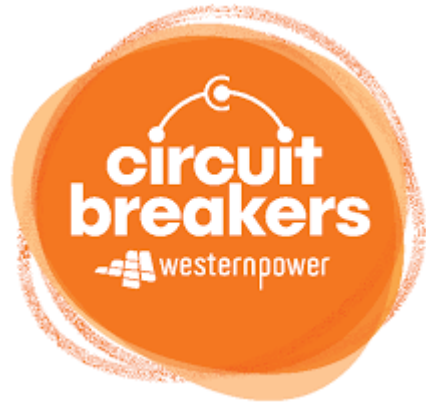


CIRCUIT BREAKERS 2020

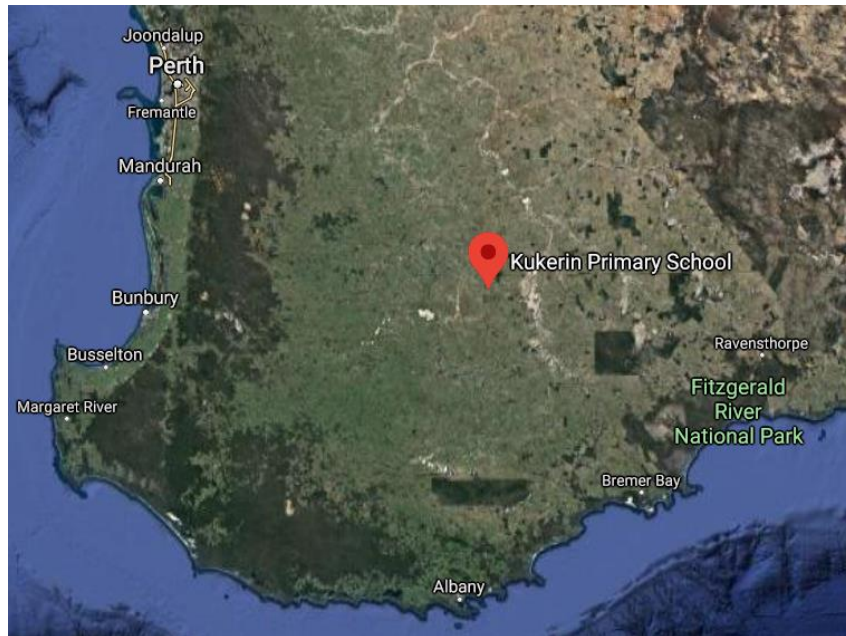


KUKERIN PRIMARY SCHOOL

OUR SCHOOL

Kukerin Primary School has 43 students from Kindergarten to Year 6. These students are split into the Junior Room (Kindy-Year 1), Middle Room (Year 2/3) and the Senior Room (Year 4, 5 & 6)

We all live either in the small town of Kukerin or on a nearby farm. Kukerin is located 308 Kilometres South-East of Perth.



THE SENIOR ROOM

The Senior Room is a mixture of Years 4, 5 and 6. We have only 13 students all up in our class, but have successfully managed to create our town of the future, through the Circuit Breakers program. Our school motto is 'Small but Strong' and that definitely applies to our Senior Room when you look at the amazing town we created with only 13 students contributing.

We enjoyed the new experience of coding and learnt how tricky copper tape can be! Creating music was a big hit in our classroom. The sounds we produced weren't anything from the normal pop music of today, but were still great fun to create!

The Senior Room students are very grateful for the experience and hope that future schools who participate in the program enjoy it as well.



WHAT WE LEARNT ABOUT WESTERN POWER

- Western Power works all around Western Australia and supplies power across the whole state
- They used to use helicopters but that got too dangerous so now they use drones to check the power lines and problems
- Western Power are responsible for fixing any damaged power lines or poles and are notified by an alarm in less than a second if something goes wrong
- They started a program called Circuit Breakers to help students become more aware of the different types of jobs they could do when they grow up
- In the program they gave us little kits which have every day tools and items that Western Power also uses



WHAT WE LEARNT ABOUT ENGINEERING

- It is very hard and time consuming!
- You have to be a problem solver and think outside the box to solve problems
- We used a mix of building, designing and connecting wires when making our town which meant we were able to see what it is like being a civil, electrical, industrial and mechanical engineer
- It takes a lot of learning, practise and patience to complete engineering tasks
- Engineering is not just one type of job! There are many different types of engineers and a lot of different jobs for each type
- Engineers use a lot of different tools, materials and technologies to help them with their jobs

OUR TOWN - ASTAMPER

Our town of the future was made as part of the Circuit Breakers program. We had a class vote and officially decided that our town be called Astamper.

