



WebQuest
Advanced Level -

My Carbon Budget





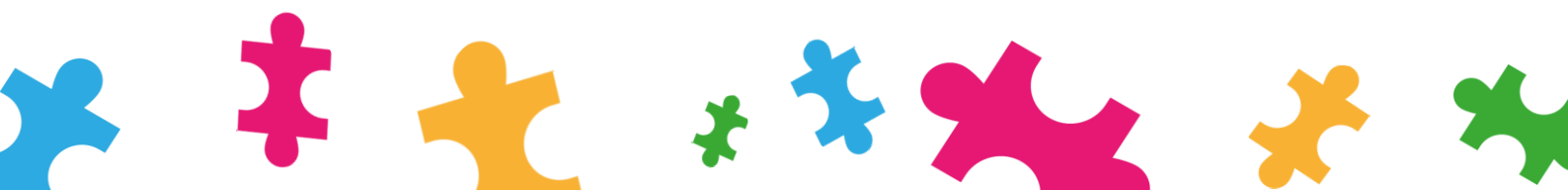
TITLE OF THE WEBQUEST:	My Carbon Budget
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INTRODUCTION

We know that **greenhouse gas emissions** caused by human activities are speeding up global warming at a rate that threatens our planet's natural balance. The activities speeding up global warming include energy, transportation, industry and farming.

The **carbon budget** is the amount of CO₂ that humanity can emit while still having a chance to contain global warming within **1.5 degrees centigrade**. If the earth's temperature rises more than this, then it will have a big impact on us, plants and animals. Climate change causes devastating effects like droughts, heat waves, heavy rainfall, hurricanes, forest fires, and loss of biodiversity, and if we exceed our carbon budget, these effects will get worse.

It is important that we are aware of our **carbon footprint**, so that we can be more aware of the amount of carbon emissions we are causing, and try to reduce it.



TASKS

You decide to organise a flea market in your school to raise awareness of the link between the clothing industry and greenhouse gas emissions, and of the importance of shopping sustainably for clothes. You and your classmates will have to complete 2 tasks for this day of educational fun!

Task 1: Design a poster advertising the flea market and why it is better for the environment to shop for second-hand clothes

Task 2: Organise your flea market! Everyone has to search at home and pick out pieces of clothing that they haven't worn in a long time, or clothing that doesn't fit them anymore. Everyone will bring in the clothes that they do not want, and will display them on tables in school. Everyone will look through some clothes, and see if they want any of the items of clothing on display.

PROCESS

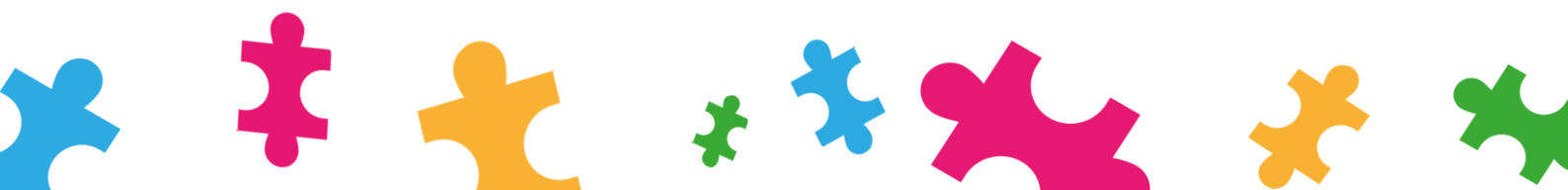
Step 1: Carbon footprint?

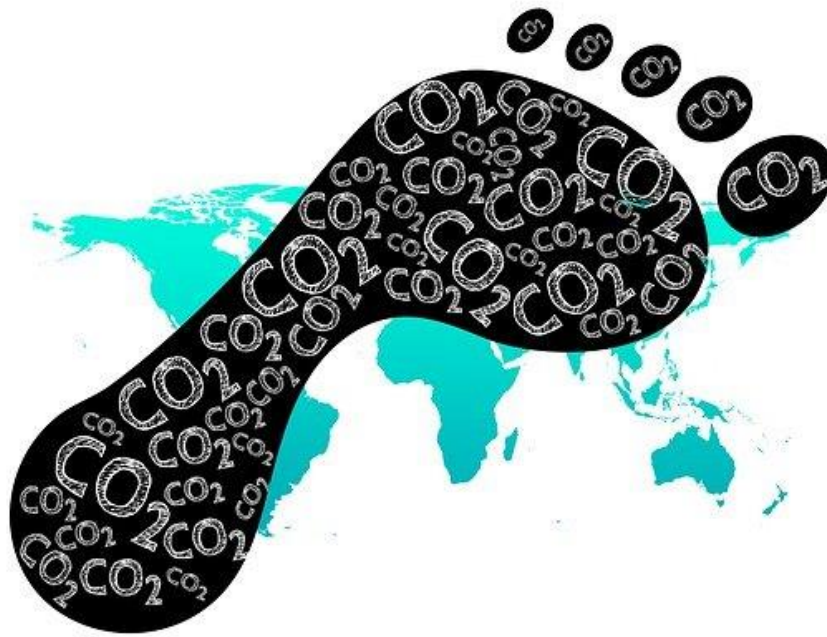
We have learned that the carbon budget is the amount of CO₂ that we can emit while still containing global warming within 1.5 degrees centigrade, but what is meant by carbon footprint?

