

Lesson #4

Walk a Mile in My Shoes

Subject Areas

Social Studies, Language Arts,
Science, Fine Arts, Math

Student Skills

communication, discussion, critical
thinking

Developing Vocabulary

ecological footprint, energy
consumption, carbon, lifestyle,
shelter, goods & services, mobility

RELATED BACKGROUNDERS



Energy and the Environment

By exploring the concept of an ecological footprint, students learn that simple lifestyle choices have a meaningful impact on the planet. Students create a paper foot of their own Carbon Critter. After answering a series of questions about its energy use, they calculate its ecological footprint online to see the impact of its lifestyle choices and energy use on the environment.

Learning Objectives

- ◆ understand the concept of an ecological footprint
- ◆ explore the relationship between everyday lifestyle choices and energy consumption
- ◆ consider the impact of our own lifestyle choices and energy consumption on the planet

Materials You Need

- ◆ A paper foot of a Carbon Critter as an example for students
- ◆ Heavy paper or card stock for students to make their Carbon Critter footprints
- ◆ Coloured markers
- ◆ Computers with Internet access for one class period
- ◆ Copies of the What are Carbon Critters Driving? handout
- ◆ The EnerAction backgrounder, *Energy and the Environment: The Impacts of Our Energy Use*

Time Estimate

Lead In

Main Activity

Wrap Up

20 minutes

60 minutes

30 minutes

2
HOURS

“Earth provides enough to satisfy every man’s need but not every man’s greed.”

— Mahatma Gandhi

Teacher Tips

To familiarize yourself with the concept of an ecological footprint, explore this student-friendly website:

<http://basecampearth.org/exp2/index.htm>

Calculate your own ecological footprint using this online calculator:

<http://www.myfootprint.org/>

It won’t take much time: you simply answer 15 questions about your energy use, and then you can see your footprint and learn about its implications. For other links and more information about ecological footprints, refer to the EnerAction backgrounder, *Energy and the Environment: The Impacts of Our Energy Use*.

What You Do

Lead In

20 minutes

Lead In

1. Introduce the idea that even when we do not know the definition of something, we can usually make a good guess at its meaning by looking at individual words and parts of words.
2. Have students write the words and phrases that they think are related to ecological footprint.
3. Ask students to work in small groups to exchange their ideas and develop a one-line definition.
4. Provide students with a definition from another source for comparison. For example, your ecological footprint is an estimate of how much productive land and water is needed to support the way you live. For other definitions, see the EnerAction backgrounder, *Energy and the Environment: The Impacts of Our Energy Use*.
5. Guide a discussion about the similarities and differences between the definitions to establish a shared understanding.
6. Record questions and key points that come up during the discussion so that you can refer to them throughout the lesson.

What You Do

Main Activity

75 minutes

Main Activity

7. Explain that students will be creating a creature, called a Carbon Critter, and imagining what it would be like to live like that creature—i.e., that they will be exploring what it would be like to walk a mile in someone else's shoes.
8. Hand out paper and have each student draw an outline of a foot and ankle for their critter. Provide an example of a cut-out foot and ankle for their reference.

What is a Carbon Critter?

Carbon critters leave big footprints on the earth because they use extreme amounts of energy to support their excessive lifestyles.



They like to drive when they could walk. They like to leave lights and televisions and computers turned on even after they leave their dens. They like to buy things that take a lot of energy to make, package and transport. They create a lot of waste.

The EnerAction superheroes know the Carbon Critters could live well using a lot less. Visit <http://eneraction.greenlearning.ca> to meet the EnerAction superheroes and to see the carbon critters' feet grow and shrink alongside their energy use and savings.

9. Ask students to imagine the lifestyle of their critter. Review the meaning of each of the lifestyle categories: food, shelter, goods and services, and mobility. Ask them questions to prompt them to think about the various possibilities.
10. Ask students to give their critter a name that relates to its lifestyle and its views on energy and the environment. Tell them to write the name on the ankle of the critter's foot (e.g., Gizmo Guy, Power Pit).

