# Carbon Calculator Student Guide

In this activity you will:

1. Examine your personal and household habits and choices in relation to your carbon footprint.
2. Identify which of your personal activities and household choices produce the most $CO_2$ emissions.
3. Compare your carbon footprint to the U.S. and global average.
4. Identify lifestyle changes you can make to reduce your footprint.

In this learning activity, you will use a Web-based carbon calculator to determine your carbon footprint. The carbon calculator is divided into 3 general areas (**Household**, **Transportation,** and **Food**) that scientists have determined to be main contributors to $CO_2$ emissions at an individual and household level. Each section of the carbon calculator includes questions that will help you understand how much of an impact you are having on the environment. A final tab (**Analysis)** keeps track of your results and will help you understand the impact of your carbon footprint.

## Step 1: Download Data

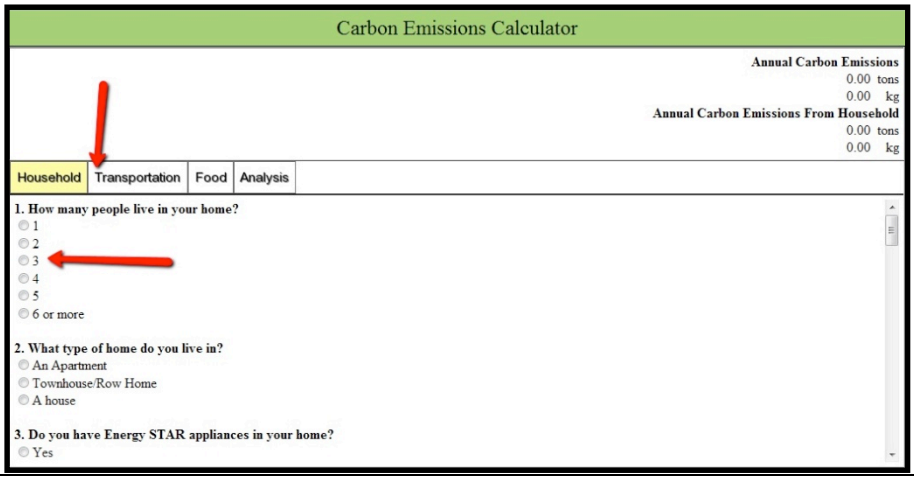
1. Open your Web browser. Go to **www.ei.lehigh.edu/learners/cc/.**

2. Click **Carbon Calculator.**

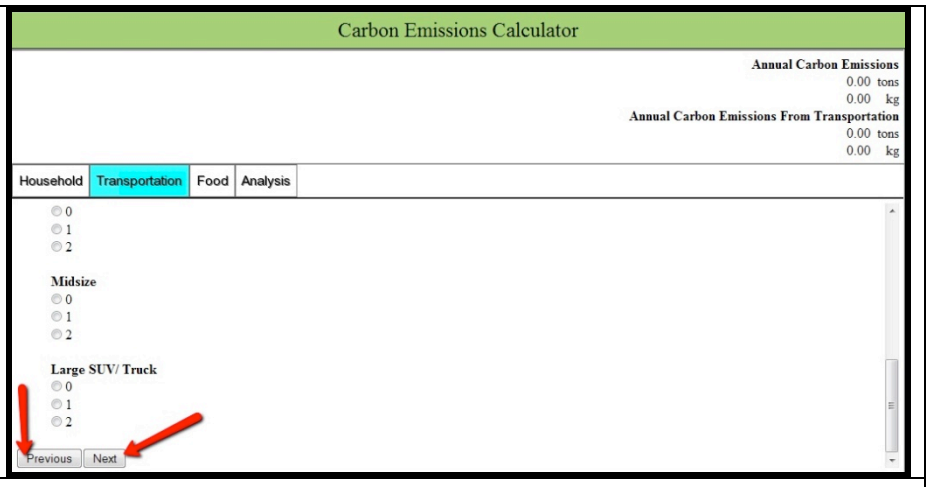
## Step 2 : Carbon Calculator Overview

1. The carbon calculator Web site has 4 tabs across the top - Household, Transportation, Food, and Analysis. Each tab contains a different section of the carbon calculator.

