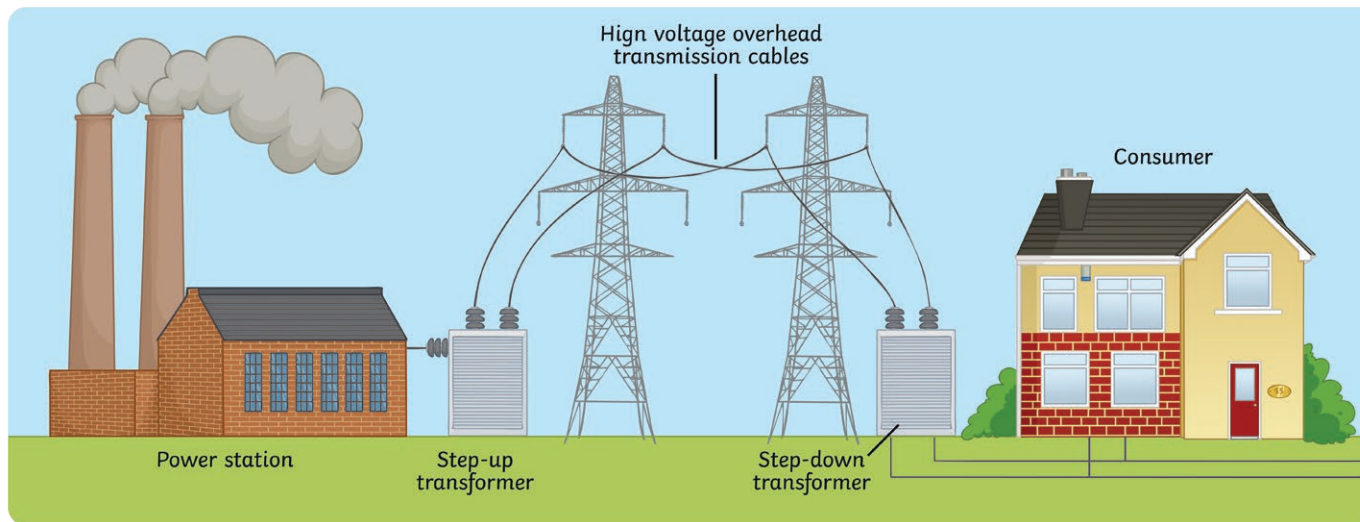


# Year 4 Electricity Science Discussion Starter - Follow-On Activities

- Write down as many mains appliances that you can think of in two minutes.
- Discuss why overloading plug sockets is dangerous.
- Write a list of things that require batteries to work.
- Introduce the children to some of the different components of a electrical circuit, e.g. cell, bulb, wires, switch and buzzer. Challenge the children to see if they can make the buzzer sound or make a bulb light up.

Click this [link](#) for more lovely ideas.



You may wish to use this illustration to provide further explanation about the national Grid.

# Why Won't the TV Turn On?



## Answers - Why Won't the TV Turn On?

Asking scientific questions is a great way for you to explore a new topic.

Although not all of your questions will be answered at this point, these facts may help you to understand how **electricity** works.

This TV isn't broken but it does need electricity to work.

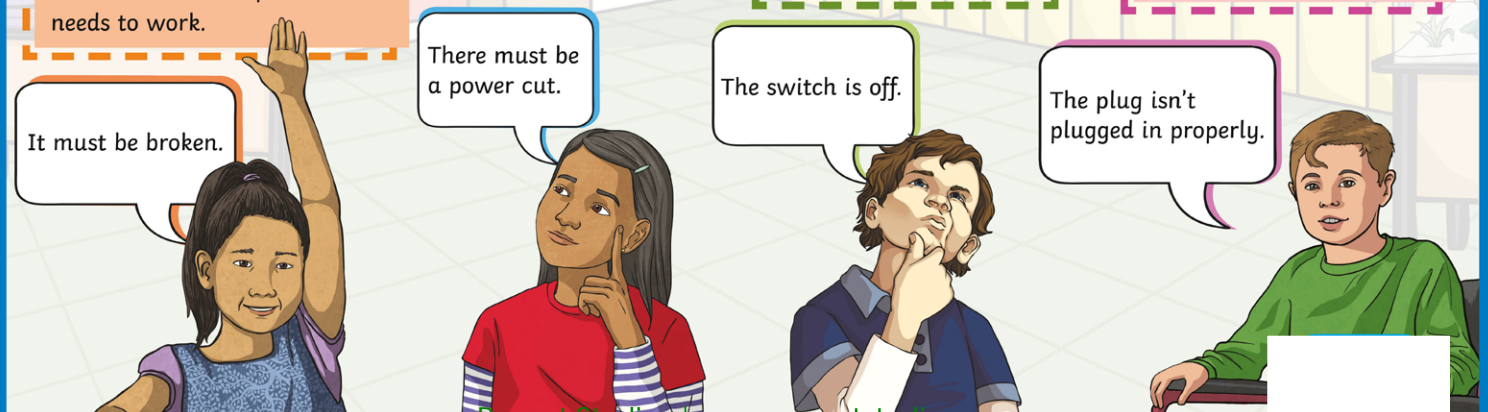
Electricity is needed to power electrical appliances in our homes.

