

# Shrinking Our Ecological Footprint



## Activity Info

**Level:** junior to senior

**Subjects:** environmental studies, citizenship, art, language

**Duration:** one or two classes

**Group Size:** class

**Setting:** classroom

**Preparation:** copies of *The Green Zone* gameboard for younger grades (see page 20)



## Summary

Students will look at the impacts that they as individuals, and we as Canadians, have on the environment. They will explore ways to reduce their impacts.



## Learning Outcomes

Working at a level appropriate to your class, students will:

- explore our impacts on the environment
- identify ways to change one or more of these impacts
- make the commitment to change at least one way they impact the environment



## Background

Nature provides all the resources that we use to live. If we use more resources than we replace, or if we produce more waste than nature can take care of, we throw our natural systems out of balance.

The concept of an ecological footprint is a relatively new way of expressing this human impact on the environment.

Basically it looks at the resources we consume and at the waste we generate. It then expresses this relationship as the amount of land required exclusively to produce the resources consumed and waste generated by a population. These calculations include only the available biologically productive land and water. This means non-productive land, such as deserts, and areas given over to cities and other human uses, are not included in the tally.



1. **Reflect on our impact on the environment.** As a class, discuss the different ways we, as individuals, each affect the environment around us. What do we need to survive (air, water, shelter, each other)? What wastes do we produce (when we eat and breathe, to keep us warm or to cool us, to get places, to ship our goods)? What extras do we expect from our world (trendy clothes, convenience products, holidays, snowmobiles, motor boats)?

Remember to keep this discussion appropriate to the grade level and to balance it with positive statements. For example, remind students that while humans place demands on the planet, we also celebrate nature through music and art.

2. **Based on the discussion in part 1, complete the chart on page 23** itemizing **Resources We Use and Waste We Produce** and identifying **Ways We Can Improve**.

### FOR OLDER STUDENTS

Older students may also want to look into the actual impact of each change. For example, walking to school for one month will mean x km less driving and save y litres of gas. Saving y litres of gas will save z litres of our air (burning one litre of gas requires 8,000 litres of air). Discuss the pros and cons of each change.

3. **Explore ways we can change the way we live in order to reduce our ecological footprint.** Play the *The Green Zone* game on pages 20 and 21. The game is designed to provide students with a fun activity that will help them understand the environmental implications of actions and events. By rolling a single die, players move around the board, gaining and losing green points based on the action/event-consequence in the squares they land on.

### FOR OLDER STUDENTS

Challenge older or advanced students by having them earn bonus points if they can explain the science behind the action/event-consequence.

4. **Doing it! Making a commitment.** Ask the students to think about one thing that they could reasonably do over the coming month to help the environment. Ask them to design their own pledge form to support this commitment. They might want to include a drawing or description of how this change will help.

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**Resources We Use and Waste We Produce**

**Ways We Can Improve**

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## Canadians and Our Gigantic Ecological Footprint!

- Researchers estimate that on Earth, there are currently only 2.2 hectares of productive land available per person to provide all the resources, waste assimilation and life support services we need.
- A Canadian uses 9.4 hectares to support his/her lifestyle, which is 4.3 times our fair share. If everyone on Earth lived at this level we would need four more Earth-sized planets to sustain us.
- By 2020 the Canadian figure is projected to grow to near 13.8 hectares. Our growing demand for fossil energy to run our cars, heat and cool our homes and businesses, is responsible for two-thirds of this growth.

## Top 10 Ecological Footprints

1. United Arab Emirates	16.4
2. USA	12.2
3. Singapore	10.3
4. Kuwait	10.3
5. New Zealand	9.5
6. Canada	9.4
7. Denmark	9.4
8. Australia	9.1
9. Ireland	8.7
10. Finland	8.4

### Facts to think about:

- Some countries have a limited land area but a large population.
- Some countries have limited biologically productive land (desert countries).
- Some countries have a high standard of living including high energy use, high consumerism, and high waste production.

**Scary Note:** These countries and many others exceed the sustainable limit.



## International Walk to School Day: Tuesday, October 2, 2001

Last year students from 846 schools across Canada joined others from around the world for the First International Walk to School Day. With their parents or friends they walked, ran, bicycled, skated or used other non-polluting, active means of getting around to promote safety, health, physical activity and concern for the environment.

There are nearly 5.5 million students in Canada. Think of the difference that even one Walk to School Day would make if everyone took part.

Register today and receive your kit for the International Walk to School Day 2001 by visiting [www.goforgreen.ca/asrts](http://www.goforgreen.ca/asrts)

If your school is in Ontario or British Columbia, please contact the following Go for Green partners:

### ONTARIO

[www.greenestcity.org](http://www.greenestcity.org)

### BRITISH COLUMBIA

[www.waytogo.icbc.bc.ca](http://www.waytogo.icbc.bc.ca)