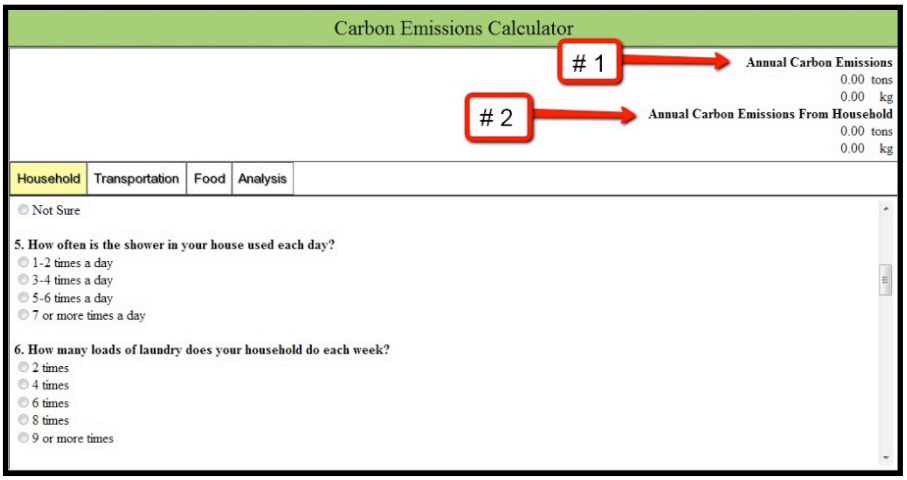
2. Beneath the first 3 tabs - Household, Transportation, and Food - are a series of questions that you will answer. Each response produces a $CO_2$ emissions value.



3. After you have completed your responses to all questions in a section, you can use the **Next** or **Previous** buttons to move back and forth between the different sections. In addition, you can navigate to a different section by selecting a tab at the top of the page.

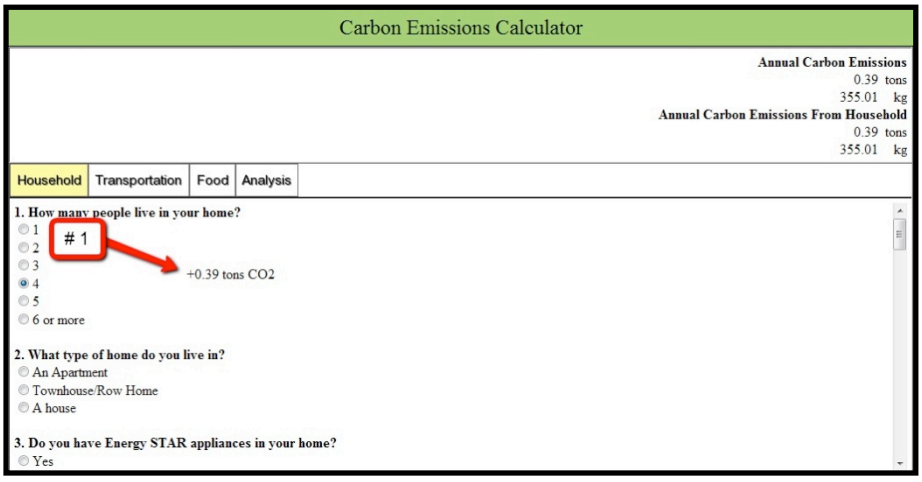



4. In the top right corner of the Web page, the calculator displays the **total annual amount of $CO_2$ emissions** in both tons and kilograms for the displayed section (# 2). A grand **$CO_2$ emissions total** of all 3 sections of the calculator is also displayed (# 1).




5. The calculator will also display the total amount of carbon produced for each response to a question (# 1).

6. The **Analysis** section contains graphical $CO_2$ emissions summaries that are produced based on your responses to each section. Comparison graphs of US and global $CO_2$ emissions are also located in this section of the carbon calculator.



