COMPUTATIONAL THINKING
TE WHAKAARO ROROHIKO
YEAR 7-8

Independently I can ....

INDEPENDENTLY CREATE AND SHARE WORK DIGITALLY, MAKING A JUDGEMENT ABOUT WHICH APPLICATION WILL WORK BEST

Discovering the world of Te Ao Māori

Students can explore the world of Ngā Motu to develop an extensive glossary of language and concepts in Te Ao and Te Reo Māori (following the extensive lesson plans available here)

The glossary should be encouraged to be presented in a variety of creative ways, such as a documentary, or an animation.

Fornite Creative - The GOAT Islands Lesson and Unit Plan

Using Fortnite Creative to get students exploring the concepts of building sustainable environments.

Using Fortnite Creative for beginners
Using Fortnite Creative to build the Seven Wonders of the World (This serves as a good exemplar of how fortnite creative can be used

Teaching with Fortnite Creative course for teachers!

UNDERSTAND THE ROLE OF HUMANS WHEN CREATING DIGITAL SOLUTIONS

Book analysis with AI techniques

This learning sequence explores text analysis through Natural Language Processing, a significant application of Artificial Intelligence. Teachers and students are led through a series of video tutorials to develop a Python program that can break down and analyse the content of a complete text and use smart sentiment analysis to attempt to determine the villain(s) and hero(s).

Eco- Calculator

Students will make a paper prototype of an eco-calculator to demonstrate human impact on the environment and suggest changes in behaviour. This is an unplugged learning sequence with opportunities to extend learning through the development of a Scratch quiz.

UNDERSTAND THE ROLE DEVICES PLAY IN OUR EVERYDAY LIVES AND GIVE EXAMPLES OF REAL WORLD ROBOTIC SYSTEMS

Understanding the Internet

Students will pretend to flow through the internet while learning about connections, URLs, IP Addresses, and DNS in this exploratory lesson

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EXPLAIN BOTH POSITIVE AND NEGATIVE IMPACT OF ROBOTICS ON HUMANS AND SOCIETY

Out of Sight Activity/Lesson Plan

Engineers and scientists tested the FIDO rover in the Mojave Desert. The rover drivers worked out of a trailer without watching the rovers. In similar fashion, in this activity students drive a remote-controlled car through a course to learn the challenges faced while trying to operate a planetary rover. They use measurement, geometry and problem-solving skills to move through the course.

Remote control cars or similar needed for this - Spheros would suit this well!

Rover Races

Students experience some of the challenges of "tele-operating" a robotic vehicle on another planet when they design and execute a series of commands to guide a human "rover" through a simulated Martian surface.

FIND COPYRIGHT FREE MUSIC, IMAGES AND DIGITAL CONTENT ONLINE

Creative Commons and Baisic Copyright Laws

- Discuss why copyright laws exist as a class and how they benefit artists/creators/inventors etc
- Have students explore and create a database of Royalty Free Images/Videos/Content; Music, Images, Videos

Have students create a music video/documentary/short film piece using exclusively royalty free content - this can be sourced from an accredited royalty free site as in the links above, and can be music, imagery or footage that has been created by the student as the student then holds the free creative licence!

Digital Sharing

This is a good lesson for the start of a year when students are unpacking their digital classroom agreements and exploring how to use their devices responsibly and respectfully. Younger students can unpack this on a surface level, while older students can be unpacking it on a legal and more complex level.

Students will soon be creating projects to share and most of these projects will contain either code or imagery that students did not create themselves. This lesson is here to show students the proper way to handle the use of content that is not their own.

Design apps that work to solve problems in the community.

App Design Thinking Process gives a human-centered solution-based approach to identifying and solving problems. It's the process of ideating and validating your concept whilst building it to the highest standard using a process that keeps everything watertight.
Follow the design thinking process HERE and create your own app

CONSIDER MY END-USER AND THE USER-FRIENDLY NATURE OF MY OUTCOME