisor will give you initially 5 project ideas, e.g.

- Weather App
- Climate Change Awareness Website
- Weather Data Visualization with Coding
- Smart Weather Station Project
- Augmented Reality (AR) Climate Change Education Tool

# Step 3c



If you want' you can tune the prompt further:  
Feel free to add any further context

"Please provide 10 engaging project ideas for Young ICT Explorers that integrate a specific theme with digital technologies. For each project, include the following details:

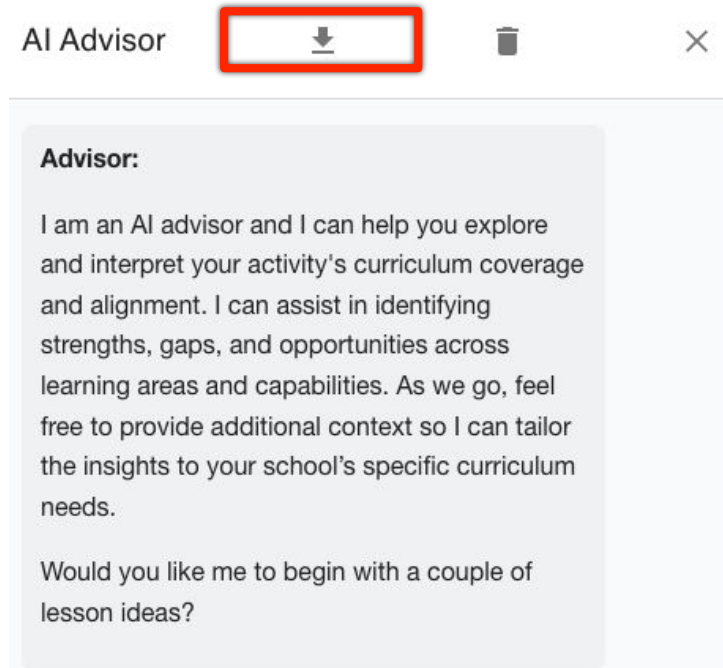
Project Overview: A brief description of the project and its main objectives.

Implementation Tips: Suggestions for facilitating the project and encouraging student engagement."

# Step 3d

Export the Chat into a MS Word file.

This is your *YICTE Project Ideation Repository*



# Step 4

Take any of the project ideas (**individually**) from the idea generator and copy it back into the Curriculum Search Engine's search field at the top to check the specific curriculum alignment

Weather App Development

Project Overview: Students can design and develop a simple weather application using a platform like MIT App Inventor or Scratch. The app can display current weather conditions, forecasts, and climate data for various locations.

 START CURRICULUM ANALYSIS

Expand my query with synonyms

# Step 5



You can further refine the project idea with the AI Assistant, or with your own GenAI tool.

You can then distribute these ideas to your students.

But what if my students already have ideas?

Go with it !

Use the Curriculum Search Engine to check for curriculum alignment and let it help flesh out the idea a bit further.

# Step 6: Students continue



## Define a user

Example:

“We want to help younger students choose the right recycling bin because many students are confused about what can be recycled.”

# Step 7: Decide on digital solution



A digital solution is a **delivery vehicle** to create a solution for the **user**

Quiz, game, app prototype, website, data dashboard, chatbot, simulation, interactive story, sensor-based system, automated reminder system, AI image or sound classifier, educational tool, digital map, decision-making tool, robot, ...

# Step 8: Project Scope



Students often make ideas too big.  
This step makes the project achievable.

## **Keep this question always in mind:**

*“What is the smallest version of this project that would still be useful?”*

## **A useful structure:**

The project must have one clear user, one clear problem, and one clear main feature.

# Step 8: Project Scope

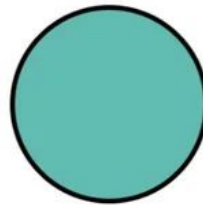
Too broad	Better scoped
An app that fixes climate change	A school energy-use tracker with weekly tips
A game about all of history	A quiz game about federation
An AI doctor	A simple symptom-awareness chatbot for when to seek help
A complete learning platform	A three-screen prototype for learning recycling rules
A robot that cleans up my room	A robot that can navigate a maze