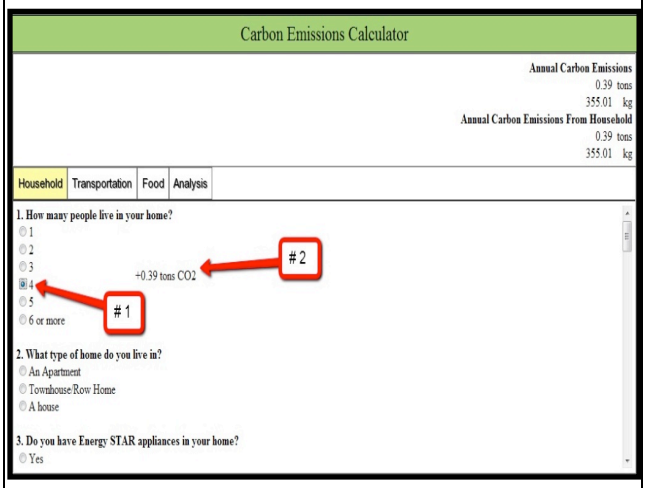
## Step 3 : Using the Carbon Calculator

1. Answer a question by clicking a selection button underneath a question (See #1 to the right). You can change your answer by clicking a different selection button.

2. A $CO_2$ emissions value (# 2) is associated with each answer. This value is added to your total emissions for that section and your overall annual $CO_2$ emissions.

3. You should observe how much each activity increases or decreases your annual $CO_2$ emissions (#2 to the right). This will help you in answering the **Analysis** questions.

4. To navigate between different tabs you can use the **Next** or **Previous** buttons at the bottom of the page. You can also select the tabs at the top of the page.



## Step 4 : Carbon Calculator Analysis

1. Starting with the **Household** tab answer all 18 questions in this section. Use the scroll bars in the Carbon Calculator to view all the questions further down the page.

2. After you have answered all of the questions in this tab, navigate to the **Transportation** tab by selecting **Next** at the bottom of the page.

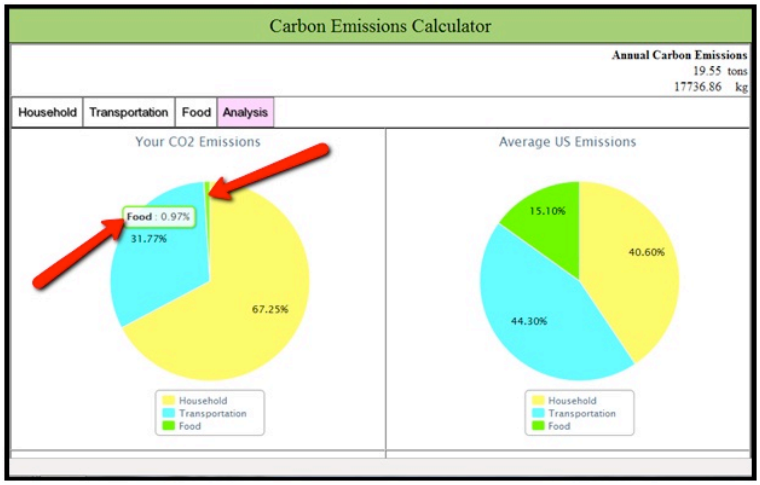
3. After answering all of the questions in the **Transportation** tab, navigate to the **Food** tab by selecting **Next** at the bottom of the page.

4. After answering all of the questions in the 3 sections, navigate to the **Analysis** section.

5. The **Analysis** page provides a summary of the total $CO_2$ emissions and displays the $CO_2$ emissions data by each section.

6. The left pie chart displays the percentage breakdown of your total $CO_2$ emissions by section. For comparison, the right pie chart displays the percentage breakdown by section produced by the average United States citizen.

7. If a $CO_2$ emissions section is less than 5% of the total, you will need to scroll the mouse over that section to view the breakdown. See the image below.




8. The lower bar graphs displays your total $CO_2$ emissions, the average United States citizen emissions (27 tons of $CO_2$ annually), and the average global citizen emissions (5 tons of $CO_2$ annually).

9. After reviewing the **Analysis** page, answer questions **# 1-8** on the **Student Investigation Sheet**.