



Lesson 5:
Little circuits, big circuits

ENERGY DETECTIVES



Part of Energy Queensland



What have we done so far?

Can you remember what
an electrical circuit is?

Can you remember the
parts of a circuit?



Last lesson we looked at little circuits
But what about the circuits that power our community?

Today's task

Last lesson we looked at little electrical circuits, and today we are going to explore the big electrical circuit that keep power coming to our homes and school in community.

Learning intention:

Understand how electricity travels from power stations and diesel generators to power our homes and schools.



Where does electricity come from?

Together as a class, discuss:

Where does electricity in our community come from?

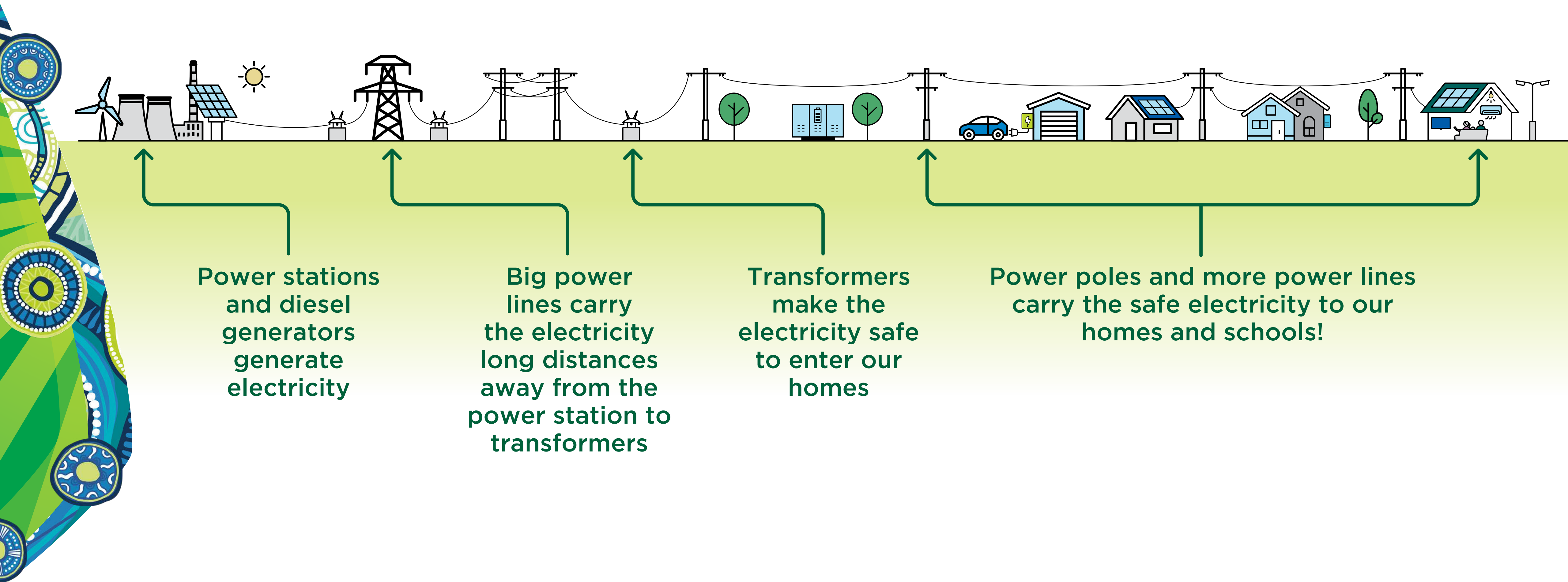
What do we use the electricity in our homes and school for?

How does the electricity get from the energy source to our homes and school?



Circuits in our community!

So how does electricity get to our homes and school in our community?



Who looks after our electricity?

Ergon Energy Network operate and maintain power stations, poles and transmission wires.

In a yarning circle, discuss these questions:

What happens if something in our big community circuit breaks?

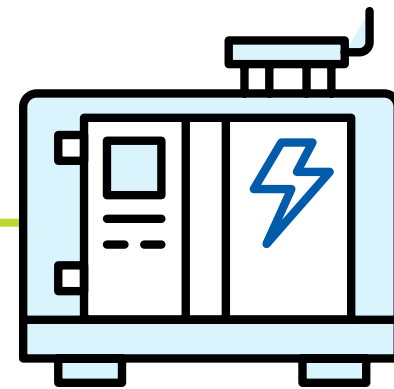
Why is it important to keep power flowing through community?



