

Part 4

Inside a power station

Let's find out more about the process of producing electricity!

Think about the amount of electricity you use every day. You use it when you take a shower, eat your meals, watch TV, play games, do your homework and in many more daily activities... Electricity is everywhere, but have you ever wondered how it gets into your house or school?

Let's recap

As we have already learnt in part 2, electricity is produced in a power plant. The simplest plants have two main components: a rotating magnet called the "rotor" and coils of copper wire called the "stator." When the rotor rotates through the magnetic field, it generates a flow of current through the copper coils. Most electricity is produced by burning coal, gas or oil in a boiler to turn water into steam. Under high pressure, the steam turns the blades of a turbine that spins a generator, producing electricity.

Electricity in motion

Once electricity has been generated, using the process above or any other source of electricity (as described in part 2), it passes from the power plant through a transformer station, which increases the voltage. Voltage, which is measured in volts, can be described as the amount of power stored in a unit of energy. From here it then travels across provinces along transmission lines, before being converted back to a lower voltage at another transformer station close to its destination.

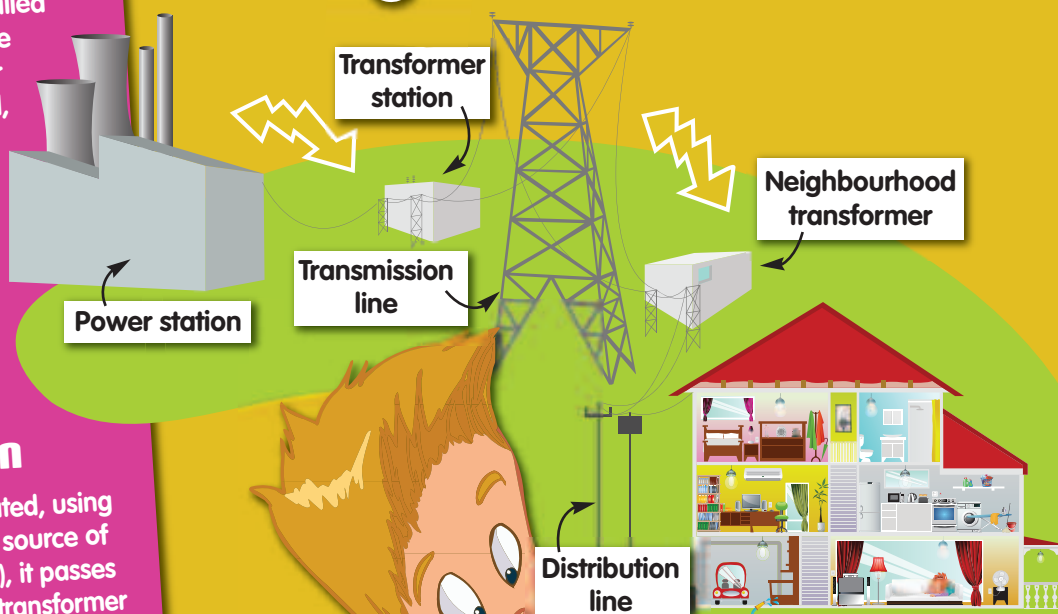
Saving tip

Turn off appliances, like computers, TVs, video games and radios at the plug as soon as you have finished using them.

Life in **a**equilibrium

Powering your house

You will notice the difference between the huge power towers you see along the road on long road trips and the smaller towers that run along your street (usually the pole with the street lamp on it). That's because the larger towers transport huge amounts of electricity which is then split up along the smaller towers in your neighbourhood to ensure that every house gets electricity. These smaller towers are known as *distribution lines* and each contains a small box that lowers the voltage one more time, before the electricity enters your home.



Did you know?

While most of Eskom's business is within South Africa, the company also buys and sells electricity to neighbouring African countries. Eskom's involvement in African markets beyond South Africa is currently focused on projects that have a direct impact on ensuring a secure supply of electricity for South Africa itself.



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