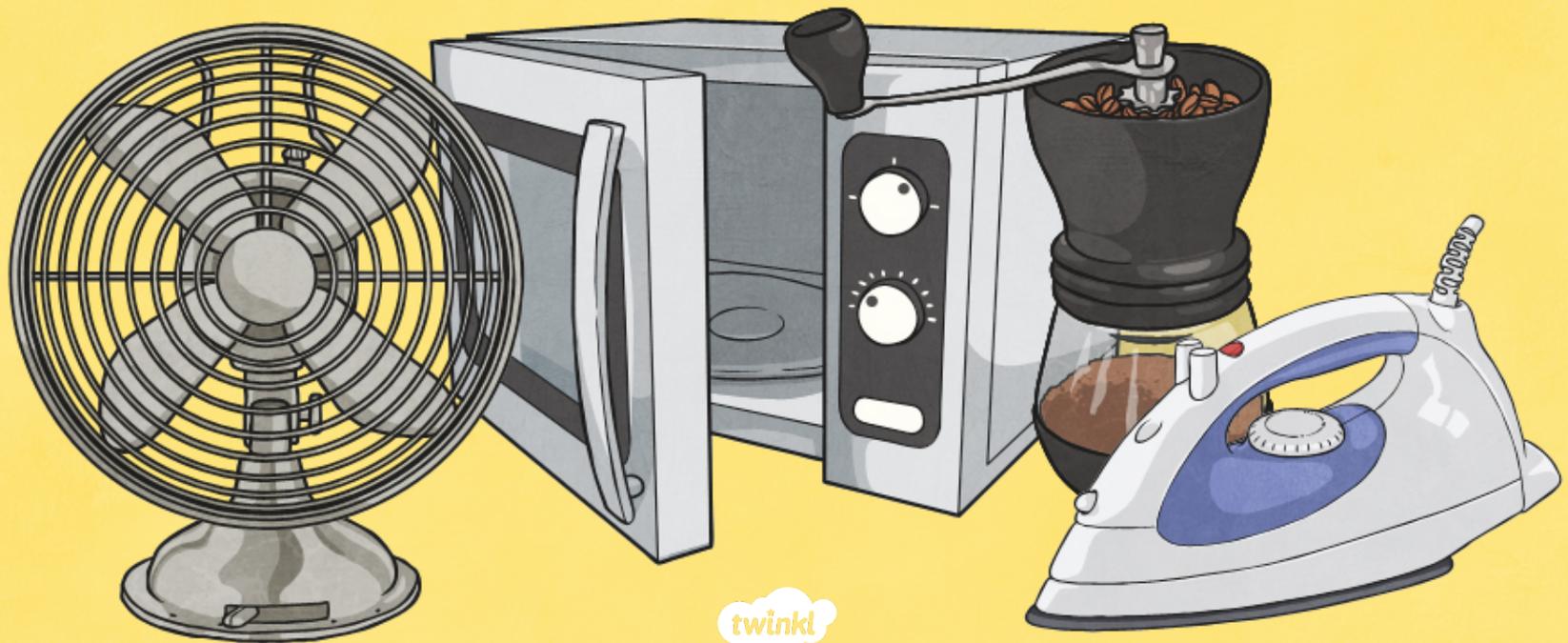


Everyday Electrical Appliances



twinkl

Friday 15th January 2021

T: Can I sort appliances based on whether they use mains or battery electricity?

What is an Appliance?

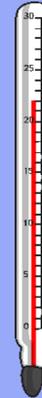
Definition:

An **Appliance** is a **device, piece of equipment** or an **instrument** designed to perform a **task**.

Examples:



A **washing machine** is an appliance which performs the task of **washing clothes**.



A **thermometer** is an appliance which performs the task of checking the **temperature**.

Electrical Appliances



In pairs you will be given cards which will need sorting into those which use electricity and those that don't.

Appliances Cards		Appliances Cards		Appliances Cards		Appliances Cards	
gas oven 	rake 	toaster 	microwave 	bowl 	potato peeler 	cheese grater 	lawn mower 
fan 	coffee grinder 	television 	tablet 	fork 	toothbrush 	pencil 	felt tip 

Remember to take a picture of your cards once you have finished sorting them.

