



Electricity generation and saving the planet project

Write your name here:

Instructions

- Use your own knowledge and the internet to answer the following questions at the top of each slide.
- We recommend you answer a question on more than one slide if you don't think you have enough space on one.
- Avoid copying and pasting answers and use your own words if possible.
- Copy and paste a **relevant** picture to each slide.

Useful websites to help you include

- <https://www.bbc.co.uk/bitesize/guides/zqxb4qt/revision/1>
- <https://www.bbc.co.uk/bitesize/guides/z3qd7p3/revision/1>
- <https://www.bbc.co.uk/bitesize/guides/z3xb4qt/revision/1>
- <https://www.whitmorehigh.org/wp-content/uploads/2020/03/GCSE-Physics-Revision-Guide-Year-10-.pdf>
- <https://www.youtube.com/playlist?list=PLidqqIGKox7UVC-8WC9djoeBzwxPeXph7>

What is electricity?

What is the difference between static and current electricity?

When have you seen evidence of static
electricity?

How does a bulb light up?

What is current?

How do you measure current in a circuit?

What is voltage?

How do you measure voltage/potential difference?

What is electrical resistance?

How do you calculate resistance?

How would you measure the resistance of a component?

What is a series circuit?

What is a parallel circuit?

What are the differences between series and parallel circuits?

Find the circuit symbols for the following components:

Switch

Cell

battery

Diode

Resistor

LED

Variable resistor

Lamp

Fuse

Voltmeter

Ammeter

Thermistor

LDR

What is the function of these components?

Switch

Cell

battery

Diode

Resistor

LED

Variable resistor

Lamp

Fuse

Voltmeter

Ammeter

Thermistor

LDR

How do power companies work out our electricity bill?

How could you reduce your electricity bill?

What is a boiler in a power station?

What is a generator?

What is a turbine?

How is electricity generated in a power station?

What fuels can be burnt in a power station?

What is the difference between renewable and non-renewable energy?

What is the main type of wasted energy that power stations produce?

What is efficiency?

How has the efficiency of light bulbs changed over the last 50 years?

How could power generation be made more efficient?

Why is it important that devices continue to be more efficient in the future?

What is the national grid?

Why is the national grid important for us to have a reliable electricity supply?

How does the national deliver power to our homes efficiently? (Clue : transformers –not the robots!)

What is global warming and the greenhouse effect?

How is global warming related to the generation of electricity?

What is solar power?

What are the advantages of solar power?

What is wind energy?

What are the advantages of wind power?

What are some of the limitations of renewable energy sources such as solar and wind and how can we compensate for them?

Research the Swansea tidal lagoon project

- Where in Swansea will it be?
- What is the proposal?
- Why will it be important?
- What is preventing it being built?

Why can more efficient houses help save the planet?

Design an eco-house and list the all the features that it has to help you save the planet and you money.