

Introduction

This is a statement sequencing activity in to produce sentences containing scientific facts. It is an ideal recap to a lesson or series of lessons, and is a good plenary activity.

Running the activity

The resource sheets consist of 20 beginnings, middles and ends to sentences. Print out the different sections on different coloured card, for example, white for beginnings, green for middles, blue for ends. Cut them into individual cards.

Pupils lay the white section out in a column and find the green middles and blue ends to go with each white starter. Do the activity against the clock. It is useful if pupils work in groups of two or three. This gives a co-operative dynamic to the activity.

Safety

Not applicable.

Learning outcomes

- Reviewing pupil knowledge of electricity.

Where the activity fits in

Electricity revision

Skills

Knowledge, recall, sequencing.

Start

The unit of electrical current is

Middle

the amp. 1 amp of current is

Start

The unit of electrical potential is

Middle

the volt. There is 1 volt of potential difference when

End

one coulomb of charge per second

Start

The coulomb is

End

1 joule of energy is transferred by each
coulomb of charge

Start

On a Christmas tree the lights

Middle

the unit of charge. One coulomb is

Middle

are wired in **series**. If one light goes out

End

600,000,000,000,000,000 (six hundred thousand million million) electrons

End

all the lights on the Christmas tree go out.

Start

In a house the lights are wired

Middle

in **parallel**. This means that if one light goes out

Start

A **battery** is

Middle

a packet of chemicals storing electrical energy. They react

End

all the others will stay on

End

to produce electrical energy

Start

As the current **flows round** the circuit,
the total size of the current remains

Start

The **potential (voltage)** in a circuit

Middle

the same at all places in the circuit.

End

Current does not get **used up** as electricity flows round a circuit.

Middle

starts off at a maximum near the electricity supply. As you go round the circuit, the potential

End

decreases. This is because the electrical energy is transferred as the electricity flows round the circuit.

Start

The **law of energy conservation** says that energy can neither be created or destroyed. This means that

Middle

you can only get as much electrical energy out of a battery

Start

'**Energy**' is just a way of explaining why things happen. The best way

Middle

to think of energy is as **energy transfers**. When anything happens (such as a light bulb lighting up)

End

as there is stored chemical energy inside it. Batteries do not last for ever.

End

an energy transfer has to take place to make this happen..

Start

Stored energy is called **potential energy**.
There are three

Start

Chemical potential energy is stored in **fuels**. Fuels can be burned

Middle

main types of potential energy:
gravitational, chemical and elastic.
The water held behind a dam has

End

gravitational potential energy. This
transferred as electrical energy by a
hydroelectric power station.

Middle

to cause water to heat up and turn into
high pressure steam. This is used to turn
a turbine.

End

The turbine powers a generator and
chemical energy in the fuels is
transferred as electrical energy for
people to use.

Start

To connect an **ammeter** into an electrical circuit you must

Middle

make a break in the circuit. Connect the ammeter across the gap and

Start

To connect a **voltmeter** into an electrical circuit you must

Middle

connect the voltmeter across the two points in the circuit

End

all the electric current flows through the ammeter.

End

where you want to find the potential difference.

Start

Mains electricity in the UK is

Start

The device used to transfer movement energy to electrical energy is called

Middle

supplied to houses at 230 v a.c. You connect to mains electricity

End

using a 3-pin plug with a fuse in it.

Middle

a **generator or dynamo**. It consists of

End

a coil of wire which is made to spin quickly inside a strong magnetic field.

Start

Mains electricity is carried all over the country by a network of power cables called

Middle

the **National Grid**. These carry electrical energy at a potential of

Start

A simple device to generate electricity is a **bicycle dynamo**.

Middle

It consists of a magnet that is made to spin next to a coil of wire. The faster you pedal

End

230,000 v. This potential would kill you instantly if you touched the cables.

Start

A 100w light bulb is very **inefficient** because

End

and spin the magnet, the brighter the lights on your bicycle will be.

Start

When you pay for electricity your electric bill is calculated by finding

Middle

it only gives out 20w of light energy.
The rest of the electrical energy
transferred

End

heats up the surroundings a little and
is wasted.

Middle

how many **Units** of electricity you have
used through your electric meter. One
Unit of electrical energy is

End

one kilowatt of power for one hour. So a
100w light bulb burning for 10 hours
would use 1 Unit of electrical energy.

