

What can children do to cut their energy use?

Part 1: Electricity use

30 minutes

Part 2: Simple kids carbon calculator (could be homework, requires internet access) - optional

30 minutes

Teaching aims

Key stage 1 / 2 / 3

To teach children to be aware of their own use of energy (electricity, fuel) and about the impact their actions have on the environment – turning the lights on, watching TV, taking a bath, travelling to and from school.

To calculate their carbon footprint and to see how they can cut it. To compare their lifestyle with that of a child in Africa.

Teacher Notes

Part 1 What can children do to cut their energy use?

Introduce the lesson by talking about everyday activities that use fuel or electricity. Ask the children about the things they do which need electricity.

You may find it helpful to download the “Busy Town” picture from www.cooltheworld.com. Follow this link:

http://www.cooltheworld.com/images/docs/busy_town.png



Tell children that most electricity comes from burning fuel like coal which used to be used to run steam trains and oil which is a bit like the petrol we put in our car. When fuel is burned it gives off a gas called carbon dioxide which is causing the world to get warmer. Carbon dioxide is a bit like air – you can't see it or smell it – in fact it makes up a part of the air that we breathe.

The problem with a warmer world is that it could lead to people having less water to drink, less food to eat, more heatwaves and more floods.

There are lots of ways to combat this – we can try and use energy from the sun and wind. As individuals the best thing we can do is to try and use less electricity / fuel.

So this lesson is about working out how we can cut the electricity / fuel we use.

Then discuss what they can do themselves (and possibly what their parents can do, depending on time / the level of the class):

- Ride a bike or walk instead of going by car
- Turn the lights off when you leave the room
- Cut your TV watching. Don't leave the TV on standby – turn it off at the wall.
- Recycle as much as possible. Recycle cans, bottles, plastic bags, and newspapers. When you recycle, you send less rubbish to the landfill and you help save natural resources, like trees, oil, and elements such as aluminium.
- Don't waste food. Energy is used to produce and cook food, and to make the packaging it comes in.

Plant trees. Planting trees is fun and a great way to reduce greenhouse gases. Trees absorb carbon dioxide, a greenhouse

gas, from the air.

- **When You Buy, Buy Cool Stuff.** Buy recycled products which don't use 'new' resources and don't require so much energy to make. Buy energy efficient electrical goods.

Ask your parents to:

- Try not to fly (the emissions from flights are really high). Take the train instead: a short haul flight emits six times as much carbon per passenger as a high speed train, and 12 times as much as a coach.
- Use low energy light bulbs
- Turn the thermostat down
- Make sure their loft and hot water tank are properly insulated to stop heat from being lost unnecessarily.
- Switch to 'green energy'. Companies like 'Good energy' offer energy produced by solar power and wind turbines.
- Install their own solar panels or wind turbine.
- Make their car as energy efficient as possible. Choose a smaller engine: **small is beautiful**. A 2.0 litre engine emits 40% more CO₂ per mile than a car with an engine size 1.4 – 2.0 litres. They could also switch their vehicle to LPG (autogas) - it's **40% cheaper and greener**. As well as cutting CO₂ emissions by 20%, they will also cut production of harmful gases such as carbon monoxide and nitrous oxide by more than half.

And don't forget to tell your friends and family what you have learnt!

Part 2 Kids carbon calculator

Ask children to visit www.cooltheworld.com and click the link to the Kid Carbon Calculator.

You could do this for an imaginary 'typical' child as a class activity or go and ask them to do it on their own or in pairs.

Follow the instructions and calculate their carbon footprint – the amount of carbon dioxide their activities release into the air. If they get stuck get them to ask their parents or teacher.

You could ask them to write down the results from the Summary page at the end:

Carbon emissions in kg from

1. Travelling to and from school
2. Watching TV
3. Leaving the TV on standby
4. Using the computer
5. The light bulbs in their bedroom
6. Taking a bath
7. Taking a shower
8. Going on holiday

What is their total footprint in kg and in tonnes?

Variations

Recalculate and see what happens if they watch less TV, take a shower instead of a bath, walk to school instead of going by car etc.

Now imagine you lived in Africa. You'd walk to school, you may have no electric lights, or perhaps one or two. There would be no TV, no computer, no hot water. So no / minimal carbon footprint, except from the fuel your parents used to cook.