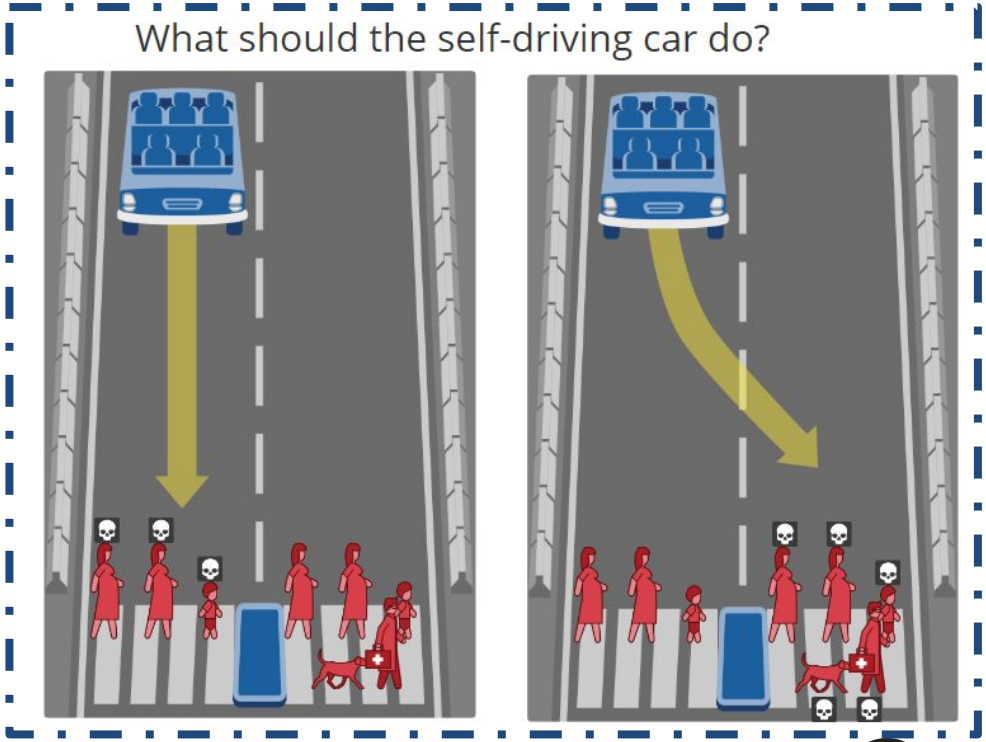
PRESS PLAY WITH OMGTECH!

ETHICS & MORALS

ETHICS & MORALS

http://moralmachine.mit.edu/

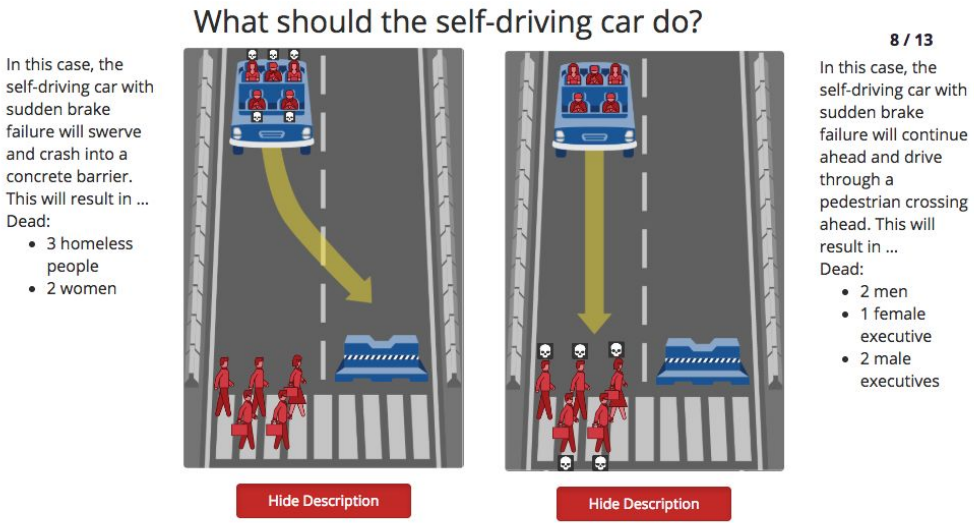
MORAL MACHINE



ETHICS & MORALS

MORAL MACHINES EXERCISE:

- **Judge which outcome you think is more acceptable**
- **Design your own scenario**



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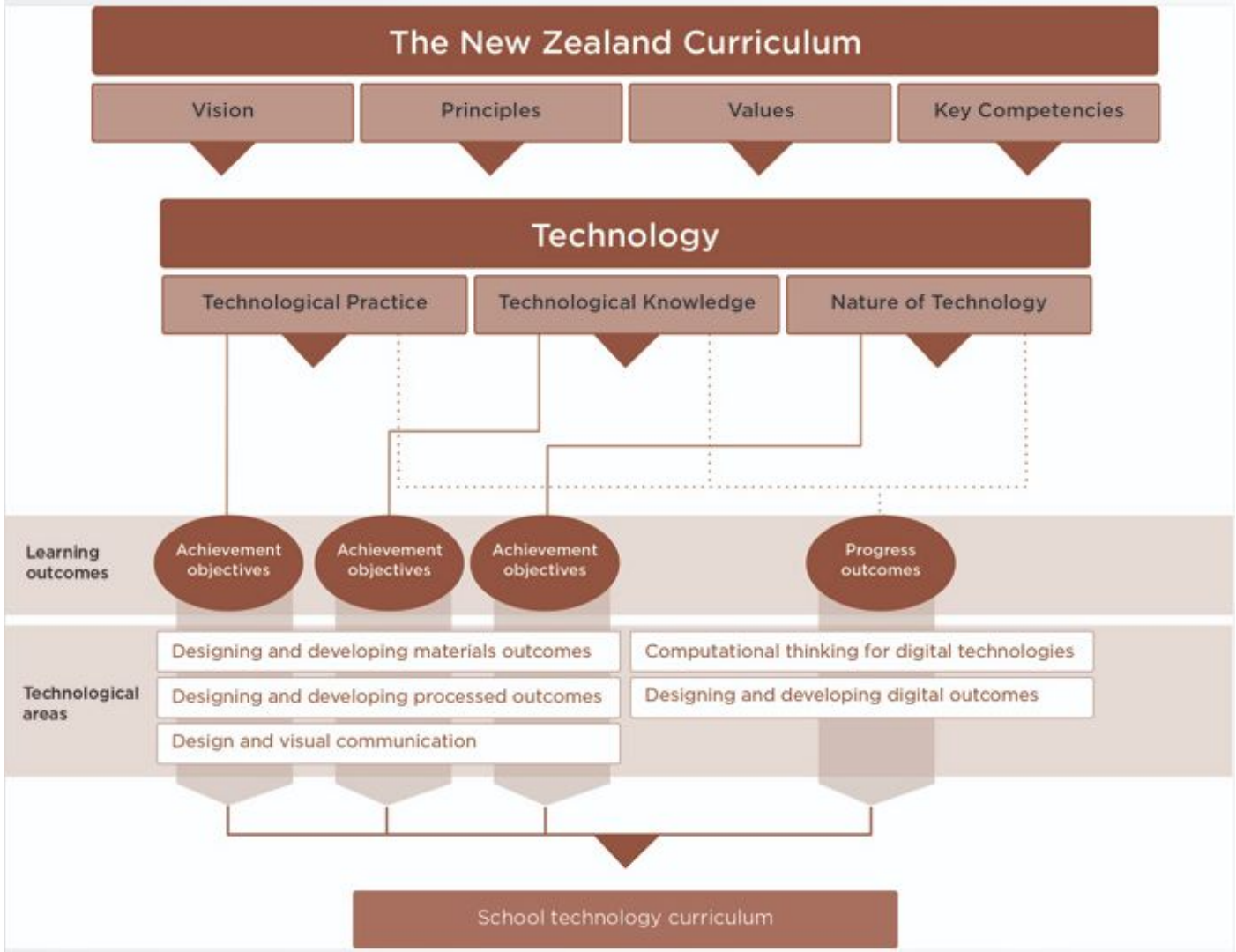
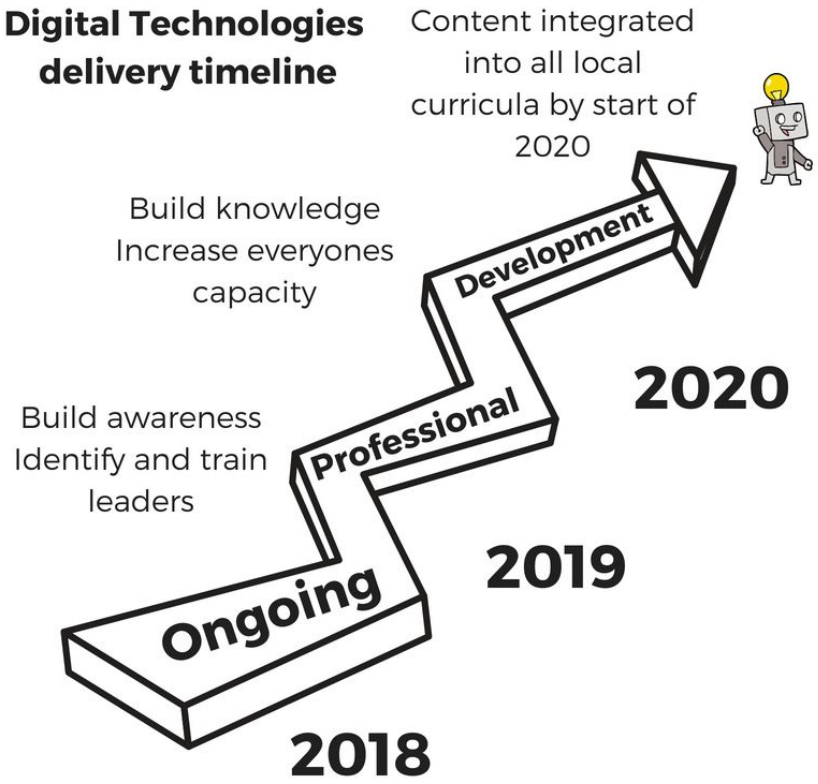
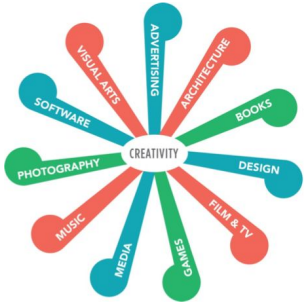