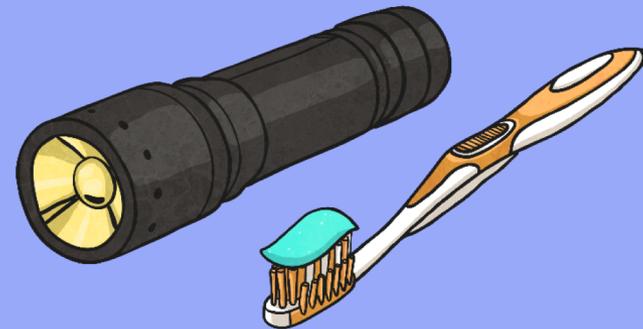
Electrical Appliances Answers



Electrical Appliances	Non-electrical Appliances
washing machine	thermometer
mobile phone	saucepan
lawn mower	cheese grater
toaster	pencil
microwave	felt tip
television	bowl
tablet	potato peeler
fan	fork
sewing machine	toothbrush
torch	gas oven
iron	rake
hairdryer	coffee grinder
	candle
	hammer
	sponge

Questions

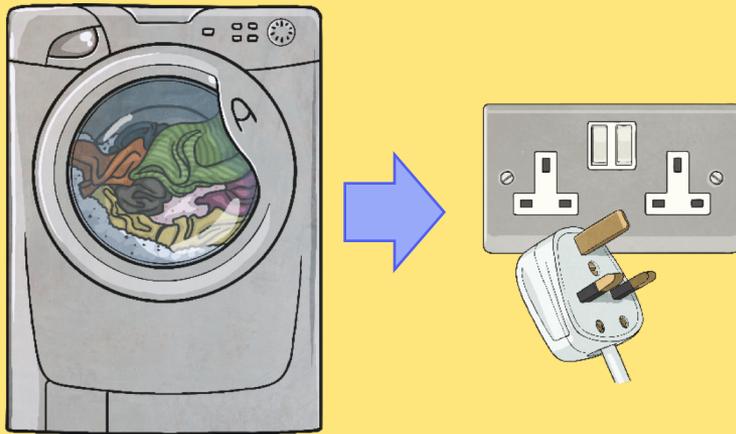
1. Which appliances did you think used electricity?
2. Which did you think did not use electricity?
3. Can you explain why?



Types of Electricity

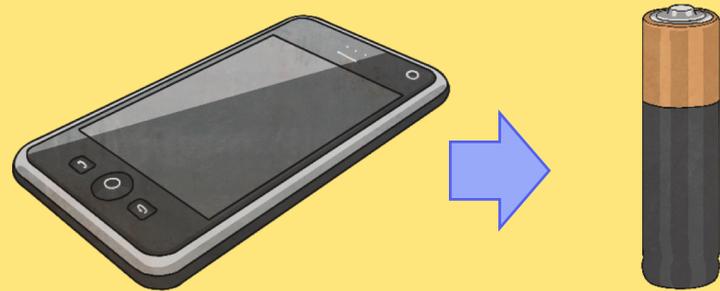
There are two types of electricity:

Mains Electricity



To use this type of electricity, you need to plug the appliance into a socket.

Battery Electricity



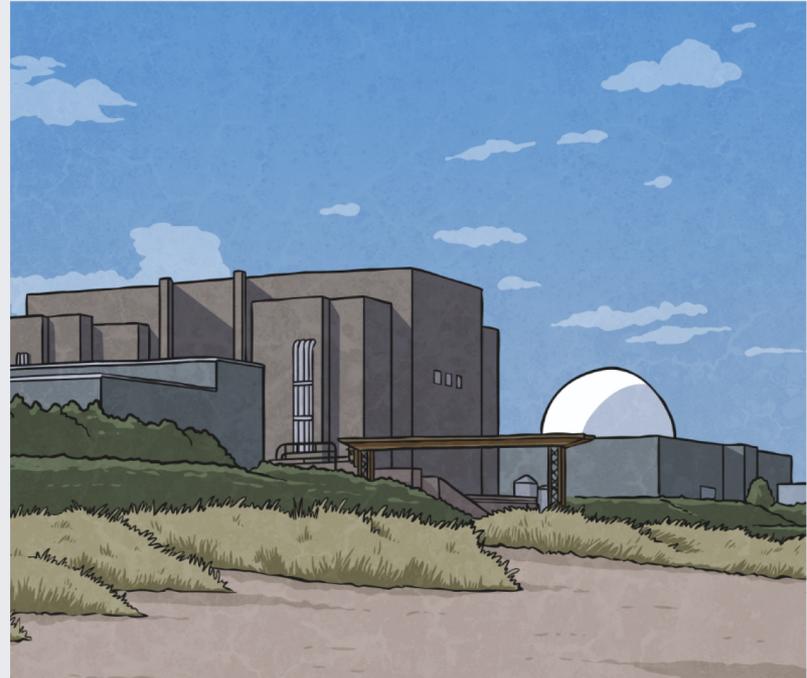
To use this type of electricity, you need to insert a battery into the appliance.