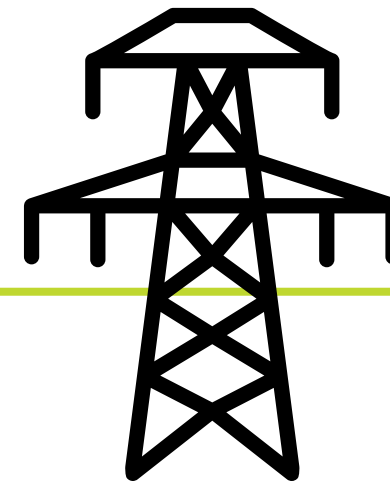
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Human Community Power Circuit Activity

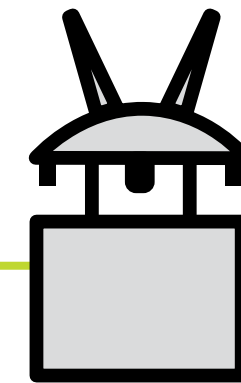
You will now complete a human electrical circuit like in our previous lesson, except this time we have some extra roles!



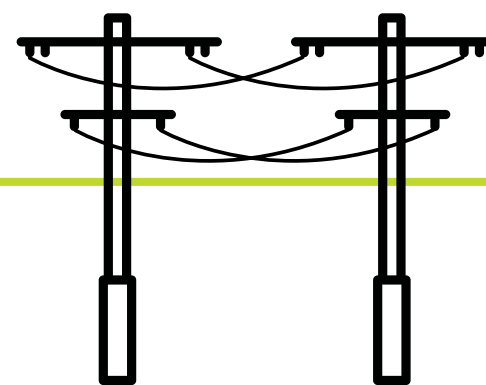
Power source
(diesel generator)



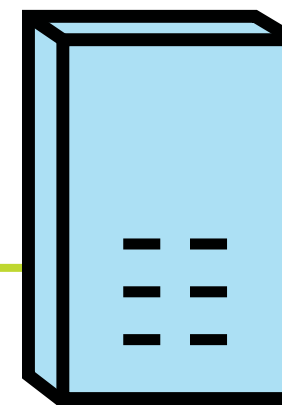
Transmission wires



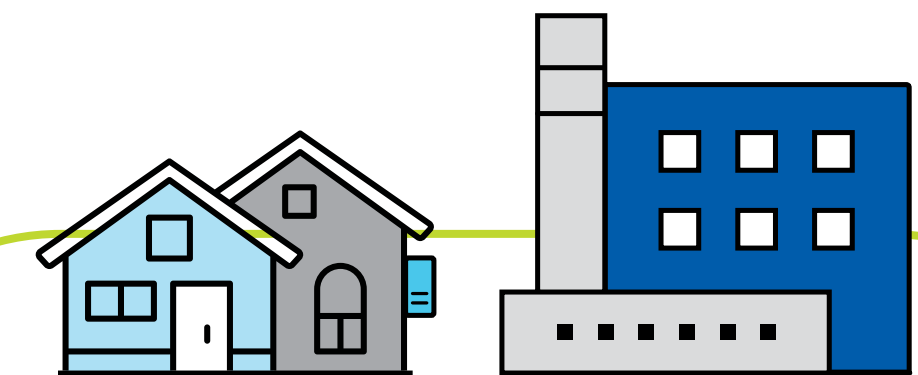
Transformer
(to make electricity safe)



Power poles and wires



Fuse box
(that receives the electricity)