The New Zealand Curriculum
Vision
Principles
Values
Key Competencies
Technology
Technological Practice
Technological Knowledge
Nature of Technology
Learning outcomes
Achievement objectives
Achievement objectives
Achievement objectives
Progress outcomes
Technological areas
Designing and developing materials outcomes
Designing and developing processed outcomes
Design and visual communication
Computational thinking for digital technologies
Designing and developing digital outcomes
School technology curriculum

Delivery timelines



SO WHAT IF YOU COULD.....

...Transform every classroom into a center for innovation and creativity



https://www.naesp.org/principal-marchapril-2016-new-approaches-instruction/speaking-out-decline-art-means-decline-future-i
https://teachingandelearning.blogspot.co.nz/2014/05/hack-your-classroom-week-four.html
http://bpcsteam.blogspot.co.nz/2013/09/introducing-our-bpc-makerspace.html

		COMPUTATIONAL THINKING						DESIGNING & DEVELOPING DIGITAL OUTCOMES				
Curriculum Level	Year	PO Level	Algorithms	Data Representation	Computational Thinking	Things to do?	Year	PO Level	Digital Applications	Digital Infrastructure	Things to do
1	0	1	Non computerised step by step instructions for a simple task		Algorithmic thinking Logical Thinking Decomposition Simple Debugging - What went wrong & how would you fix it?	CS Unplugged Hello Ruby code.org Scratch Jnr	0	1	Identifying digital applications Awareness of purpose of applications Understanding Humans make applications	Understanding basic storage & retrieval Understand basics of computer system Inputs & Outputs of a system	Hello Ruby CS Unplugged IOT exercise
	1						1				
	2						2				
2	3	2	Computerised step by step instructions (Program) for a simple task		What is an algorithm What is a program Inputs Sequences Outputs Simple Debugging	Scratch Jnr CS Unplugged Kiwi Code Hello Ruby Hour of code code.org	3				Unmaking Music Film making Animation Makey Makey
