

# Kidzsafe

**Kidzsafe** is the safety initiative from NIE Networks aimed at raising awareness of the dangers of the electricity network among Key Stage 2 pupils.

There is also an online character 'Suzy Sparkz' to help guide pupils through the everyday hazards and the journey of electricity.



## What is Electricity?

- ⚡ Electricity is energy which is caused by the movement of particles called electrons.
- ⚡ Electricity is used to power items such as Kettles, Televisions and Lights.
- ⚡ Electricity is created by generators using a variety of renewable and non-renewable methods.

**Renewable Energy** includes Wind, Solar and Hydro energy.

- ⚡ Wind energy is created when the blades on a turbine are moved by wind.
- ⚡ Solar energy takes the rays from the sun to create electricity.
- ⚡ Hydro energy uses the movement of water to produce electricity.

**Non-Renewable Energy** is where fossil fuels such as gas, coal and oil are burnt to create electricity.



## Conductors



Materials that let electricity pass through them easily.



Metals such as iron, steel, copper are good electrical conductors.



This is why they are used in our overhead and underground cables.



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## Insulators



Insulators are materials that do not allow electricity to pass through them easily.



Some examples of electrical insulators include rubber, plastic and wood.



Insulators are used to cover conductors or electricity in order to protect us from electric shock.

## Electricity helps our world

We use electricity in most of our day-to-day activities.



Electricity keeps our food at the right temperature: fridges and cookers



Electricity entertains us: computers, tvs and games consoles



Electricity makes all kinds of medical equipment work: the dentist's drill, the doctor's heart monitor and even the beds in a hospital



It lights our world at night: street lights, lights in our homes



It keeps us warm in cold weather: heating systems



## Always remember that electricity can kill

There are 3 very special things about electricity that also makes it more dangerous:



**You can't see it**



**You can't hear it**



**Electricity can jump gaps**



Although electricity helps us in our everyday lives, it must be treated with respect and care.



A plug socket in your house has enough power to kill you five times over.



Overhead powerlines can have over 1000 times more electricity running through them!



Never throw anything at or go near electricity lines or equipment.



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## Quiz

1. Name three conductors of Electricity

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.....  
.....

2. Name three insulators of Electricity

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.....

3. Label the types of Renewable energy pictured below



4. Circle three fossil fuels which are burnt in power stations to create electricity

**Coal**   **Wind**   **Water**  
**Sunlight**   **Oil**   **Gas**