Types of Electricity

In the UK, **mains electricity** is produced mainly by **gas, coal or nuclear power stations.**



gas power station



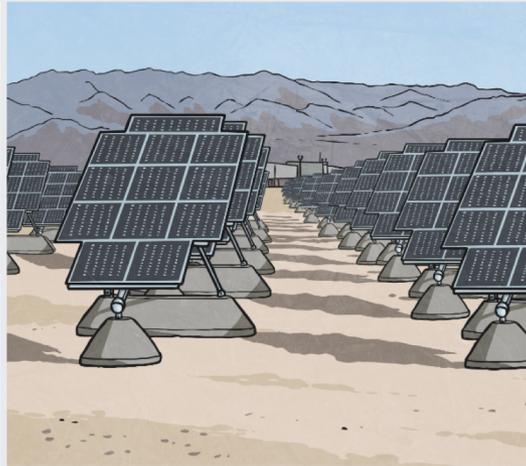
nuclear power station

Types of Electricity

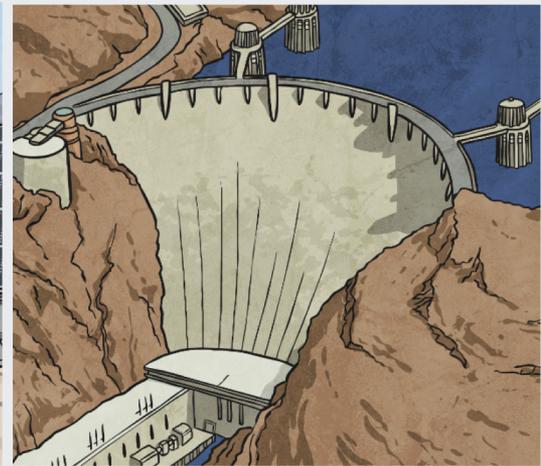
Wind turbines, hydroelectric and solar panel power stations are also used to generate electricity, but to a lesser extent.



wind turbines



solar panels



hydroelectric power

A small number of homes have **solar panels** attached to their roofs to provide mains electricity.



Types of Electricity

Power stations generate a continuous electric current.

Power Station
An electric current is generated and then sent through wires to a transformer.

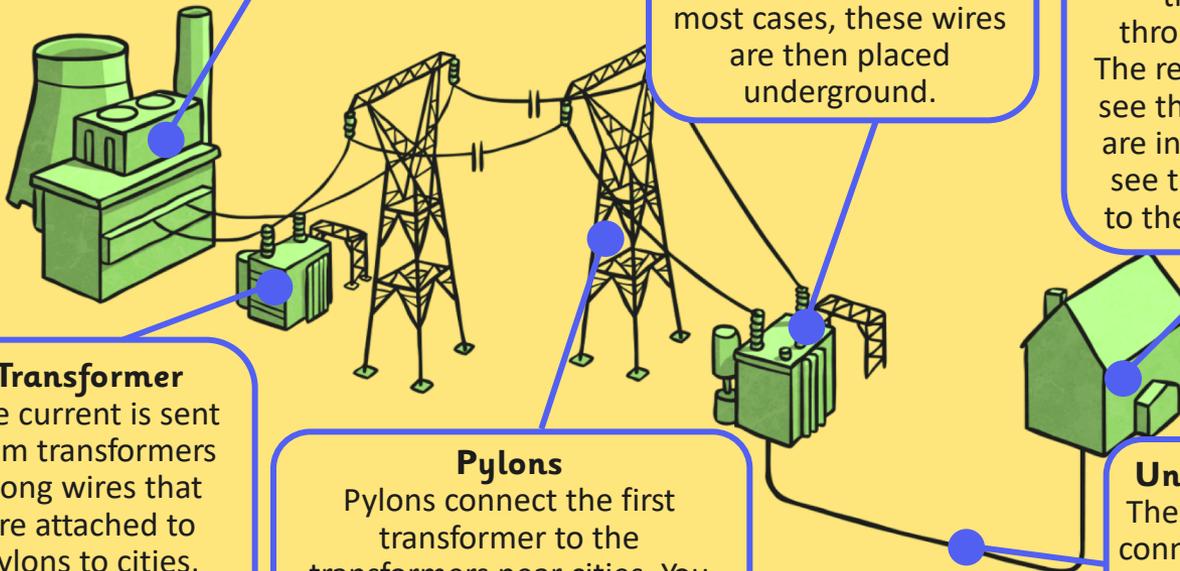
Transformer
The second transformer connects to the wires from the pylons and in most cases, these wires are then placed underground.