A carbon footprint is the amount of greenhouse gas emissions that are caused by human activities. As you already know, oil is a fossil fuel that is burned in cars and other vehicles so that we can use them to travel to places. In the process, greenhouse gases are emitted and this contributes to the global warming we are experiencing today. Every time we use a car, we are generating a carbon footprint, because the greenhouse gases emitted are caused by our actions. If we were to ride a bike instead, we would not generate any carbon footprint.

Let's learn more about carbon footprint in the links below!

- What is meant by carbon footprint? - <https://www.kindersache.de/bereiche/wissen/natur-und-mensch/dein-oekologischer-fussabdruck>
- How can you track your carbon footprint? - <https://www.wwf.de/themen-projekte/klima-energie/wwf-klimarechner/>
- Ways to reduce carbon footprint - <https://www.nationalgeographic.de/umwelt/2018/01/5-tipps-wie-sich-der-oekologische-fussabdruck-verkleinern-laesst>





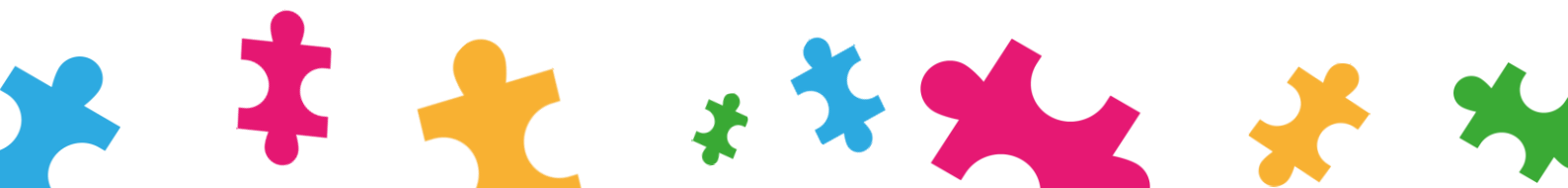
Step 2: Carbon Neutrality

We all generate a carbon footprint, especially since fossil fuels are being burned for electricity, heating and transport. We can work towards reducing our carbon footprint, but it is difficult to generate no carbon footprint. In order to tackle climate change and stop global warming, the world needs to reach “carbon neutrality”. Being “carbon neutral” means that the same amount of carbon dioxide that is released from your activities, is absorbed, so it has no environmental impact. When you are “carbon neutral”, then your carbon footprint is **zero**.

There are many ways we can work towards a carbon neutral world. We have already looked at ways we can reduce our carbon footprint, now let’s look at the ways the world can reach carbon neutrality. As you know, the reason why we burn fossil fuels is for energy, to generate electricity and power our vehicles, but are there other sources of energy we can use that will not negatively impact the environment? Let’s find out!

- What is renewable energy? - <https://naturdetektive.bfn.de/lexikon/sonstiges/gut-fuers-klima-energie-aus-der-natur.html>
- Wind energy to generate electricity - <https://naturdetektive.bfn.de/lexikon/sonstiges/gut-fuers-klima-energie-aus-der-natur/die-kraft-aus-der-luft-windenergie.html>

Renewable energy will help us work towards becoming carbon neutral, but did you know that the carbon dioxide already in the atmosphere can be removed by planting trees? Click on the link below to learn more!





- Why we should plant more trees to tackle climate change - <https://treeplantingprojects.com/wald-gegen-klimawandel/>

Step 3: How often do you buy new clothes?

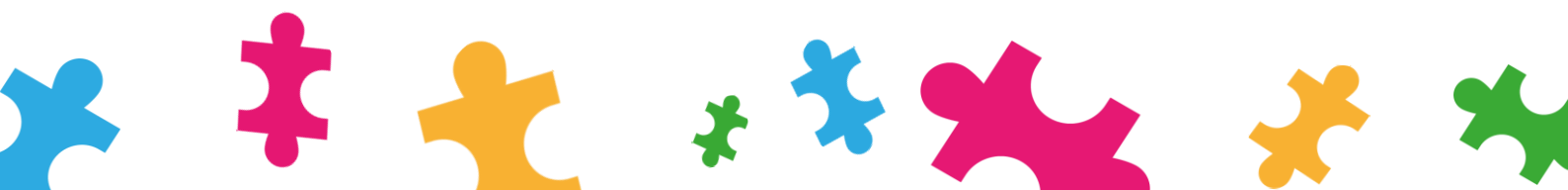
Before organising the flea market in school, let's learn more about the impact of the fashion industry on the environment. Did you know that buying new clothes can generate a huge carbon footprint? The clothes that we buy do not just cost us money, but there is also a cost to the environment. Making clothes requires a lot of water, for example: To make a cotton shirt, 2,700 litres of fresh water are needed. This water is needed to grow the cotton, and for other steps during the production of the shirt. The production and transport of these clothes also generate huge amounts of CO₂, and the fashion industry is responsible for 10% of global greenhouse gas emissions. To make matters worse, most of the clothes manufactured end up being thrown in the bin. Too many people are throwing away clothes that are still good quality, buying new items, and generating a large carbon footprint in the process. So, what can we do if we need to add to our wardrobe and get rid of clothes we don't need without generating a carbon footprint? Try shopping for used clothes! Shopping for used clothes helps to reduce greenhouse gas emissions, and helps to reduce waste. More and more clothing is being produced, because we buy it, but if we try to shop for used items, less clothes will be produced. Let's learn more about shopping for used items!

