

# POWER SURGE

Use our essential guide to wiring a plug to learn this crucial skill for life

## Suitable for Scouts and Explorers

### You will need

- A plug
- Small screwdriver (cross-head or flat)
- A pair of scissors or wire cutters

### Instructions

- 1 Using a screwdriver, undo the screws in the plug and remove the back.
- 2 Take the cable of the appliance that needs the new plug and, using the wire cutters or a small pair of scissors, cut away 3cm of the covering to reveal the three inner cables.

3 Separate the inner wires; the blue wire is neutral, the brown wire is live, and the green and yellow wire is earth. Trim the blue and brown wires so they're 2cm long. This will make it easier to fit them. From each of the thinner wires, strip away 1cm of the coating to reveal the copper inside.

4 Loosen the two screws at each end of the cable grip and insert your cable. Loosely tighten the screws so that the cable is held in place but it can still be moved around a little.

5 Next, loosen the screws in each metal pin leaving enough of a gap for the copper wires to fit through; they should be able to make good contact with the metal. To avoid any stray bits of wire poking out, fold the copper in half before inserting it into the pin.

6 Follow the diagram and instructions very carefully for this next bit. Fit the copper in the blue (neutral) wire into the pin on the left hand side at the bottom. The brown (live) wire goes into the hole on the right, which is connected to the fuse. The green and yellow wire is the earth wire and that goes through the pin at the top.

7 When the copper wires are all in the place, and an adult has checked that the plug has been wired correctly, the screws at the top of each pin can be tightened.

8 To finish, tighten the screws on the cable clamp, making sure the clamp is holding the cable and not the wires, put the back of the plug on, tightening the screw.



**TIME NEEDED**  
10–15 minutes

### BADGE



The Institution of Engineering and Technology (IET) partners the Scout Electronics Activity Badge.

### PARTNER

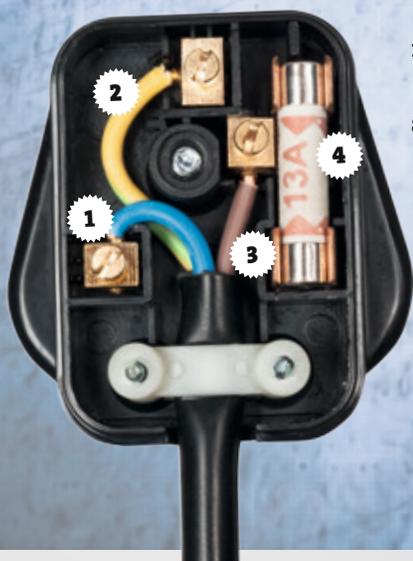


### MORE INFORMATION

Visit [scouts.org.uk/iet](https://scouts.org.uk/iet) for more information on the Institution of Engineering and Technology, one of the world's largest professional engineering institutions, which aims to encourage young people to consider further learning and careers in the engineering and technology sector.

## YOUR PLUG LAYOUT

Here's a clever way to remember where the wires go: **B**lue goes **B**ottom **L**eft, **B**rown goes **B**ottom **R**ight and **s**triped goes to the **T**op



1. **BLUE = NEUTRAL**
2. **YELLOW & GREEN = EARTH**
3. **BROWN = LIVE**
4. **FUSE**  
Make sure you use the correct fuse for the appliance's power rating