Home
The wires are taken and then distributed throughout the home. The reason why you don't see them is because they are in the walls! You only see the socket attached to the wires in the walls.

Transformer
The current is sent from transformers along wires that are attached to pylons to cities, towns and villages.

Pylons
Pylons connect the first transformer to the transformers near cities. You see pylons in the countryside.

Underground Wires
The underground wires connect the transformer to buildings, including homes.

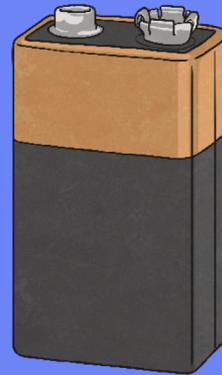


Types of Electricity

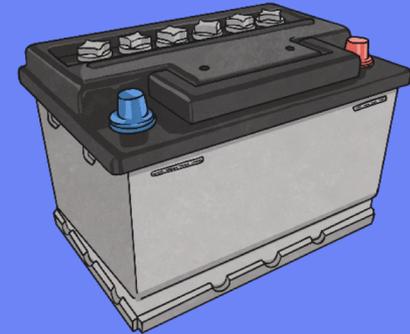
Batteries store chemicals which produce an electric current. They eventually stop working as the chemicals stop being able to produce an electric current.



battery

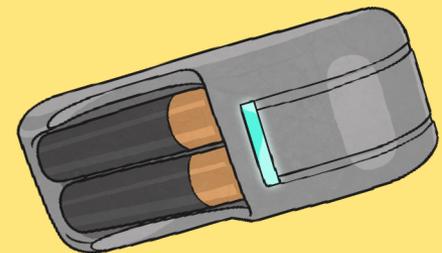


square battery



car battery

Rechargeable batteries are ones where the chemical reaction can be reversed so that the battery is able to create an electric current again. However, even rechargeable batteries will eventually stop producing an electric current.



Today's task



You have a choice of three activity sheets: 1 star 2 stars or 3 stars. Choose one to complete. The activity sheets will be explained in the next slides and are available on your home learning page.

★ Mains or Battery?

Using the **Appliances Cards**, decide if each appliance uses mains or battery electricity. One example for each has been done for you.

Mains	Battery
washing machine	mobile phone

planit! Science Year 4 Electricity (Energy: Electrical Appliances) Lesson 2

★ Mains or Battery?

Using the **Appliances Cards**, decide if each appliance uses mains electricity, battery or both. One example for each has been done for you.

Mains Electricity	Battery Electricity
washing machine	alarm clock
	mobile phone

planit! Science Year 4 Electricity (Energy: Electrical Appliances) Lesson 2

★★★ Mains or Battery?

Using the **Appliances Cards**, decide if each appliance uses mains electricity, battery or both or neither. One example each has been done for you.

Mains Electricity	Battery Electricity
washing machine	alarm clock
	mobile phone
	pencil

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1 star worksheet



Mains or Battery?

A large, empty rounded rectangular box with a black border, intended for students to write their answers. It has three small circles at the bottom right corner, suggesting it might be a scrollable area or a placeholder for a drawing.

Using the **Appliances Cards**, decide if each appliance uses mains or battery electricity. One example for each has been done for you.

