



# POWER DISCOVERY ZONE

ADDITIONAL RESOURCES

## The Electric Journey

Everyone uses electricity. It plays an important part in our daily lives. However, making electricity and delivering it to our homes is complex...

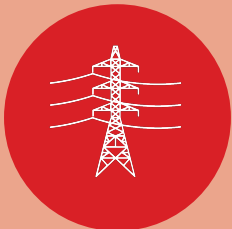
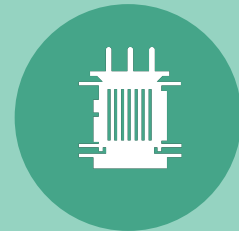


### Electricity is made, or generated, at power stations. It can't be stored or kept for later.

So it is sent out straight away. Electricity flows along power lines at extremely high voltages - up to 400,000 volts - to very large substations known as **grid supply points**. This is where the electricity's strength, or voltage, is reduced.

### A transformer is used to reduce the voltage to 132,000 volts.

Electricity at this voltage is too powerful for TV's, computers and other appliances, so it has to be reduced further before it reaches our homes.



### The electricity travels along more cables and reaches a large substation

The voltage is reduced again to 33,000 volts. This amount of electricity can be used by big factories that need a lot of power, but it is still too much for our homes.

### Overhead lines and underground cables carry the electricity

First it goes to a primary substation, and then on to smaller distribution substations nearer our homes. The voltage is gradually lowered to 230 volts and completes its journey by flowing into your house and powering your lights and gadgets.



### Electricity in more rural areas

Brought in via smaller substations, or transformers, attached to a wooden pole.



# THE ELECTRIC JOURNEY