	4						4	2	Understanding how applications change over time Understanding techs impact on society Use more advanced applications & Files types	Understanding components of a computer system & how it works together Understand human's role in system Intellectual property	Robotics 3D Printing AR/VR Tech for good Unmaking & Remaking Wearables - Lily Pads Microbit Aurdino Rasbry Pi
3	5						5				
	6	3	Create a basic algorithm & program on their own to solve a slightly complex task including iteration	Understand Binary - two states	Building on outputs and inputs Evaluate code understanding there can be more then 1 solution Error Detection Loops & Iteration Logical Thinking - Prediction	Hour of code Code Avengers code.org Scratch CS Unplugged code.org	6				
4	7						7				
	8	4	Create a simple program using all CT concepts used so far	Error Detection in data transmission Understand amount of data and searching & sorting a computer does & how it does it	Evaluate code efficiency, elegance and eloquence Selection - If statements Comparative operators Variables UX- Efficiency & usability	Scratch gamefroot Codeavengers MinecraftEDU CS Unplugged	8	3	Select appropriate software type for tasks & use it to make the required outcome Design, develop, store, test, & evaluate content	Understand operating systems, and security Understand file conventions and file management procedures Understand storage Privacy & Security Social, ethical, end user concerns	
5	9						9				
	10	5	Create a complex program - multiple algorithms - uses all CT concepts used so far Understand and employ heuristics	How complex types of data is stored	Variables Logical Operators When to use control structures Testing Functions Parameters	Hex & bitmap Construct3 Scratch gamefroot Codeavengers MinecraftEDU Swift Play ground Text based programming	10				

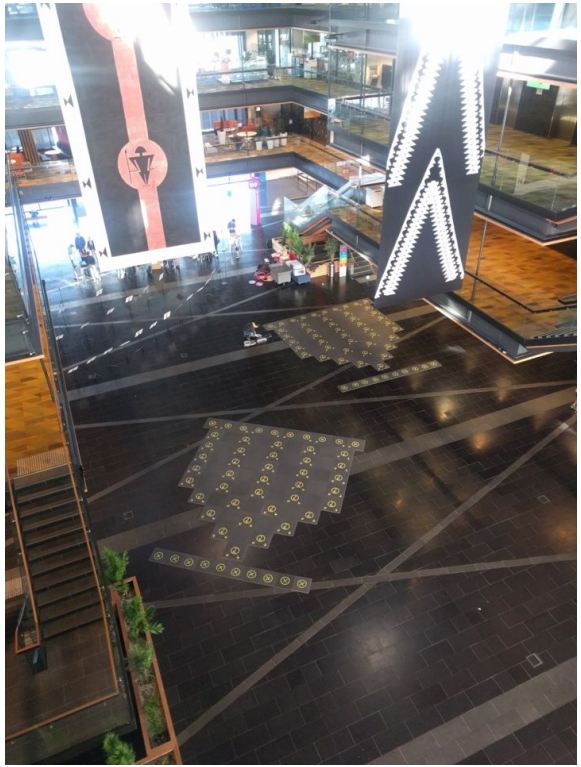
ACTIVITY SUGGESTIONS

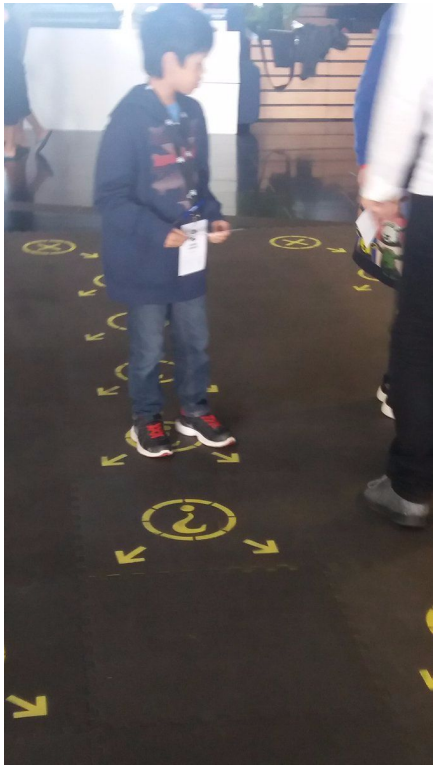
OMGTECH! WORKSHOPS

We have trialled the following workshops with a range of children aged from five to eight. Let us know if you have any improvements or feedback, we are always willing to get better!