Mains electricity is transported through underground wires. When an appliance is plugged into a socket which is switched on it will have the power it needs to work.

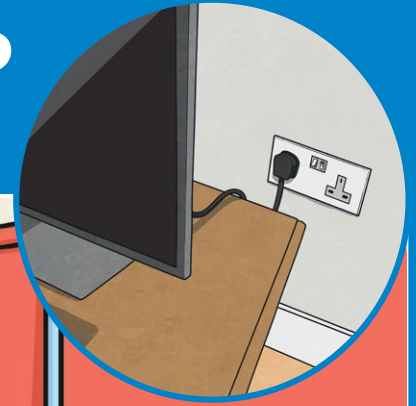
A power cut is when the flow of electricity is broken and power doesn't work in an area. This means electrical appliances are unable to work. However, this is not the cause of the problem in this case.

Switches can be used to allow or restrict the flow of electricity. The illustration shows that the switch is in the off position. This prevents the flow of electricity and the appliance will not receive the electricity it needs to work.

The plug is plugged in properly, which is important to avoid the risk of fire. When the plug is plugged in correctly, electricity can flow, providing the appliance with the power that it needs to work.



# Why Won't the TV Turn On?



It must be broken.

There must be a power cut.

The switch is off.

The plug isn't plugged in properly.

# Answers - Why Won't the TV Turn On?

Asking scientific questions is a great way for you to explore a new topic.

Although not all of your questions will be answered at this point, these facts may help you to understand how **electricity** works.

This TV isn't broken but it does need electricity to work.

Electricity is needed to power electrical appliances in our homes.

Mains electricity is transported through underground wires. When an appliance is plugged into a socket which is switched on it will have the power it needs to work.

A power cut is when the flow of electricity is broken and power doesn't work in an area. This means electrical appliances are unable to work. However, this is not the cause of the problem in this case.

Switches can be used to allow or restrict the flow of electricity. The illustration shows that the switch is in the off position. This prevents the flow of electricity and the appliance will not receive the electricity it needs to work.

The plug is plugged in properly, which is important to avoid the risk of fire. When the plug is plugged in correctly, electricity can flow, providing the appliance with the power that it needs to work.

It must be broken.

There must be a power cut.

The switch is off.

The plug isn't plugged in properly.

# Year 4 Electricity Science Discussion Starter - Teacher Guidance

This science discussion starter pack is designed to encourage children's scientific thinking. Included are two sizes of the discussion starter, a PowerPoint version and a follow-on sheet, giving you flexibility in the classroom.

