



## Energy Lesson Plan

### ECOLOGICAL FOOTPRINT GAME

**BACKGROUND INFORMATION AND CONCEPTS:** Use this game to support inquiry about Ecological Footprints. (See Additional Resources below) This game helps students understand how everyday choices affect the amount of productive land available to support life on the earth.

- Ecological footprint
- Resource use
- Consumerism and consumption
- Sustainability, and making sustainable choices

#### MATERIALS:

- Small mats, Hoola Hoops or some other easily movable way to mark space. One for each student.
- Cards listing the choices that influence eco-footprint. (Attached)

#### PROCEDURE:

1. Give each participant a mat. This is the amount of productive land on the planet available to them. They must stand on their mat. **Throughout the game, the number of mats available will increase and decrease. At all times, each person must remain on a mat. If the mat a participant is standing on is removed, the student must go stand on a mat with another person.**
2. Draw a card from the set and have a student read the choice on the card out loud. This student will add or remove a mat as appropriate for the choice. (for example, the choice “You added insulation to your house” means the group will get another mat. The choice “You run the dishwasher when it is half full” means the group will lose a mat.)
3. To emphasize the point, read several “remove” cards in a row, until there are many players on each available mat. As choices are made, discuss alternatives, or whether it would be appropriate to remove or add more than one mat for the choice.
4. Ask students to give their own examples of how to reduce their footprint (add a mat). For example, biking to school, using real dishes for hot lunch or drinking tap water.



**DISCUSSION:**

1. What impact does our use of energy and resources have on the environment in Saskatchewan and in Canada?
2. How do you think our use of resources affects people in other parts of the world? Can you think of differences between the way we use resources and the way people in Africa use resources? (for example, the use of water)
3. How can our choices contribute to a cleaner, healthier environment?
4. What is one thing you can do right away that would help our environment?

**CURRICULUM CONNECTIONS:**

<b>Grade 3 Social Studies: Outcomes: RW3.1</b> Appraise the ways communities meet their members' needs and wants. <b>RW3.2</b> Analyze the creation and distribution of wealth in communities studies. <b>RW3.3</b> Evaluate the ways in which technologies have impacted daily life.
<b>Grade 4 Earth and Space Science: Outcome: RM4.2</b> Assess how human uses of rocks and minerals impact self, society, and the environment.
<b>Grade 5 Social Studies: Outcomes: DR5.2</b> Assess the impact of the environment on the lives of people living in Canada. <b>RW5.1</b> Explain the importance of sustainable management of the environment to Canada's future. <b>RW5.2</b> Hypothesize about economic changes that Canada may experience in the future.
<b>Grade 6 Social Studies: Outcomes: RW6.1</b> Examine and analyze factors that contribute to quality of life, including material and non-material factors. <b>RW6.2</b> Contribute to initiating and guiding change in local and global communities regarding environmental, social, and economic sustainability.
<b>Grade 7 Social Studies: Outcomes: IN7.2</b> Examine the effects of globalization on the lives of people in Canada and in circumpolar and Pacific Rim countries. <b>RW7.2</b> Investigate the influence of resources upon economic conditions of people in circumpolar and Pacific Rim countries. <b>RW7.3</b> Assess the ecological stewardship of economies of Canada and the circumpolar and Pacific Rim countries.
<b>Grade 8 Social Studies: Outcomes: RW8.1</b> Analyze the social and environmental consequences of living in the Canadian mixed market economy based on consumerism. <b>RW8.2</b> Assess the implications of personal consumer choices. <b>RW8.3</b> Critique the approaches of Canada and Canadians to environmental stewardship and sustainability. <b>Health Education: Outcome: USC8.6</b> Examine the concept of sustainability from many perspectives, and develop an understanding of its implications for the well-being of self, others and the environment.



### ADDITIONAL RESOURCES:

- <http://environmentalsociety.ca/programs/k-12-school-programs/destination-conservation/>  
Destination Conservation Saskatchewan - Ecological Footprint Workshop: students calculate their footprint, investigate the lifecycle of a product, and discuss choices they can make to reduce their footprint. All the resource materials are included.
- [www.footprintnetwork.org](http://www.footprintnetwork.org)  
Includes both basic and advanced information about what an ecological footprint is, how it can be calculated, and compares footprints from cities and nations around the world.
- <http://www.royalsaskmuseum.ca/exhibits/life-sciences-gallery/the-human-factor>  
This is the Royal Saskatchewan Museum's online footprint calculator. It is a simple calculator that measures your individual footprint and explains how our ecological footprints affect the world we live in.
- [www.storyofstuff.org](http://www.storyofstuff.org)  
The story of stuff includes a number of animated videos that describe many economic, environmental and societal issues with human resource use.



### Card Choices

Your cousin has come to live with you. (add a mat)	You move out to your own house. (remove a mat)	You heat your house with electricity instead of gas. (remove a mat)
You added insulation to your house. (add a mat)	You heat your house with solar energy. (add a mat)	You put a Jacuzzi tub in your bathroom. (remove a mat)
You leave the tap running while you brush your teeth. (remove a mat)	Your family moves from a small house to a larger house. (remove a mat)	You run the dishwasher when it is half full. (remove a mat)
You buy meat in bulk from a local farmer. (add a mat)	You eat more vegetarian meals. (add a mat)	You go to a restaurant for supper. (remove a mat)
You pack a home-made, garbage free lunch. (add a mat)	You grow carrots in your garden, and compost the peels. (add a mat)	You trade in your minivan on a small compact car. (add a mat)
You walk to school instead of getting a ride. (add a mat)	You choose to drive your small car instead of your pick up truck to get groceries. (add a mat)	You pick up your friend and drive together to a hockey practice. (add a mat)
Your family gets a second (or third) vehicle. (remove a mat)	You replace the light bulbs in your house with LED bulbs. (add a mat)	You and your friend choose to go biking instead of ATVing for the afternoon. (add a mat)
Your family goes on a cycling holiday (add a mat)	Your family goes on a vacation to Mexico (remove a mat)	Every weekend in the summer, you drive to your family cabin. (remove a mat)
You buy strawberries grown in Mexico. (remove a mat)	You buy a new EnergyStar fridge. (add a mat)	You take the bus to the city. (add a mat)



You buy an Xbox™ in addition to the PS4™ you already have. (remove a mat)	You put your vegetable peels in the compost. (add a mat)	You throw paper in the garbage. (remove a mat)
You take your own grocery bags to the grocery store. (add a mat)	You use natural cleaners to clean your room. (add a mat)	You don't regularly maintain your furnace. (remove a mat)
You replaced your old furnace with a high efficiency furnace. (add a mat)	You take pre-packaged food for your lunch, in a disposable container. (remove a mat)	You take lots of food on your plate, eat half of it, and throw the rest in the garbage. (remove a mat)
You buy a new fridge and move the old one to the basement. (remove a mat)	You spend lots of winter afternoons snowmobiling. (remove a mat)	You buy an SUV. (remove a mat)
You use natural light when the sun is shining, instead of turning on the lights. (add a mat)	You hang clothes to dry on a line. (add a mat)	You turn off your computer and monitor when you are finished using it. (add a mat)
Your toilet has been leaking for over a month. (remove a mat)	Your classmates throw pop cans in the garbage. (remove a mat)	The car is left running while you get ready for school each day. (remove a mat)
Your parents drive you to school each day. (remove a mat)	You buy a new TV and throw the old one in the dump. (remove a mat)	You buy cheap clothes that don't last well. (remove a mat)