OMGTECH! OFFLINE

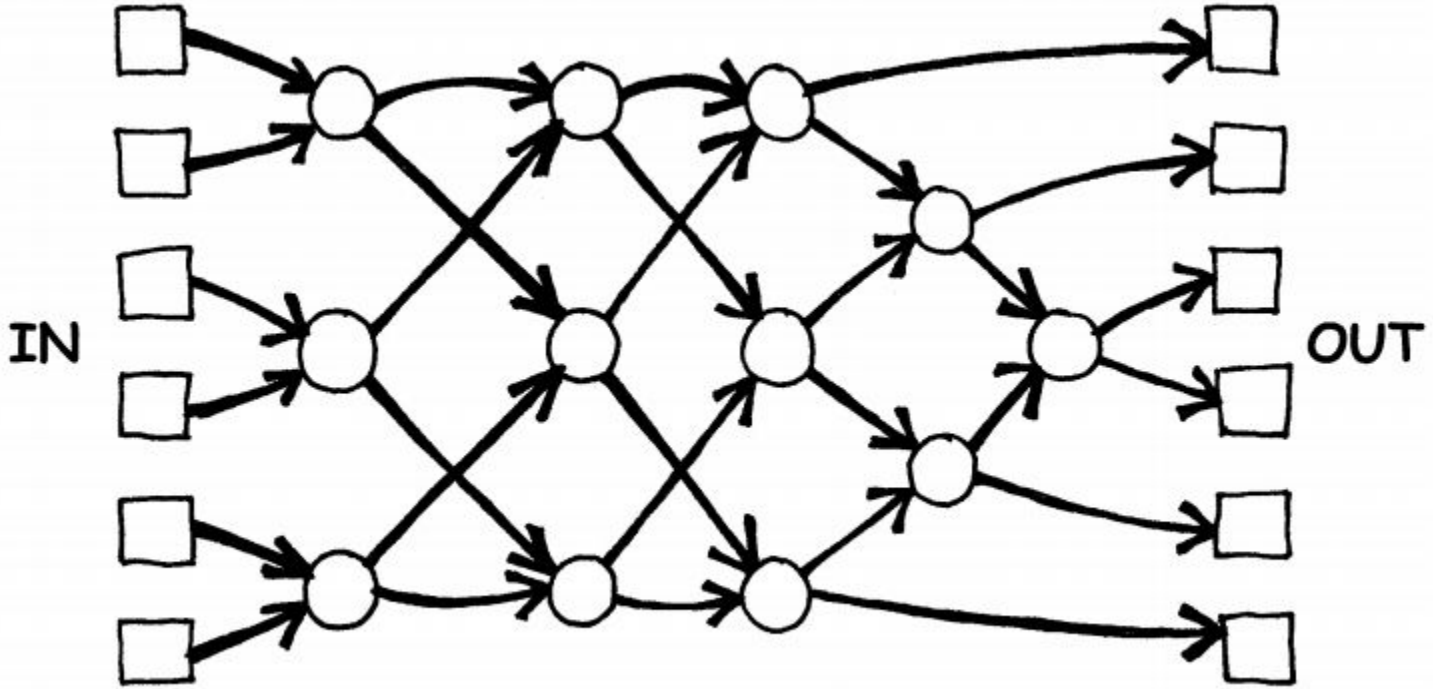
SORTING NETWORKS





OMGTECH! OFFLINE

SORTING NETWORKS

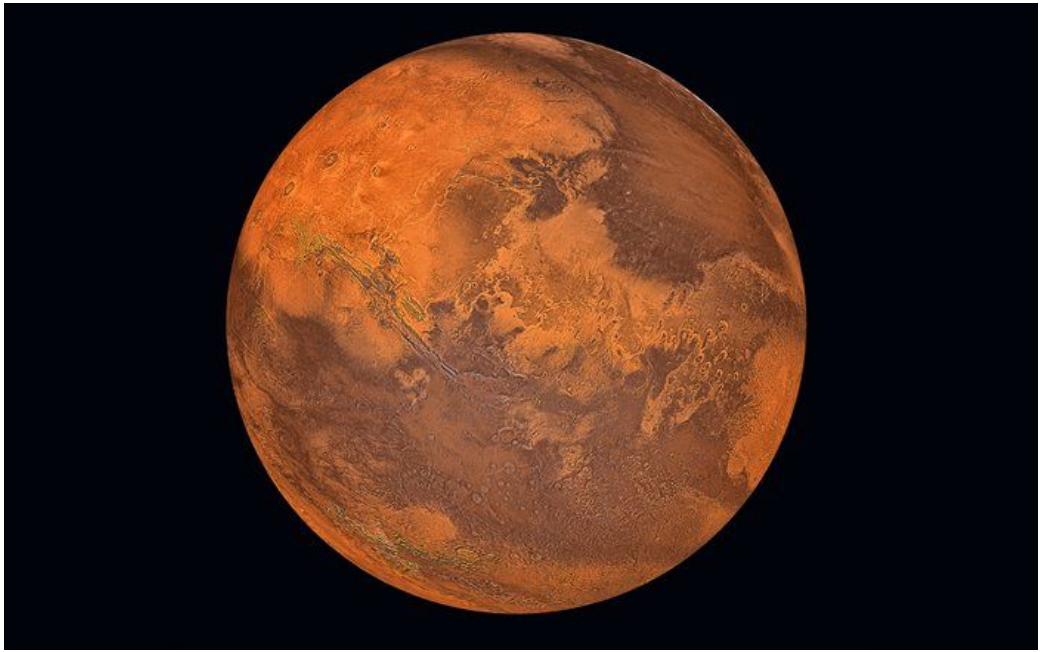


OMGTECH! OFFLINE

MAKING A SANDWICH

OMGTECH! OFFLINE

OFF TO MARS!



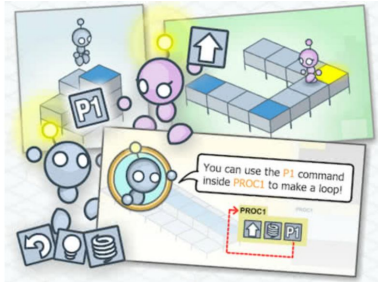
MATHS AND THE RAINBOW