What You Do

Main Activity (continued)

11. Have students summarize their critter's lifestyle, including what food they eat and products they buy, how they get around, and what their homes are like. They can record their descriptions on the paper foot below the critter's name, under the following headings:
 - ◆ **FOOD:** How often does your critter eat animal-based products (e.g., meat, fish, dairy) each week? In a week, how often is the food your critter eats processed, packaged and imported?
 - ◆ **SHELTER:** What is the size of your critter's home? (Use units of square metres or substitute with something students are familiar with, such as a classroom). What type of home is it (detached, apartment, environmentally designed, etc.)? Does it have electricity or not?
 - ◆ **GOODS & SERVICES:** How much waste does your critter produce compared to others? How many kilograms of garbage does your critter produce per week?
 - ◆ **MOBILITY:** How does your critter get from place to place? How much does your critter travel by public transit, motorbike, car, bicycle, plane and on foot? How often does your critter drive alone versus with someone else? How many litres of gasoline does the critter's vehicle use for each 100 kilometres driven? (Refer to the handout, "What are Carbon Critters Driving?," at the end of this lesson.)
12. Have students visit <http://www.myfootprint.org> to calculate the ecological footprint for their critter. They enter basic information about their critter's lifestyle, and the site calculates its ecological footprint. Students learn how many more planet Earths we would need if everyone lived like their Carbon Critter. Tell students to record that number (the number of Earths) upside down on the back of their critter's foot.
13. Tell students to also record the results, by category, from the online ecological footprint summary page onto their critter's foot.
14. As a class, review the significance of the results. Discuss how the categories used to calculate an ecological footprint relate to our own lifestyles.

Wrap Up**30 minutes**

What You Do

Wrap Up

16. To help students form conclusions about the connections between lifestyle, energy, impacts on the environment and the role of daily choices, lead a class discussion using some of the following questions:

- ◆ What did you think about the size of the ecological footprint of your Carbon Critter?
- ◆ How does this compare to the amount of land that is actually available for each person on Earth?
- ◆ How do you feel about the number of Earths required to support the lifestyle of your Carbon Critter (if everyone in the world lived that way)?
- ◆ When you compare the ecological footprint of different Carbon Critters, what activities seem to cause the biggest increase to the footprint? How would you explain that?
- ◆ How are Carbon Critters similar to us?
- ◆ How do Carbon Critters impact our world?
- ◆ How could you explain why Carbon Critters aren't very concerned about their impact on the world?
- ◆ What advice would you give the people who make the laws that govern Carbon Critters?
- ◆ What message could you give to Carbon Critters that you think they would listen to?
- ◆ What do you think it will take for Carbon Critters to reverse their impact on the earth?
- ◆ How do the ideas in this activity relate to our energy uses and choices?

Did you know?

To support their current lifestyle, the average Canadian requires 7.8 hectares of productive earth; the average American requires 12.4 hectares. Based on the current human population and bio-productive space, nature can provide and sustain only about two hectares of land for every person in the world. If everyone lived like people in North America, we would need about four more planets!

Adaptations & Extensions

- **Use an online Lead In.** Working alone or in pairs, have students explore the concept of an ecological footprint at the Base Camp Earth website, <http://basecampearth.org/exp2/>. This student-friendly site reflects the work of four secondary school students who spent four days studying ecological footprints via the e-community. You may want to direct your students with a focus question.
- **Expand the Main Activity.** Let students make informed decisions about what their Carbon Critters drive by sending them to the Natural Resources Canada website where they can choose from a list of more than 1,000 car models:

Assessment Rubric

These criteria can be expanded or adapted to emphasize different aspects of the lesson. You can use the rubric to help students self-assess their participation and experience, and then pose follow-up questions to the class encouraging them to reflect further on their challenges and insights.