# Never forget !

JUST MAKE IT EXIST FIRST



YOU CAN MAKE IT GOOD LATER

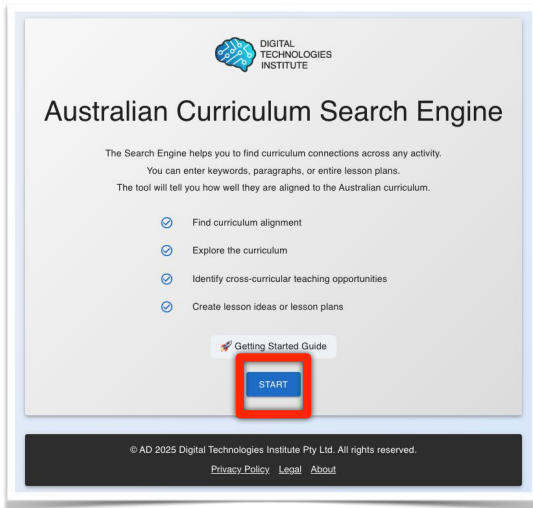


GROWTHBYVISUALS

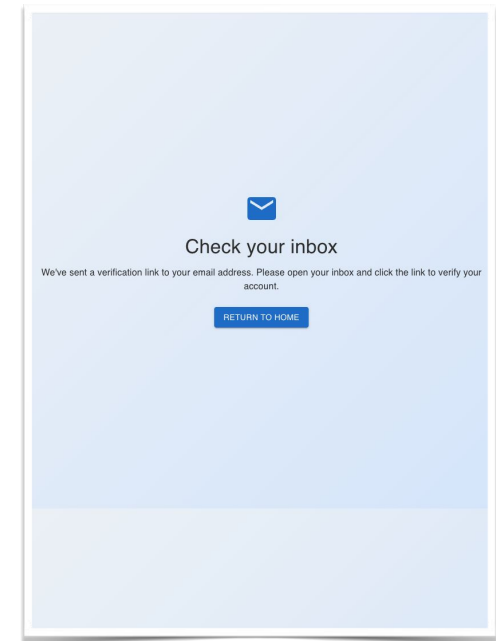
How to access the Curriculum Search Engine?

# Registration

Create an account at <https://curriculumsearch.au/cse>

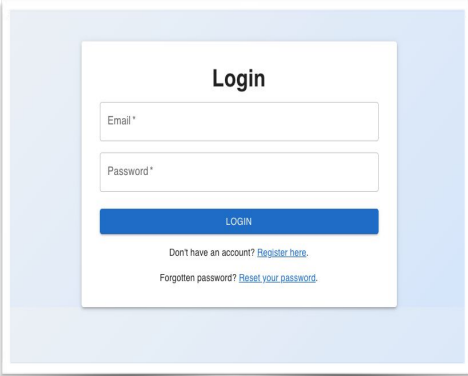


The registration form is titled "Register" and contains the following fields: "First Name\*", "Last Name\*", "Email\*", "Password\*", and "Confirm Password\*". Below the password fields, there is a note: "At least 8 characters, one uppercase, one lowercase, and one number". A checkbox is labeled "I have read and agree to the [PRIVACY POLICY](#)". A grey "REGISTER" button is positioned below the checkbox. At the bottom, there are links for "Already have an account? [Login here.](#)" and "Forgotten password? [Reset your password.](#)"



# Login

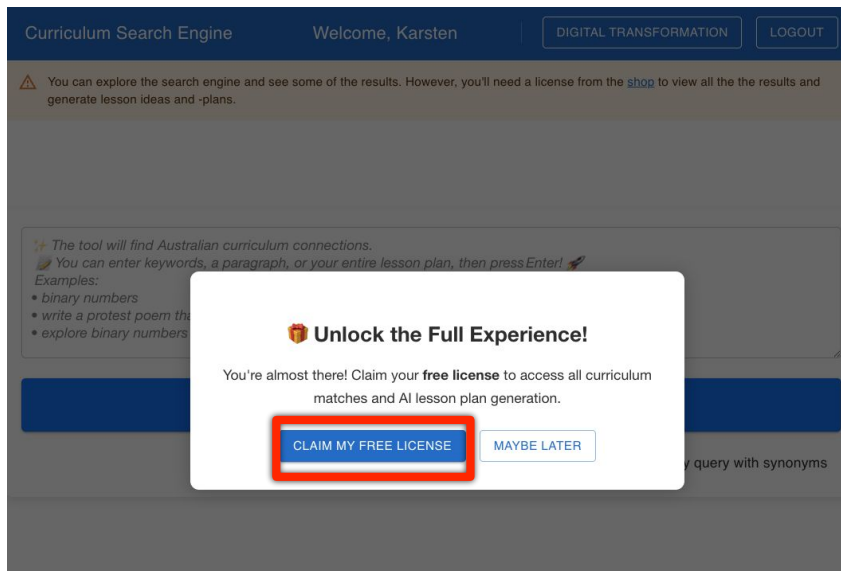
Login at <https://curriculumsearch.au/cse/login>