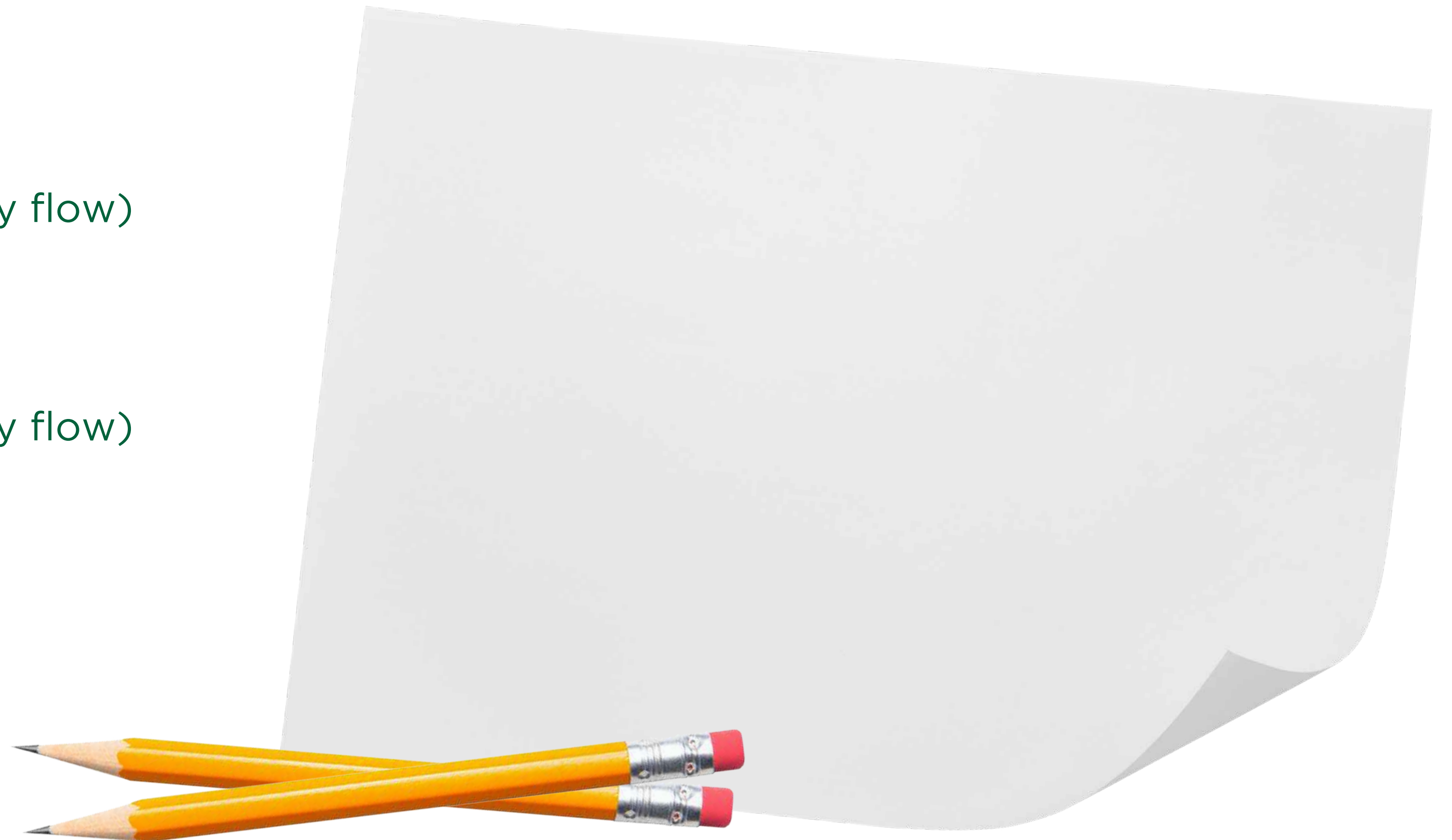
Buildings powered by electricity

Power Journey Map

Now you have modelled your community circuit, it's time to put pen to paper!

On a blank piece of A4 paper, draw and label the electrical journey in your community.
Write a description of what happens at each stage.

- Power station/diesel generator
- Transmission wires
(arrows to show direction of electricity flow)
- Transformer
- Power poles and wires
(arrows to show direction of electricity flow)
- Fuse box
- Building and appliances



Community reflection

Now you have completed your power journey map, sit together in a yarning circle:



If the power stopped for one day, how would our community be affected?



What do we rely on electricity for in our community?



What can we do to keep electricity flowing safely?



What might make the flow of electricity unsafe?



Mission report!

Good work today Energy Savers! Let's recap what you learnt today.

Electricity travels from power stations and diesel generators through wires and transformers to our homes.

Our community depends on the big energy circuit every day, so it is important to keep it safe!

Your next mission: conductors and insulators.

