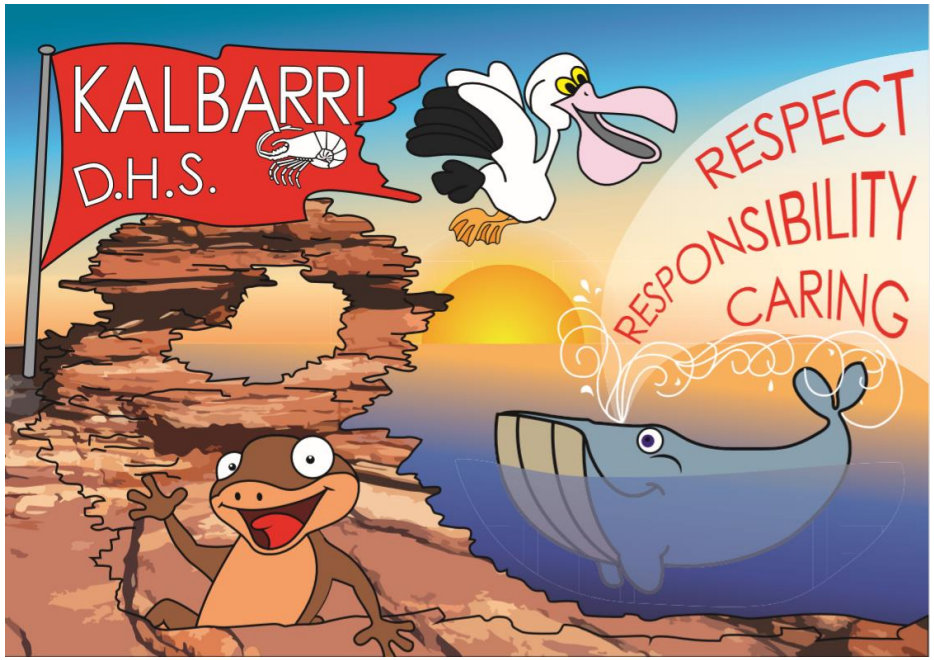



# Circuit Breakers 2020

## Kalbarri District High School

## Year 4/5

# Our School – Kalbarri District High School

- Located 570km north of Perth.
- We are a district high school K-12 with approximately 200 students.
- The Year 4/5 Class participated in the Circuit Breakers Program, 22 students in total.
- We completed the lessons every week during Term 3 and 4 in our Digital Technology lessons.

# What We Learnt About Western Power

- Western Power is a corporation owned by the state government of Western Australia.
- Western Power doesn't generate electricity, but they control where and how it is delivered.
- Western Power track and detect faults in the network through computers and a large control centre.
- Western Power have a vast distribution network that connects to both traditional and renewable energy sources.
- Supply electricity from Kalbarri to Kalgoorlie and down to Albany.

# What We Learnt About Engineering

- How circuits work and how they are related to how we get our electricity.
- We looked at the different steps from planning right through to the completed product.
- STEM is all about trying to solve problems.
- Many different roles within Western Power to pursue a profession in a STEM field.
- Resilience and perseverance to keep trying to solve problems.

# Our Network of the Future

- Currently:

- Kalbarri currently receives power via a 140km long feeder line from Geraldton.
- Kalbarri experiences a lot of power outages which is why the town is getting a micro-grid.
- Kalbarri will be powered by it's own micro grid – a small scale power grid.
- The micro grid will be one of the most sophisticated grids in Australia.

# Our Network of the Future

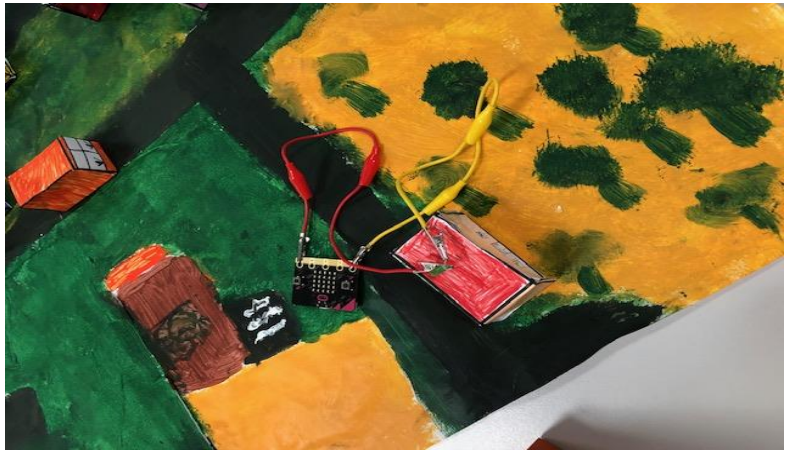
- In the future:
  - Kalbarri would like a more renewable approach and to include solar panels on all buildings.
  - The Micro-Grid to be opened shortly. This would help when there is a fault along the line, Kalbarri would have its own power source in town and not rely on the feed from Geraldton.
  - Harness the power of the wind and waves, in a way that doesn't disrupt from the natural landscape.
  - Install speed cameras in the main street of town to monitor the speed of the traffic during busy school holiday periods.

# Photo of OUR Network

Wind and wave farms to feed additional electricity our own micro grid.

Point to Point Speed Camera installed due to the increased traffic in school holiday periods.

All houses and community buildings fitted with solar panels with extra electricity stored in batteries.



# Favourite Things About Circuit Breakers

- Meeting our mentor Joel and having a ZOOM meeting.
- The coding was engaging and interesting with lots of different tutorials online.
- Fascinating that the Micro-Bit has so many features and can do so many different things.
- Learning about electricity and how Western Power operates.