Mains	Battery
washing machine	mobile phone

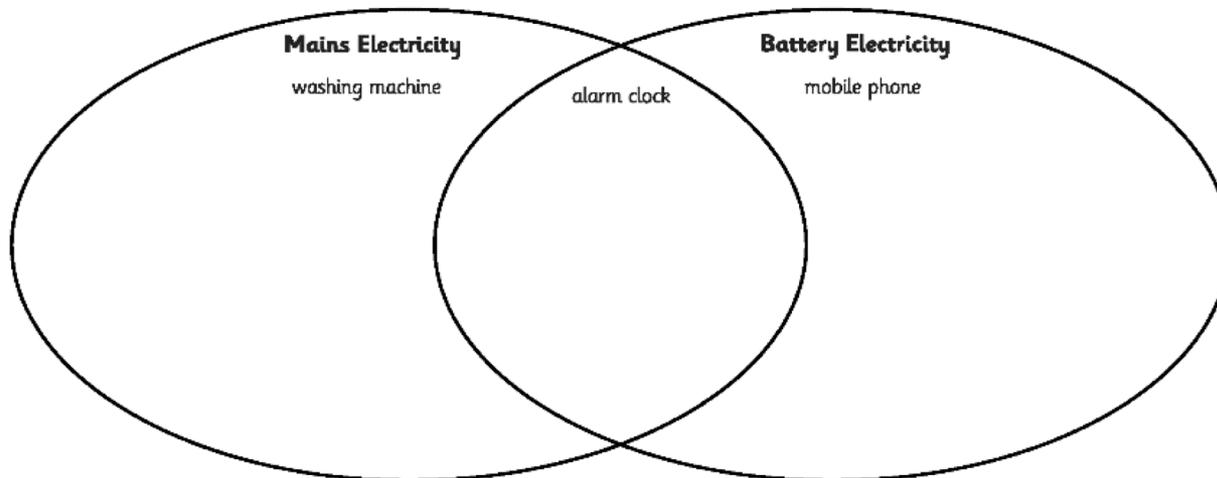
The appliance cards are available on the home learning page to view.

2 star worksheet



Mains or Battery?

Using the **Appliances Cards**, decide if each appliance uses mains electricity, battery or both. One example for each has been done for you.



Extension: Can you give your own examples of appliances that fit into these categories?

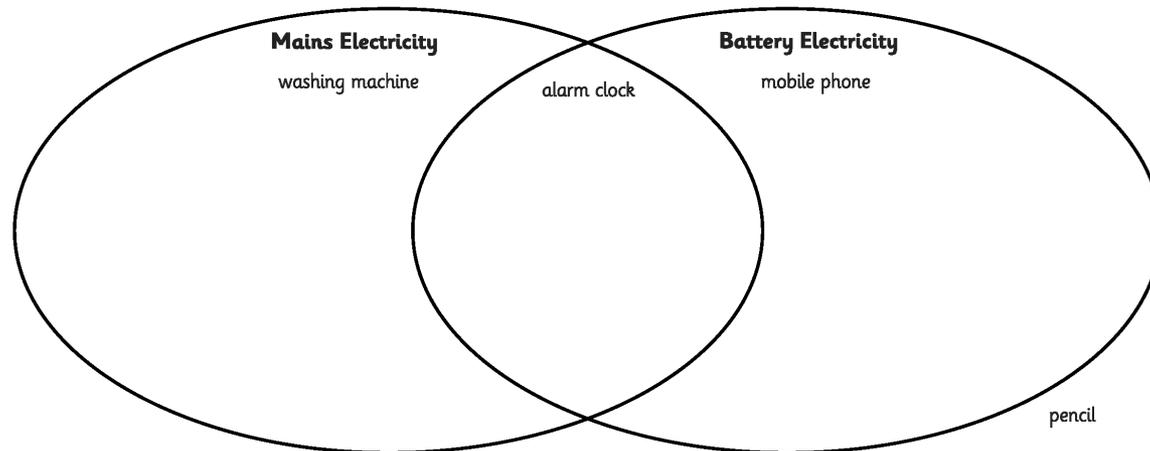
The appliance cards are available on the home learning page to view.

3 star worksheet



Mains or Battery?

Using the **Appliances Cards**, decide if each appliance uses mains electricity, battery or both or neither. One example each has been done for you.



Extension: Can you give your own examples of appliances that fit into these categories?

The appliance cards are available on the home learning page to view. Include at least one example of your own for each category. Any examples outside of the Venn diagrams are items that do not need any electricity.

Plenary



Mains electricity can be dangerous, causing anything from a minor electric shock, to serious burns and even death!

Do you know how to stay safe in your home?

