

# What Size Is Your Footprint?



Student  
Reading

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A carbon footprint is one way to measure your impact on the climate because it gives you an idea of the amount of **greenhouse gases** your activities produce. It is often measured in pounds of carbon dioxide (CO<sub>2</sub>) emissions. We call it a footprint because it's like the mark you leave on the earth as you go about your daily activities.

Organizing a walk to school day is a fun way to reduce your carbon footprint and get others involved. Photo from the National Center for Safe Routes to School, the coordinating agency for Walk to School events in the USA



It takes less energy to make an aluminum can, plastic bottle, or piece of paper from recycled materials than from raw materials.



Recycling uses less energy than creating new items from raw materials. *Photo by Gilda Wheeler*

When you walk on a sandy beach, you leave behind a footprint. When you participate in an activity or use an item that produces greenhouse gases, you leave behind a **carbon footprint**.

### Parts of a Footprint

Two major components of your footprint are electricity and transportation. We need energy for all of our daily activities, but electricity and transportation require the largest amounts of energy.

Think about all the things you do in the morning before you even leave your home. You may turn off your alarm clock, turn on the light, take a hot shower, get orange juice from the refrigerator, heat up a frozen sausage biscuit in the microwave, or make toast. All of those things require electricity.

In many places, our electricity comes from burning fossil fuels such as coal, natural gas, propane, or heating oil. When they are burned to produce energy, fossil fuels emit

greenhouse gases. Greenhouse gases like carbon dioxide (hear that carbon word in there?) warm the planet and are released every time we use electricity that was created by burning fossil fuels.

How about the juice, sausage, and toast you might have eaten for breakfast? Most of us don't have orange trees, cattle ranches, or wheat fields in our yards. Our food is produced somewhere else. Modern food production usually requires fertilizers. Creating nitrogen fertilizers produces nitrous oxide ( $N_2O$ ), another greenhouse gas. Tilling soil to plant crops like wheat also releases  $N_2O$ . (Thankfully, many crops can be planted without much tillage or fertilizers.) The meat for the sausage requires livestock such as pigs or cows. Raising livestock gives off large amounts of methane ( $CH_4$ ), another greenhouse gas, from livestock waste and gas.

Whenever our food is produced elsewhere, it has to be transported to us. Car-

bon dioxide (CO<sub>2</sub>) and other greenhouse gases are released any time we use gasoline or diesel for transportation, including driving the farm equipment and taking the harvested crops or livestock to a market. When we eat processed foods (like that frozen sausage biscuit), we are contributing to the release of more greenhouse gases because even more energy is used to transport ingredients from one stage of production to another. And then there's all the packaging for our food. Much of it is made of plastic, and fossil fuels are required to make plastic.

There are other components of a carbon footprint that we often forget about. For example, making a polyester shirt takes many steps that can add to our carbon footprint. The polyester began as petroleum (oil), perhaps drilled below the ocean floor off the coast of Nigeria. The petroleum was

transported to another country, where it was changed into separate chemical compounds, and then processed in a third country into a material that can be used to make cloth.<sup>1</sup> Each step required energy for transportation and electricity.

## Shrinking Your Footprint

Does all of this information mean you should make your own clothes, sell your family car, and grow all your own food? Not necessarily. However, by being aware of the impacts caused by the choices you make, you can better choose how large or small your carbon footprint will be.

What are some things you can do to shrink your carbon footprint? Well, for starters you can think twice about the things you do and use every day. Here are some examples of how you can conserve energy and emit less CO<sub>2</sub>:<sup>2</sup>

- Turn off lights, appliances, and electronics when you're not using them.
- Travel on foot, by bicycle, or on public transportation when you can.
- Eat fewer processed foods and less meat.
- Eat more organically grown and more locally grown food.

You can also do things on your school campus to reduce your carbon footprint. Here are a few ideas to get started:<sup>3</sup>

- **Reduce energy use.** Help your school save money and energy by doing an energy audit and finding ways to reduce energy use. Using

	Small Foot	Big Foot
Food	fruits, vegetables, grains, some meat	lots of processed foods and meat
Travel	by bicycle and bus	mostly by car
Home	apartment with energy-efficient appliances	large 4-bedroom house with a lawn
Hobby	riding a skateboard	playing games on the computer
Recycle?	everything	nothing
Carbon Footprint	3 tons of CO <sub>2</sub> per year	8 tons of CO <sub>2</sub> per year

natural daylight saves energy and improves the learning environment.

- **Recycle.** It takes less energy to make an aluminum can, plastic bottle, or piece of paper from recycled materials than from raw materials.
- **Reuse.** Buy used instead of new. It will save you money and it cuts down on the energy that would have gone into making another book, CD, shirt, or gizmo.
- **Walk to school.** Organize a walk to school day,<sup>4</sup> or create a walking school bus.<sup>5</sup>
- **Out with gray. In with green!** Replace concrete and asphalt at school with plants and trees that absorb CO<sub>2</sub>.

Shrinking your carbon footprint doesn't need to be painful. When you shrink your carbon footprint, you're not just giving things up. You're getting a lot, too. By helping to stop climate change, you are working to improve your own **quality of life**. Quality of life is all about making choices that you feel good about.

It's your quality of life. It's your carbon footprint. But the carbon affects us all.

<sup>1</sup>Ryan, John C. and Alan Thein Durning, *Stuff: The Secret Lives of Everyday Things* (Seattle: Northwest Environment Watch, 1997)

<sup>2</sup>Guy Dauncey and Patrick Mazza, *Stormy Weather: 101 Solutions to Global Climate Change* (Gabriola Island, BC: New Society Publishers, 2001).

<sup>3</sup>*Ibid.*

<sup>4</sup>Learn more about International Walk to School at: <http://www.iwalktoschool.org>.

<sup>5</sup>Learn more at: <http://www.walkingschoolbus.org>.

## Vocabulary

**carbon footprint**—a measure of human impacts on Earth's climate through activities that release carbon dioxide (a greenhouse gas); usually reported as weight of carbon dioxide released

**greenhouse gas**—any gas in the atmosphere capable of absorbing infrared radiation (or heat) reflected from the earth's surface, making temperatures on earth warmer

**quality of life**—the level of well-being and physical conditions in which people live

## Checking for Understanding

1. Name three benefits to you and your family created by reducing your carbon footprint.
2. What is one way you can reduce your footprint today, with little or no effort?
3. What, if anything, is stopping you from making this footprint reduction? How can you overcome this obstacle?