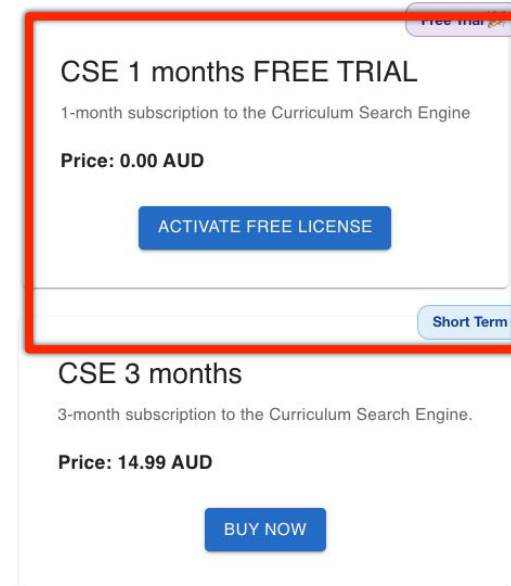
The image shows a screenshot of a login page. The page has a light blue background with a white central box. Inside the box, the word "Login" is centered at the top. Below it are two input fields: "Email\*" and "Password\*". A blue button labeled "LOGIN" is positioned below the password field. At the bottom of the white box, there are two links: "Don't have an account? [Register here.](#)" and "Forgotten password? [Reset your password.](#)".

# License

Get yourself a license\* from the shop



## Shop



\* Licenses will not auto-renew, but we will let you know of an expired license at your next login.

# Conduct your first Analysis

Enter search terms, click on bars to view details

Curriculum Search Engine | Welcome, Karsten | MY ORDERS | LOGOUT

Your license is valid until 28 May 2025.

binary

START CURRICULUM ANALYSIS

Expand my query with synonyms



Focus your Analysis

Learning Areas: ALL, ARTS, ENGLISH, HEALTH, HUMANITIES, MATHEMATICS, SCIENCE, TECHNOLOGIES

Year Levels: ALL, FOUNDATION LEVEL, YEAR 1, YEAR 2, YEAR 3, YEAR 4, YEAR 5, YEAR 6, YEAR 7, YEAR 8, YEAR 9, YEAR 10, YEAR 11, YEAR 12

The analysis is based on the keyword(s): binary

Learning Areas

Subject

Level

Content Description

Elaboration



Focus your Analysis

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The analysis is based on the keyword(s): binary

Learning Areas

Subject

Level

Content Description

Elaboration

Knowledge and understanding	descriptions	terms
Knowledge and understanding		Humanities and Social Sciences, HASS F-6, Foundation Year Knowledge and understanding
History		Humanities and Social Sciences, HASS F-6, Foundation Year Knowledge and understanding, History
	the people in their family, where they were born and raised, and how they are related to each other.	Humanities and Social Sciences, HASS F-6, Foundation Year Knowledge and understanding, History, ACISHPK01
	discussing the members of a family (for example, mother, father, caregiver, uncle, brother, grandparents, aunts, uncle, cousin) and acknowledging other varieties of kinship structure that may be represented in the cultural background of students (for example, cousin-brother and mother-aunts in First Nations Australian families)	Humanities and Social Sciences, HASS F-6, Foundation Year Knowledge and understanding, History, ACISHPK01, ACISHPK01_E1
	creating drawings of family members accompanied by information collected from questions and observations to share details of that person's life, including the places they were born and raised	Humanities and Social Sciences, HASS F-6, Foundation Year Knowledge and understanding, History, ACISHPK01, ACISHPK01_E2
		Humanities and

The curriculum is a rich source of meaningful contexts, topics, and concepts.

- It gives students relevant contexts and problem spaces to explore.
- It helps teachers keep content descriptors and achievement standards in view.
- It supports creative projects that are achievable, curriculum-aligned, and assessable.

Use the Curriculum Search Engine and the proposed process to develop curriculum-aligned project ideas

# Certificates Recording, Workshop Slides

Will be emailed tomorrow morning

## Post-Workshop Survey

<https://forms.gle/VeGb6ojJoxcEmqWj9>



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DIGITAL  
TECHNOLOGIES  
INSTITUTE



Q & A



School Bytes