

Walk a Mile

**Energy Revealed
Activity**
Grade Level: 4-7



Main Objectives

By exploring the concept of an ecological footprint, learners learn that simple lifestyle choices have a meaningful impact on the planet. Learners 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 Outcomes

By the end of this activity, learners will:

- 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

Length of Activity

2 hours

Materials List

Internet-enabled device

Energy and the Environment: The Impacts of Our Energy Use Backgrounder

What are Carbon Critters Driving? Handout

A paper foot of a Carbon Critter as an example for learners

Heavy paper or card stock

Coloured markers

Step 1: What Even is an Ecological Footprint?

- a. 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.
- b. Have learners write the words and phrases that they think are related to ecological footprint.
- c. Ask learners to work in small groups to exchange their ideas and develop a one-line definition.
- d. Provide learners 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 backgrounder, Energy and the Environment: The Impacts of Our Energy Use.
- e. Guide a discussion about the similarities and differences between the definitions to establish a shared understanding.
- f. Record questions and key points that come up during the discussion so that you can refer to them throughout the lesson.

Step 2: Make Carbon Critters!

- a. Explain that learners 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).

- b. Hand out paper and have each learner draw an outline of a foot and ankle for their critter. Provide an example of a cut-out foot and ankle for their reference.
- c. Ask learners 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.
- d. Ask learners 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).
- e. Have learners 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 learners 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 every 100 kilometres driven? (Refer to the handout, "What are Carbon Critters Driving?" at the end of this lesson.)
- f. Have learners visit <https://www.footprintcalculator.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. Learners learn how many more planet Earths we would need if everyone lived like their Carbon Critter. Tell learners to record that number (the number of Earths) upside down on the back of their critter's foot.
- g. Tell learners to also record the results, by category, from the online ecological footprint summary page onto their critter's foot.
- h. As a class, review the significance of the results. Discuss how the categories used to calculate an ecological footprint relates to our own lifestyles.

Step 3: Conclusion

- a. To help learners 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?

Teaching Tips

To familiarize yourself with the concept of an ecological footprint, explore this learner-friendly website: <https://www.overshootday.org/kids-and-teachers-corner/what-is-an-ecological-footprint/>

Calculate your own ecological footprint using this online calculator: <https://www.footprintcalculator.org/> It won't take much time: you simply answer 13 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 backgrounder, Energy and the Environment: The Impacts of Our Energy Use.

Extension Ideas

1. **Use an online Lead In.** Working alone or in pairs, have learners explore the concept of an ecological footprint at the Overshoot Today website, <https://www.overshootday.org/kids-and-teachers-corner/what-is-an-ecological-footprint/>. You may want to direct your learners with a focus question.
2. **Expand the Main Activity.** Let learners 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: <https://fcr-ccc.nrcan-rncan.gc.ca/en>.

Did You Know?

To support their current lifestyle, the average Canadian requires 8.17 hectares of productive earth; the average American requires 8.22 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!