



How Big Is Your Carbon Footprint?

The size of your carbon footprint indicates how much impact you have on the environment.

Overview

Complete the Carbon Footprint Survey and color a footprint to show the relative size of your family's impact on the environment.

Greenhouse Gases and Our Carbon Footprint

The light and heat from the sun support life on Earth and provide energy needed for plants to grow. Energy from the sun drives the Earth's weather and climate. The Earth absorbs some of the energy it receives from the sun and radiates (sends out) the rest back toward space. However, certain gases in the atmosphere, called greenhouse gases, absorb some of the energy radiated from the Earth and trap it in the atmosphere. These gases act as a blanket, making the Earth's surface warmer than it otherwise would be.

In the past 100 years or so, humankind has created machines, factories, and vehicles that have greatly increased the amount of greenhouse gases in our atmosphere. This increased level of greenhouse gases means more heat is held in the atmosphere and the Earth is getting warmer. These warmer temperatures are causing changes around the world on land, in the oceans, and in the air. This could upset the delicate balance that sustains life.

Whether we realize it or not, we all emit carbon dioxide, one of the greenhouse gases, through our day-to-day activities. The amount we emit is referred to as our "carbon footprint." The bigger the footprint, the more carbon dioxide that comes from each of us as a result of the choices we make.



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Climate change caused by excess greenhouse gases and a big carbon footprint can cause:

- Heat waves that damage crops, stress livestock, and make life difficult for people.
- More air pollution, which is linked to allergies, asthma, and other health problems.
- Severe storms and flooding due to higher sea levels.
- Loss of habitat as the climate changes, particularly in Arctic regions.

Families can help reduce their carbon footprint by focusing on four major areas that generate excess carbon dioxide: housing and household energy use, transportation, personal habits, and recycling. In this game, you'll have the chance to estimate the relative size of your family's carbon footprint as well as learn easy ways you can help reduce it.

Materials:

- Carbon Footprint Survey sheet, one per family team
- Carbon Footprint drawing
- Crayons, markers, or colored pencils in the suggested colors

The Carbon Footprint Survey will ask a series of questions that will direct the participant to color lines around the footprint drawing. The more greenhouse gases you produce, based on your answers, the bigger the carbon footprint grows. Different color crayons will represent the four categories of behavior surveyed:

- Housing and Home Energy: **RED**
- Transportation: **BLUE**
- Personal Habits: **GREEN**
- Recycling Habits: **BROWN**



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Carbon Footprint Survey: How Big Is Your Family's Carbon Footprint?

Some of our lifestyle choices and day-to-day activities emit excess carbon dioxide and other greenhouse gases into the atmosphere. The amount of greenhouse gases we produce is referred to as our "carbon footprint." Too much carbon dioxide and other greenhouse gases in our atmosphere can lead to unnatural climate change, which can have a harmful effect on our planet. Take this survey to get a sense of the size of your family's carbon footprint.

Housing and Home Energy

1. If you live in a single-family home, color 4 rings **RED**; if you live in an apartment or other type of home, color 2 rings **RED**.
2. If you **don't** use energy-efficient light bulbs such as CFLs (compact fluorescent), color 1 more ring **RED**.
3. If your home **doesn't** have a programmable thermostat, color 1 more ring **RED**.
4. If you are **not** familiar with the Energy Star appliance rating system, color 1 more ring **RED**.

Transportation

5. For every small car in your family, color 1 ring **BLUE**.
6. For every medium or large car in your family, color 2 rings **BLUE**.
7. If you **don't** regularly change the air filter on your car and check the tire pressure, color 1 more ring **BLUE**.
8. For every airplane trip you've taken in the past year, color 1 more ring **BLUE**.

Personal Habits

9. If you are a vegetarian, color 1 ring **GREEN**; if you are **not** a vegetarian, color 2 rings **GREEN**.
10. If you **never** eat organic food, color 1 more ring **GREEN**.
11. If you take baths, run the faucet while brushing your teeth or washing dishes, or water your lawn several times a week, color 1 ring **GREEN**.

Recycling and Waste

12. If you usually recycle your household trash, color 1 ring **BROWN**; if you **never** recycle, color 2 rings **BROWN**.
13. If you **never** compost your yard and kitchen waste, color 1 more ring **BROWN**.

Now read on to learn what you can do to reduce the size of your carbon footprint.



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What can you do to reduce the size of your carbon footprint?

1. Single-family homes generally consume more energy per resident than multifamily housing such as apartment buildings. But no matter where you live, there are things you can do to reduce the amount of energy your home uses, thus reducing your carbon footprint.
2. Energy-efficient light bulbs such as compact fluorescent and LED light bulbs consume less electricity than conventional incandescent light bulbs. Change your household fixtures to CFLs and you'll save money on your household energy bills, too.
3. A programmable thermostat turns your home's heating or air-conditioning up and down automatically, depending on the time of day. When your home's energy system is working efficiently, it wastes less energy, thus reducing your carbon footprint.
4. Energy Star rated appliances use less energy. When purchasing new appliances such as a refrigerator, range stove, microwave, or air conditioner, look for the Energy Star label to save energy, save money, and reduce your carbon footprint.
5. All gasoline-powered automobiles emit carbon dioxide.
6. The larger the car, the more carbon dioxide is emitted.
7. Cars that are properly maintained are more energy-efficient. Be sure to regularly change the air filter and make sure the tires are always properly inflated.
8. Virtually all modes of transportation consume energy, thus they impact your carbon footprint.
9. The growing, processing, packaging, delivery, and distribution of food requires energy from farms, factories, trucks, grocery stores, and more. Because a vegetarian diet does not include meat, a vegetarian tends to have a smaller carbon footprint than does a nonvegetarian.
10. The production of organic food puts less stress on the environment, so your carbon footprint is smaller if you tend to eat organic food.
11. Water that goes down our drains and sewers must be processed through water treatment plants, even if the water is clean. Using only the amount of water you really need helps reduce your carbon footprint.
12. Recycling is good for the environment because it keeps excess waste out of landfills and trash incinerators. If you recycle on a regular basis, your carbon footprint is smaller.
13. Composting is good for the environment because it keeps kitchen and garden waste out of the trash and it encourages natural gardening practices. If you compost at your house, your carbon footprint is smaller.

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Your Carbon Footprint

Based on the Carbon Footprint Survey, color the rings around the footprint (start from the center) to estimate the relative size of your family's carbon footprint. What can you and your family do to reduce the size of your carbon footprint?

