

ECOLOGICAL FOOTPRINT: HOW DOES THE WAY WE LIVE AFFECT EARTH?



ACTIVITY DESCRIPTION

1. Initial class discussion (10 - 20 minutes)

- All living things use the Earth's resources in varying amounts. Humans are only one species of about 30 million resource-consuming species on the planet.
- Which of Earth's resources do we use to support our lives?
- Are these resources evenly distributed around the world? Only 25% of the planet is productive. The west coast of North America is
- What do you think an "Ecological Footprint" is?

2. Introduce definitions and provide some background information (20 minutes)

In essence, an "Ecological Footprint" (EF) is how much of the Earth we use for our food, clothing, play, energy, shelter, waste, etc. Ecological Footprints can be calculated for an individual, for a family, for a city, or for entire countries. EF calculations are simply estimates or an inventory of how much of the Earth's renewable and non-renewable resources we use.

When humanity's Footprint exceeds the amount of renewable resources available, a draw-down in natural capital is required and this is considered unsustainable. Global Footprint analysis indicates that over the last 40 years or more, humanity's cumulative Ecological Footprints appear to have surpassed Earth's ecological limits; this is not sustainable in the long term. At our current consumption rate, there is not enough Earth to meet our demands!

We live in an era where there is an imperative to shrink our Ecological Footprints. There are many ways we can choose to alter the size of our EF's. In most cases, Less = More.

3. Work through the student exercise to calculate personal Ecological Footprints.

(30 minutes to 1 hour dependent on math abilities and grade level)

Emphasize that these calculations will provide an estimate of how much of the planet we use; they are simplifications that do not take into account the many other ways we use the Earth's resources. Also, this Ecological Footprint calculator is not a judgement of good or bad lifestyles; it is simply a value-neutral tool that allows us to objectively obtain a snapshot of how much of our resources are being used.

4. Discuss results of Questionnaires and explore concepts (1 hour)

Work through the discussion questions provided. Question 1 to 8 should be done individually, questions 9 and 10 could be done by means of a class discussion



EXTENSION ACTIVITIES

1. Graph the class' Ecological Footprints and extrapolate to larger communities

Prepare a chart in advance:

	Size of Ecological Footprint					
	2-4 hectares	4-6 ha	6-8 ha	8-10 ha	10-12 ha	12-14 ha
Number of students						

Have students anonymously indicate which category their calculated Ecological Footprint falls into. Create a bar graph (# students vs. size of Ecological Footprint) to show the class distribution. Calculate the average Footprint per student; how does the students' average compare to the calculated Ecological Footprint for Canada of 8.8 hectares?

Calculate the total Footprint for all the students. Extrapolate to calculate a total Footprint for all students in the school, for all citizens of their municipality, or for all of Canada. Compare these cumulative Footprints to the size of the municipality, the Territory or Province, or Canada. Do these Footprints exceed the size of available land?

[Canada's population is approximately 32 million in 2004, with an estimated per capita Ecological Footprint of 8.8 hectares. Canada measures 10 million square kilometres. 1 hectare = 0.01 km²].

2. Discuss the need for action and how small changes really do have big impacts.

Have students complete a "Ten Point Challenge" coming up with 10 ways they will work toward reducing their ecological footprint. Looking at where they would have gotten negative points in the ecological footprint calculation also provides insights. Have students rank their Ten Point list items according to what they think will have the most potential for positive impacts.

Other ideas are at www.ecovoyageurs.ca/EcoSite%20English/Action/suggestions.htm

3. Compare different Ecological Footprint calculators [Internet Access required]

- www.ecovoyageurs.ca/EcoSite%20English/Calculator/calculator.htm (Calculates an average over 3 days: Day 1= the day before yesterday; Day 2 = yesterday; and Day 3 = today.)
- www.myfootprint.org
- www.mec.ca/Apps/ecoCalc/ecoCalc.jsp

Suggested questions:

- Which one of the 3 Ecological Footprint calculations did you find the most reliable?
- Give at least 3 reasons why you think this calculation is more reliable than the others, and 3 shortcomings of the other two methods of calculation.
- Are there any resources you use that are still not being taken into account in these calculations?
- Regardless of how much our calculated Ecological Footprint varies per method of calculation, what do these calculations indicate to us?