How does electricity get to your home?

Did you know the electricity you use at home has been on a huge journey before it reaches your front door? Follow its journey from the power station to your home – and look out for Zingy hiding along the way!

1

When electricity leaves the power station, it needs to be given a big boost to make the long journey to your home. This is done at a grid substation using a 'step up transformer', which ramps up the voltage from 25,000 volts to 400,000 volts.

2

Increasing the voltage prevents too much energy from being lost as heat, which can happen as the electricity makes its journey to your home along overhead cables. In towns and cities these are often buried underground, but in the countryside you'll usually see the cables hanging from giant pylons.

3

As the electricity nears its final destination, the voltage needs to be lowered to a safer level for us to use. In homes, this is 230 volts. The voltage is lowered inside a substation using a 'step down transformer' – the opposite of a step up transformer used at the beginning of its journey.

4

Once it leaves the substation, the electricity travels its last leg along pylons or underground cables towards your home.

5

Now it's just a short trip from the cable on the street to a box by your electricity meter. This contains the circuits for all the electrical points in your home.

6

Finally, the electricity travels along wires to all your power points and light fittings around the home... giving you power to switch on lights, watch TV, play on the computer or charge your mobile phone!

CAN YOU SPOT ZINGY?

Zingy is hiding in two of these pictures – can you find him?

Find out more about energy at www.jointhepod.org

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