

## Electricity at home

DYLAN I love parties! They're great aren't they Steve? There's just an electricity in the air isn't there? Hey Ada, turn the music back on.

ADA I'm sorry Dylan, I'm afraid I can't do that.

DYLAN Why not?

ADA Troubleshooting...

Check your plug.

DYLAN Sorry about this, guys. Hey Ada, what am I looking for?

ADA A fuse is a small tube with a thin piece of wire inside that melts when the electrical current flowing through it is too high for the device. This breaks a circuit and stops the electricity flowing.

DYLAN Yeah, it's blown. 5 amps. I bet I can find a replacement in Dad's drawer.

ADA Calculating...

Power divided by voltage equals current. The power of your speakers is 1,150 watts and 230 volts are travelling through them. 1,150 divided by 230 equals 5 amps.

DYLAN Found one!

ADA Your speakers need 5 amps. A current of 5 amps will break a 5 amp fuse. Choose a fuse larger than the current needed. A 13 amp fuse is recommended.

DYLAN Still not working, Ada.

ADA Troubleshooting...

All the sockets in your house are connected in a ring circuit. The ring circuit has three wires. The live wire - which is used to send the electrical current. The neutral wire completes the circuit by sending the current back. And the earth wire which protects you from an electric shock when there is a fault in a conductive metal device.

DYLAN I'm sure the wiring in the house is fine Ada. Where is this all going?

# Bitesize

ADA Current can either go in one direction: direct current - d.c. – or it can alternate directions: alternating current – a.c.

DYLAN OK Ada, but that doesn't explain why the power went out.

ADA Troubleshooting...

It appears the power is out. Check your circuit breakers. Circuit breakers, such as MCBs and RCCBs, work differently to fuses. When an electrical appliance in your ring circuit is at risk of being overloaded, a circuit breaker detects a change in the current. This reaction triggers an electromagnet which causes a spring-loaded bolt to move. This bolt was holding a part of the circuit in place, now it has been moved the circuit is broken. Circuit breaker.

DYLAN What?

ADA Flip the switch up, Dylan.

DYLAN Thanks for that Ada. OK, now back to the current situation...