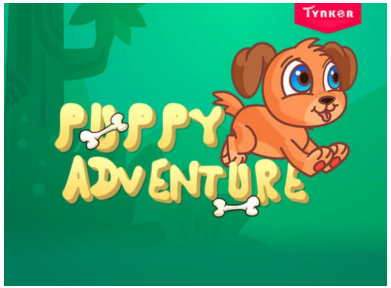
INTRODUCTION TO CODING

HOUR OF CODE

INTRODUCTION TO CODING

HOUR OF CODE





INTRODUCTION TO CODING

SCRATCH JR

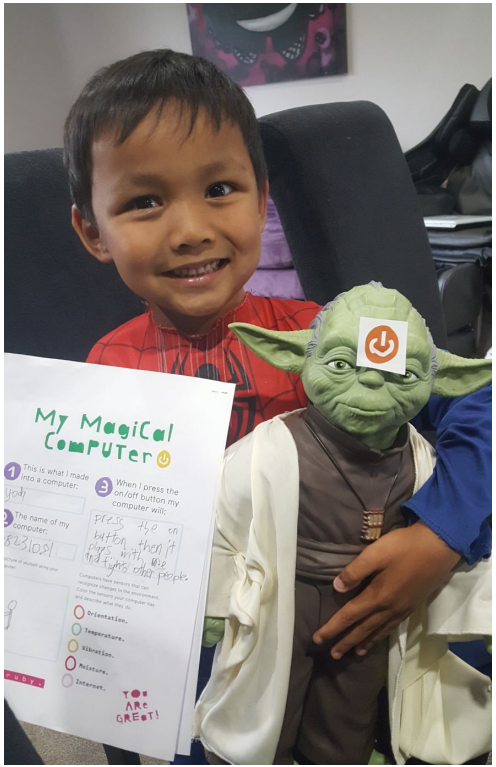
HELLO RUBY

HELLO RUBY

WHAT DOES THE INTERNET LOOK LIKE

HELLO RUBY

MY MAGICAL COMPUTER



HELLO RUBY

JOURNEY INSIDE A COMPUTER