We have 41 houses and all of the basic requirements for a town such as a hall, church, hospital, nursing home, fire station, gym, fuel station, waterslide, café, playground, shop, post office, bank, tennis courts/club, oval, prison, police station, Bunnings and a District High School.

We have a number of different power sources including power lines running through the town, a hydroelectricity power station in the lake, solar power panels on all of the roofs, and wind power using the wind turbines. We also have a Western Power hub and office next door to Bunnings.



WELCOME TO A STAMPER



- Wind turbines
- Waterslide and pool
- Café
- Public 'Bouncing Pillow'
- Petrol station with Micro:bit price display
- Traffic light LED sign saying 'Welcome to Astamper'

- Fire station with a fire engine that lights up and has a working siren
- Playground with giant slide
- Houses with solar panels
- Working traffic lights

- Lakeside houses (the expensive part of town!)
- Hydroelectricity station
- Bridge to cross the lake and get to the island and hydroelectricity station
- An electronic billboard at T-road which uses the Micro:bit to say 'drive safely, give way'



- Astamper Town Hall with Micro:bit LED sign
- Church
- Community living with a shared garden and playing field

- Wind turbines
- Hospital with ambulance that lights up and has a working siren (connected to headphones attached under the table and fitted with a homemade sound amplification device!)
- Working traffic lights
- Post office, bank and various shops along the main street
- Nursing home near the hospital
- Sporting grounds with lights

- Western Power Hub
- District High School
- Working traffic lights
- Police station and prison

Circuit Breakers Reflection

What I found most challenging - doing all the delicate parts like making the nets and connecting the wires because the objects were so small.

My favourite part - making our small fire engine light up, it was so rewarding when it was done.
~ Katie

What I found most challenging - Making the nets because sticking them together was hard.

My favourite part - Working together to make the Bunnings.
~ Mitch

What I found most challenging - Trying to make all the 3D nets and the whole town in a short time.

My favourite part - Making and designing the town and getting to show our whole school what we made.
~ Preston

What I found most challenging - Trying to split our town and finding out what we had to make.
My favourite part - Making the town.
~ Zac

What I found most challenging - Making the 3D nets because the last tab always fell down before you could glue it.

My favourite part - Coding the Micro:bit to make sounds.
~ Kael

What I found most challenging - the fact that the coding involved in Micro:bit involved a lot of problem solving. Also building the nets was tricky.

My favourite part - Creating the town and working together as a group.
~ Angie

What I found most challenging - Making the houses but we eventually did it!

My favourite part - Coding the Micro:bit for the billboard.
~ Ben

What I found most challenging - Connecting all of the wires to make it work and sorting all the Micro:bits.

My favourite part - Working together as a class to complete it.
~ Matilda

What I found most challenging - Figuring out how to connect the alligator clips to the traffic lights in my town.

My favourite part - I enjoyed creating our town and figuring out what sources of energy we could include.
~ Ashleigh

What I found most challenging - Attempting to code the Micro:bit to make the fire truck sound and finding that it didn't work. I really needed a lot of patience.

My favourite part - Seeing the town all come together.
~ Isabel

What I found most challenging - Programming all of the Micro:bits so that they all worked.

My favourite part - Building the town and watching it come together.
~ Scarlett

What I found most challenging - Making all of the nets for the houses.

My favourite part - Coding the Micro:bit to make sound.
~ Lily

What I found most challenging - Making the houses and the roofs.

My favourite part - Making the bridge.
~ Xavier

THANK YOU!

We would like to thank Neil from Western Power for coming out to guide us and teach us about different types of engineering and what he does for his job.

We also really enjoyed using the kits and exploring different programming tools.

Thank you Western Power for giving us the kits and letting us participate in the Circuit Breakers program.

