

**Grade Level:** Elementary and Middle School

**Subject Correlation:** Science

**Objectives: Students will be able to:**

1. Identify ways in which humans affect the environment.
2. Brainstorm on how and why humans use natural resources and the problems associated with their use.
3. Describe the interdependence between humans and nature.
4. Appreciate the importance of environmental preservation.

**Length:** 45 minutes

**Teacher Preparation:** The teacher has the option of copying the worksheet on the following pages onto overhead slides and doing the exercise as a class or copying the pages for students to do as groups.

**Outline (with times)**

10 minutes

*What is the Ecological Footprint?*

As a class, read and examine the attached handout, "What IS An Ecological Footprint." Ask the class to imagine their footprint in the sand or dirt. A footprint actually displaces sand or dirt. The larger the footprint, the more dirt or sand is displaced. With the Ecological Footprint concept, the more we consume and throw out, the more natural resources we use – and our symbolic Ecological Footprint grows.

20 minutes

*Adventures with Bobbie Bigfoot*

Visit <http://www.kidsfootprint.org/> and help Bobbie Bigfoot make everyday decisions that will affect his Ecological Footprint! Bobbie's feet grow and shrink depending on the decisions he makes with your help.

15 minutes

*What is a Sustainable Lifestyle?*

A sustainable lifestyle is one that does not use more natural resources at a faster rate than the Earth makes available. We use natural resources when we consume, pollute, or discard garbage.

We make decisions everyday that affect our Ecological Footprint. In the attached handout, students have the opportunity to make sustainable decisions and identify reasons their decisions lead to a sustainable lifestyle. For each category – food, housing, consumption, and transportation – students will decide which choice is more sustainable. Students can work alone or in groups. Teachers may ask students to make decisions in a specific category or for all categories. Give five reasons for your choice. Discuss your answers as a class.

### **Possible Answers for “What is a Sustainable Lifestyle” Worksheet.**

**Food** – *Although nothing is wrong with an occasional hamburger, the amount of factory-raised beef consumed, and the production methods used by factory farms is not sustainable. There are many reasons why the organic salad is more environmentally friendly than a hamburger:*

- Farmers do not use pesticides to grow organic produce. Therefore, they are less harmful to the soil.
- Organic ingredients are usually (but not always) locally grown and therefore do not rely on the non-environmentally friendly transportation system.
- Factory-fed beef cows are not environmentally friendly. They require massive amounts of natural resources such as water, grain, wheat, and grass, and produce a lot of solid waste which, in such large quantities, is a major pollutant.
- Factory farmed cows are often treated inhumanely.
- For more information on organic foods, visit the [Sustainable Table Web site](http://www.sustainabletable.org/home/), <http://www.sustainabletable.org/home/>.

**Housing** – *Although big apartment housing complexes are larger than single family homes, the fact that many more people and families live in the same building rather than each having their own home make them more environmentally friendly.*

- More people living in a smaller space require less energy for electricity, climate control, and cooking.
- More people living in a smaller space allows for less dependency on traveling long distances for school, shopping, and visiting friends and family.
- Smaller homes require fewer natural resources and materials to construct.

**Transportation** – *Transportation sources that are efficient and carry the most people using the least amount of natural resources are the most environmentally friendly.*

- Bicycles are the most efficient and the most environmentally friendly mode of transportation. They use no natural resources and carry people great distances with little effort.
- Cars – especially large cars – are not efficient, and therefore not environmentally friendly. They use a lot of natural resources and fuel to provide for the needs of a small number of people.
- Busses and other forms of public transportation are environmentally friendly – especially if they use natural gas or hybrid technology. Although busses are larger than cars, they carry many more people at one time and decrease congestion and the need for new roads.

**Consumption** – *Of course recycling is better than throwing away garbage into landfills!*

- Recycling both limits the amount of garbage in landfills and reduces the amount of natural resources required to make new materials such as glass, paper, plastic, and metal.
- Buying products that use little packaging or natural resources is environmentally friendly.
- Wasting energy, water, and other natural resources is not sustainable behavior.
- Sustainable behavior includes purchasing efficient light bulbs, low flow toilets and showerheads, energy efficient cars, and organic foods.



# WHAT IS AN ECOLOGICAL FOOTPRINT?

 earthdaynetwork  
www.earthday.net

 R PROGRESS  
www.rprogress.org

Ever wondered how much "nature" your lifestyle requires?  
You're about to find out!



The Ecological Footprint estimates how much productive land and water you need to support what you use and what you throw away. Ecological Footprints can be calculated for individuals like you, communities, and even countries. We use natural resources when we consume, pollute, and discard garbage. If the Ecological Footprint indicates that more natural resources are used than the Earth supplies, than this is not a sustainable lifestyle. It is very important for all of us on the Earth to live a sustainable lifestyle in order to leave the planet in good shape for future generations to enjoy and prosper!

To help Bobbie Bigfoot make sustainable decisions during his daily routine, visit <http://kidsfootprint.org/>. To measure your personal Ecological Footprint, visit [www.myfootprint.org](http://www.myfootprint.org).

*CAUTION: THIS QUIZ MAY SURPRISE YOU, SHOCK YOU, OR MAKE YOU THINK. PLEASE REMAIN CALM...BUT NOT TOO CALM!!*



*Measuring Ecological Footprints*

## Which uses more environmental resources?

*Which of the following choices are more sustainable and contribute towards a smaller Ecological Footprint?*

### Food



*Hamburger*



*Organic Veggie Salad*



### Housing



*Living in a house*



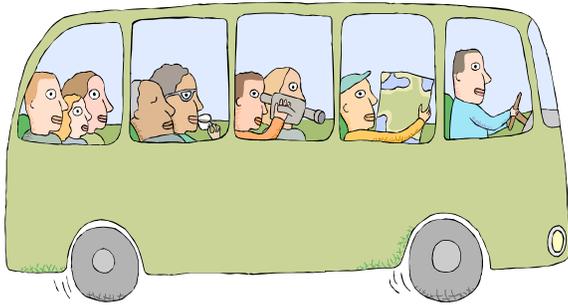
*Living in an apartment building*



## Which uses more environmental resources?

*Which of the following choices are more sustainable and contribute towards a smaller Ecological Footprint?*

### Transportation



*Riding the bus home*



*Riding in a car*



### Consumption



*Taking out the trash*



*Recycling*



## Which uses more environmental resources?

*Which of the following choices are more sustainable and contribute towards a smaller Ecological Footprint?*

### Transportation



*Riding your bike*



*Driving a car*