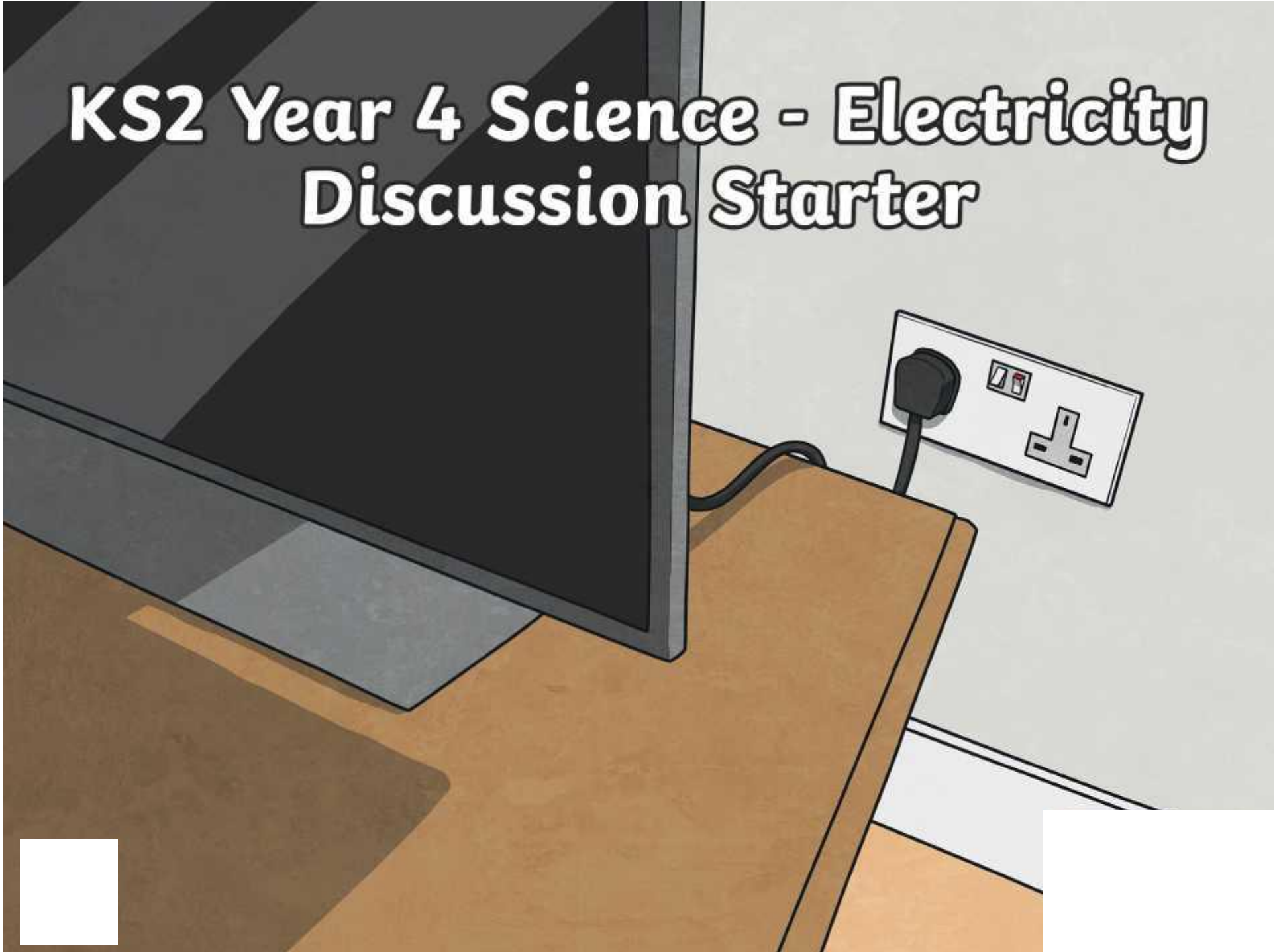
Before showing the discussion points, you could ask the question to your class for them to share initial ideas. The starter page with the children's answers could then be displayed for the whole class to see and discuss as a class. Alternatively, children could work in smaller groups to discuss the points.

Points for children to consider include which children do they agree with and why. They should explain if there are any statements that they disagree with and whether there are some they partially agree with.

It is important that while using this resource, any common misconceptions that children have are addressed during the topic. Common misconceptions may include:

- that electricity comes from lightning;
- that electricity is stored inside a plug until we need it;
- that electricity pours out of a plug when the switch is on and there's no plug to stop it 'leaking'.

# KS2 Year 4 Science - Electricity Discussion Starter



# Why Won't the TV Turn On?



It must be broken.

There must be a power cut.

The switch is off.

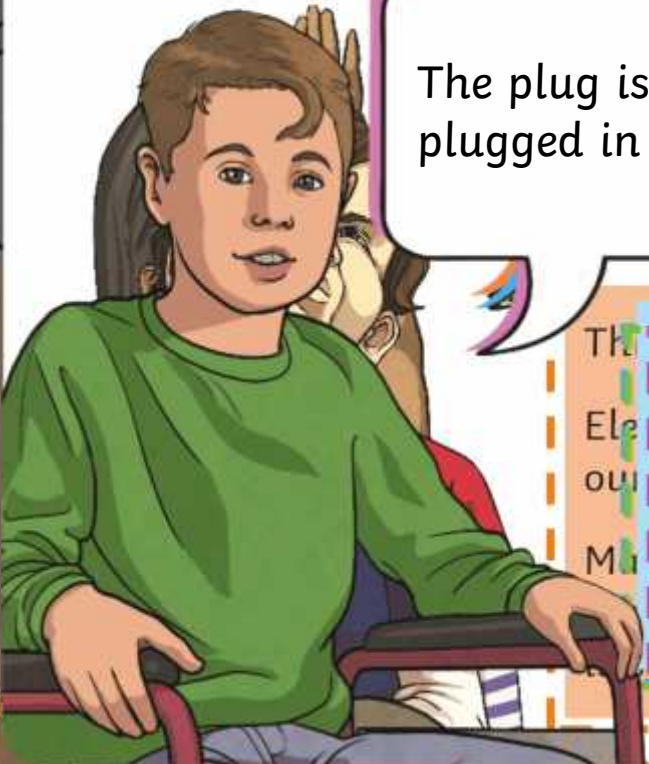
The plug isn't plugged in properly.



# Answers - Why Won't the TV Turn On?

Asking scientific questions is a great way for you to explore a new topic.

Although not all of your questions will be answered at this point, these facts may help you to understand how **electricity** works.



The plug isn't plugged in properly.

The plug is plugged in properly, which is important to avoid the risk of fire. When the plug is plugged in correctly, electricity can flow, providing the appliance with the power that it needs to work.