Knowledge & Understanding	1	2	3	4
Generate ideas about a potential topic using a variety of strategies and resources	Demonstrates limited understanding by generating one or two ideas using few strategies and resources	Demonstrates some understanding by generating at least three ideas using few strategies and resources	Demonstrates considerable understanding by generating at least three ideas using a variety of strategies and resources	Demonstrates a thorough understanding by generating more than three ideas using a wide variety of strategies and resources
Thinking	1	2	3	4
Identify and order main ideas and supporting details and group them into units that could be used to develop several linked paragraphs, using a variety of strategies	Demonstrates marginal use of thinking skills by poorly identifying and ordering a few main ideas and supporting details, and ineffectively grouping them into units	Demonstrates limited use of thinking skills by identifying and ordering some of the main ideas and supporting details, and grouping them into units	Demonstrates effective use of thinking skills by identifying and ordering a variety of main ideas and supporting details, and grouping them into clear and understandable units	Demonstrates highly effective use of thinking skills by identifying and ordering a wide variety of main ideas and supporting details, grouping them into clear and understandable units
Application	1	2	3	4
Analyze human use of energy and natural resources and the impact of this use on society and the environment	Demonstrates limited effective use of thinking skills by unfinished analysis	Demonstrates limited effective use of thinking skills by unfinished analysis	Demonstrates effective use of thinking skills by complete analysis	Demonstrates a high degree of thinking skills by extensive analysis
Develop solutions to avoid wasting energy and resources both at home and at school	Demonstrates limited application of knowledge by developing one or two solutions	Demonstrates limited application of knowledge by developing no more than three solutions	Demonstrates effective application of knowledge by developing 3–5 solutions	Demonstrates a high degree of application of knowledge by developing more than 5 solutions

What are Carbon Critters Driving?

2007-2008 Top Picks for CARBON CRITTERS with Big Feet

Make/Model	Type of vehicle	Consumption of fuel L/100km	Emissions of CO ₂ (kg per yr)
LAMBORGHINI MURCIELARGO	Sports Car	26	10,200
FERRARI SCAGLIETTI	Sports Car	23	8,800
BENTLEY ARNAGE	Mid-sized	23	8,800
MERCEDES-BENZ R63 AMG	Full-sized	20	8,200
BMW – M6 CABRIOLET	Mid-sized	20	7,800
ROLLS-ROYCE – PHANTOM	Mid-sized	18	7,200
DODGE – RAM 1500	Pick-up	26	4,300
DODGE – DURANGO 4x4	SUV	25	4,300
JEEP – GRAND CHEROKEE 4x4	SUV	24	4,100
GMC – SAVANNA PASSENGER	Van	23	4,100
FORD – F150	Pick-up	21	3,800
CHEVROLET - SUBURBAN	Pick-up	20	3,400

2007-2008 Top Picks for CONSERVATION CRITTERS with Small Feet

Make/Model	Type of vehicle	Consumption of fuel (L/100km)		Emissions of CO ₂ (kg per yr)
		City	Hwy	
TOYOTA COROLLA	Sports Car	7.1	5.3	3,024
BUICK TERRAZA FWD FFV	Van	17.8	11.5	2,980
CHEVROLET UPLANDER FWD FFV	Van	17.8	11.5	2,980
PONTIAC MONTANA SV6 FWD FFV	Van	17.8	11.5	2,980
SATURN RELAY FWD FFV	Van	17.8	11.5	2,980
NISSAN ALTIMA HYBRID	Mid-sized	5.6	5.9	2,784
TOYOTA CAMRY HYBRID	Mid-sized	5.7	5.7	2,736
CHRYSLER SEBRING FFV	Mid-sized	15.5	10.0	2,600
CHEVROLET IMPALA FFV	Large	14.8	9.2	2,460
CHEVROLET MONTE CARLO FFV	Mid-sized	14.8	14.8	2,460
HONDA CIVIC HYBRID	Compact	4.7	4.3	2,160
TOYOTA PRIUS	Mid-sized	4.2	4.2	1,968

Source: <http://oee.nrcan.gc.ca/transportation/tools/fuelratings/ratings-results.cfm?attr=8>