

# **Ecological Footprints and Environmental Sustainability**

CGC1P

# What is an ecological footprint?



# Ecological Footprints are...

- a measure of human impact on the Earth
- the Earth's cost to sustain one person
- measured in hectares *(about the size of a football field)*
- WHY hectares? → land area needed to provide resources and absorb waste and greenhouse gases produced by an individual



# What are the numbers?

- Let's check out the 2013 global statistics for ecological footprints per capita



*Click on the image above for data. Once at the site, click on 'Enter' then go to the 'Ecological Footprint Per Person' → The map takes a while to load but you can scroll down for the raw data!*

- Canada has one of the highest footprints in the world!
- Why is Canada's average footprint so big?

# What do we “need” in Canada?

Land for:

- water (to drink, provide seafood, provide energy source)
- homes and roads and factories that make the material things we crave
- farmland to grow the food we eat
- grazing land for meat and dairy
- timber wood and paper products
- other primary industry extraction (eg. energy production)
- absorbing the greenhouse gases produced by driving around town, running of air conditioners/heating, use of technology and the import of exotic goods and foods

**ETC.!!**

# Any GOOD news for Canada??



*Click on the image above for data. Once at the site, click on 'Enter' then it should automatically load the 'Ecological Deficit/Reserve' → The map takes a while to load but you can scroll down for the raw data! Canada is in the light green (100%-150%) category.*

**We still have a greater biocapacity than many other countries.**

That means we are lucky enough RIGHT NOW to have ecosystems that can regenerate what people demand.

\*\*\*We must take care of our ecosystems to make sure this continues.  
Part of doing this is reducing our INDIVIDUAL ecological footprints.

# Defining Environment & Sustainability

## 2 Key Terms

- **Stewardship** → The responsibility we all have to the environment and resources that has been left to us by our ancestors. We are all stewards to our planet.
- **Sustainability** → The ability to develop communities in order to meet the needs of the present without negatively affecting the ability of future generations to meet their needs.

- If we are not all following our role as stewards in the global village, then we will not have a sustainable environment for our future children.
- *“We do not inherit the earth from our grandparents, we borrow it from our children.”*
- We must all do our part to keep our consumption of resources to a minimum, and to keep the environment around us clean.

## Other Key Terms

- **Climate Change** is a major shift in the overall temperature levels of the Earth (up or down).
- **Global Warming** is the rising of the average temperature of Earth.
- The **Greenhouse Effect** is the trapping of heat by the Earth's thickened atmosphere. This is caused by pollution.

# What Determines Ecological Footprint?

Some basics:

Household or Individual Footprint	City, Town, or Region Footprint
<ul style="list-style-type: none"><li>• amount and types of food eaten</li><li>• amount and type of electricity used</li><li>• size of house or apartment</li><li>• amount of goods bought</li><li>• fuel efficiency of home and vehicles</li><li>• distance travelled by car, transit, bike, and foot</li></ul>	<ul style="list-style-type: none"><li>• population density</li><li>• average household size</li><li>• consumer spending</li><li>• energy use</li><li>• urban land use</li></ul>

**PLUS:** amount of technology use, volume of waste produced, etc.

# How to REDUCE your Ecological Footprint?

Some basics:

Examples of Heavy Footprints	Examples of Light Footprints
sport utility vehicles (SUVs)	bicycles
12-lane freeways	gravel roads
coal-fired electrical plants	solar power
commuters by car	public transit, e.g., subway
driving to school	walking to school

**PLUS:** unplug or turn off electronics/appliances not being used, reduce amount of technology use, reduce volume of waste produced by reducing and reusing **BEFORE** recycling, plant a vegetable garden, reduce heat in house/turn down air conditioner, etc.