- Reasons to shop second-hand - <https://www.gofeminin.de/modetrends/gute-grunde-fur-second-hand-kleidung-s4011003.html>
- The journey of clothing - <https://youtu.be/6l3lTUv8EmU>
- Fashion footprint calculator - <https://www.wwf.de/themen-projekte/klima-energie/wwf-klimarechner/>

Step 4: Poster time

Now that you know so much more about the link between the fashion industry and climate change, let's begin making your poster to advertise your "flea market" in school. Make sure your poster is eye-catching, and don't forget to mention reasons why shopping for used clothes is better, to make sure more people participate! Let's learn how to make a poster online!

- How to create a poster using Canva - https://youtu.be/9MZtm8n_zGM
- Website to design poster - <https://www.canva.com/create/posters/>



Step 5: Time for the flea market

It's time to hold the flea market at school! Go through your wardrobe at home and gather some clothes that you do not wear anymore or clothes that do not fit. Bring them in a bag into school, and lay them out on a table, and instruct your classmates to also add their clothes to the pile. Now it's time for everyone to have a look at all of the clothes, and to take what you like. Remember: there are many local markets and second-hand shops where you can buy your clothes, so next time you need some new clothes, check them out!

EVALUATION

Self-evaluation questions:

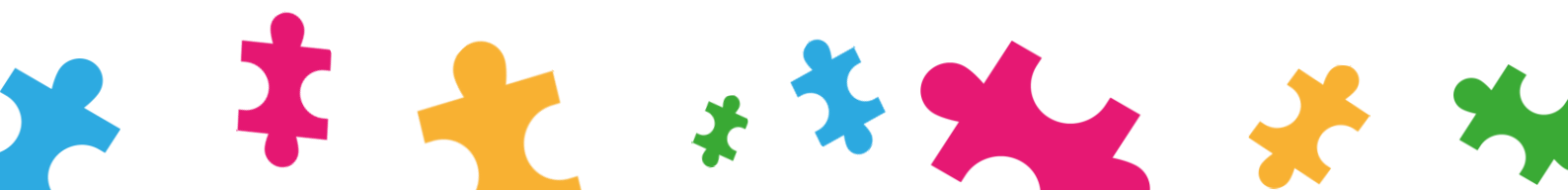
- What did you learn today about the global carbon budget?
- What did you learn today about carbon footprint?
- What are ways that you can reduce your carbon footprint?
- Are there any alternative energy resources to fossil fuels?
- What impact does the clothing industry have on the environment?
- What are the benefits of shopping for second-hand clothes?
- What did you enjoy about the activity?

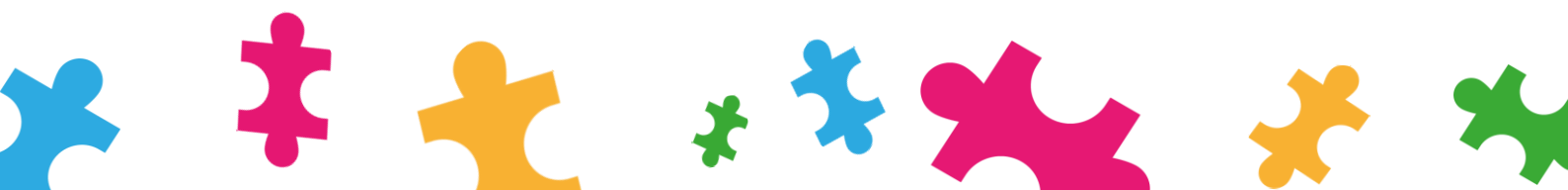
CONCLUSION

Congratulations! With great teamwork and dedication, you have successfully completed this WebQuest, and can now make a difference by reducing your carbon footprint! Not only are you making a change, but you are also an inspiration to others too. By encouraging people to make a difference and protect our planet, we can all realise our responsibility to the environment.

Being green does not mean that we must change everything about the way we live, instead it means making wiser choices that help the environment instead of damaging it. This means that we can understand, plan, and implement new daily habits that are good for the environment! Breathing cleaner air, having greener plants and healthier people, plants, and animals. What's stopping you?

By completing this WebQuest, you have learned all about your carbon footprint, why it is bad for the environment, and discovered ways to combat climate change! It is important for us all to recognise how we can protect all living things on planet Earth! Well done!







GRETA

Challenge-based Learning in Primary Schools for Climate Change Awareness



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