

Classroom Energy Diet CHALLENGE

Canadian students increase their energy awareness
while educating the nation

Presented by



CANADIAN
Geographic EDUCATION
FOSTERING GEOGRAPHIC ENGAGEMENT

HOW BIG ARE YOUR (CARBON) FEET?



STUDENTS WILL LEARN ABOUT THE CONCEPT OF CARBON FOOTPRINTS AND CALCULATE THEIR OWN FOR ONE YEAR. THEY WILL ALSO COMPARE THEIR FOOTPRINT TO PEOPLE IN DIFFERENT REGIONS AROUND THE WORLD.

SELECT **ONE** OF THE FOLLOWING THREE POINT LEVELS TO COMPLETE.
YOU WILL ONLY BE ABLE TO SUBMIT YOUR WORK AND GET POINTS FOR **ONE** POINT LEVEL.

5 POINTS

Explore the concept of a carbon footprint, calculate your yearly carbon footprint, and brainstorm ways to reduce or offset it.

10 POINTS

Review a case study of someone or an organization that has made an effort to reduce their/its carbon footprint and write a profile about that person or organization.

15 POINTS

Explore the concept of a carbon footprint. Calculate your yearly carbon footprint and then calculate the yearly carbon footprint of a person similar in age to you living in a country in the developing world. Compare and contrast the differences between the two footprints.

LEARNING OUTCOMES:

BY THE END OF THIS ACTIVITY, STUDENTS WILL...

- Explain and calculate carbon footprints and offsetting.
- Determine ways to decrease carbon footprints for themselves and others.
- Be able to compare and contrast standards of living in Canada to those in developing countries.





HOW BIG ARE YOUR (CARBON) FEET?

5 POINTS



EXPLORE THE CONCEPT OF A CARBON FOOTPRINT, CALCULATE AND DISPLAY YOUR YEARLY CARBON FOOTPRINT, AND BRAINSTORM WAYS TO REDUCE OR OFFSET IT.

TIMING	MATERIALS	PROOF TO BE SUBMITTED
50-100 minutes	Computers, materials as needed to create cutouts of students' feet	A picture of your class's carbon footprint displayed throughout the school

Ask your students if they are aware of carbon footprints and offsets and how they are determined. Use the additional resources to help explain the concept to students in younger grades. Discuss the responses and explain key terms using additional resources as needed. Access one of the online carbon footprint trackers listed in the additional resources section. Explain to your class that they will be calculating their yearly carbon footprints.

Either individually or in small groups, have students calculate their carbon footprints for one year. As a class, compile the results and determine the carbon footprint of the entire class. Have students research ways to reduce or offset their carbon footprints. Visually display your classroom's carbon footprint.

Determine how many kilograms of carbon dioxide (CO₂) your class produces every day and have each student cut out a tracing of their feet (one foot = 4 kg of CO₂). Post your visual representation throughout the school.



HOW BIG ARE YOUR (CARBON) FEET?

10 POINTS



REVIEW A CASE STUDY OF SOMEONE OR AN ORGANIZATION THAT HAS MADE AN EFFORT TO REDUCE THEIR/ITS CARBON FOOTPRINT AND WRITE A PROFILE ABOUT THAT PERSON OR ORGANIZATION.

TIMING	MATERIALS	PROOF TO BE SUBMITTED
100 minutes	Computers with Internet access	Copies of completed profiles

Discuss with your class what a carbon footprint is, how it is calculated and how people can work to reduce it. Ask your students if they know of any people or organizations that have small carbon footprints or are actively working to reduce it. Read the June 2012 issue of *Canadian Geographic* (linked in additional resources section) with your class and discuss the suggestions about sustainable housing.

Once all profiles have been written, have students share any tips or tricks they learned with the rest of the class. Discuss whether they think they would be able to alter their lives as their subjects have and reduce their carbon footprints in such drastic ways.

Explain to your students that they will be writing a profile about a person/organization that has made concerted efforts to reduce their/its carbon footprints. Encourage students to research subjects and contact them for further information.



HOW BIG ARE YOUR (CARBON) FEET?

15 POINTS



EXPLORE THE CONCEPT OF A CARBON FOOTPRINT. CALCULATE YOUR YEARLY CARBON FOOTPRINT AND THEN CALCULATE THE YEARLY CARBON FOOTPRINT OF A PERSON SIMILAR IN AGE TO YOU LIVING IN A COUNTRY IN THE DEVELOPING WORLD. COMPARE AND CONTRAST THE DIFFERENCES BETWEEN THE TWO FOOTPRINTS.

TIMING	MATERIALS	PROOF TO BE SUBMITTED
100 minutes	Computers for research	Copies of completed student responses

Ask your students if they are aware of carbon footprints and offsets and how they are determined. Discuss the responses and explain key terms using the additional resources provided. Explain to your class that they will be calculating the yearly carbon footprint of a person of about their age living in a developing country, and comparing that person's footprint with their own.

After researching the lifestyle of a person living in a developing country, students should estimate that person's annual carbon footprint. Have students record and explain the results. Students will then calculate their own carbon footprint, recording and explaining the results. To achieve the full 15 points, students must write a response comparing and contrasting the differences between the two footprints, describing how their lifestyles differ, what they have learned, how they feel and what they can do to reduce their personal carbon emissions.



HOW BIG ARE YOUR (CARBON) FEET?

EVALUATION & RESOURCES



EVALUATION

STUDENTS CAN BE EVALUATED ON THE COMPLETION OF THEIR CALCULATIONS, RESEARCH, WRITTEN REQUIREMENTS AND COMPREHENSION OF ENERGY-SAVING KNOWLEDGE.

ADDITIONAL RESOURCES

Personal Footprint Calculator, Global Footprint Network

http://www.footprintnetwork.org/en/index.php/GFN/page/personal_footprint/

Shell True North Forest

<http://www.shell.ca/en/environment-society/environment-tpkg/true-north.html>

Purchasing Carbon Offsets, The David Suzuki Foundation

<http://www.davidsuzuki.org/publications/resources/2009/purchasing-carbon-offsets/>

Sightline Institute graph of carbon emissions

<http://www.sightline.org/research/graphics/climate-co2bymode/>

David Suzuki's tips to reduce your carbon footprint

<http://www.davidsuzuki.org/what-you-can-do/reduce-your-carbon-footprint/support-alternatives-to-owning-and-driving-a-car/>

Find more resources on this challenge page of energydiet.canadiangeographic.ca