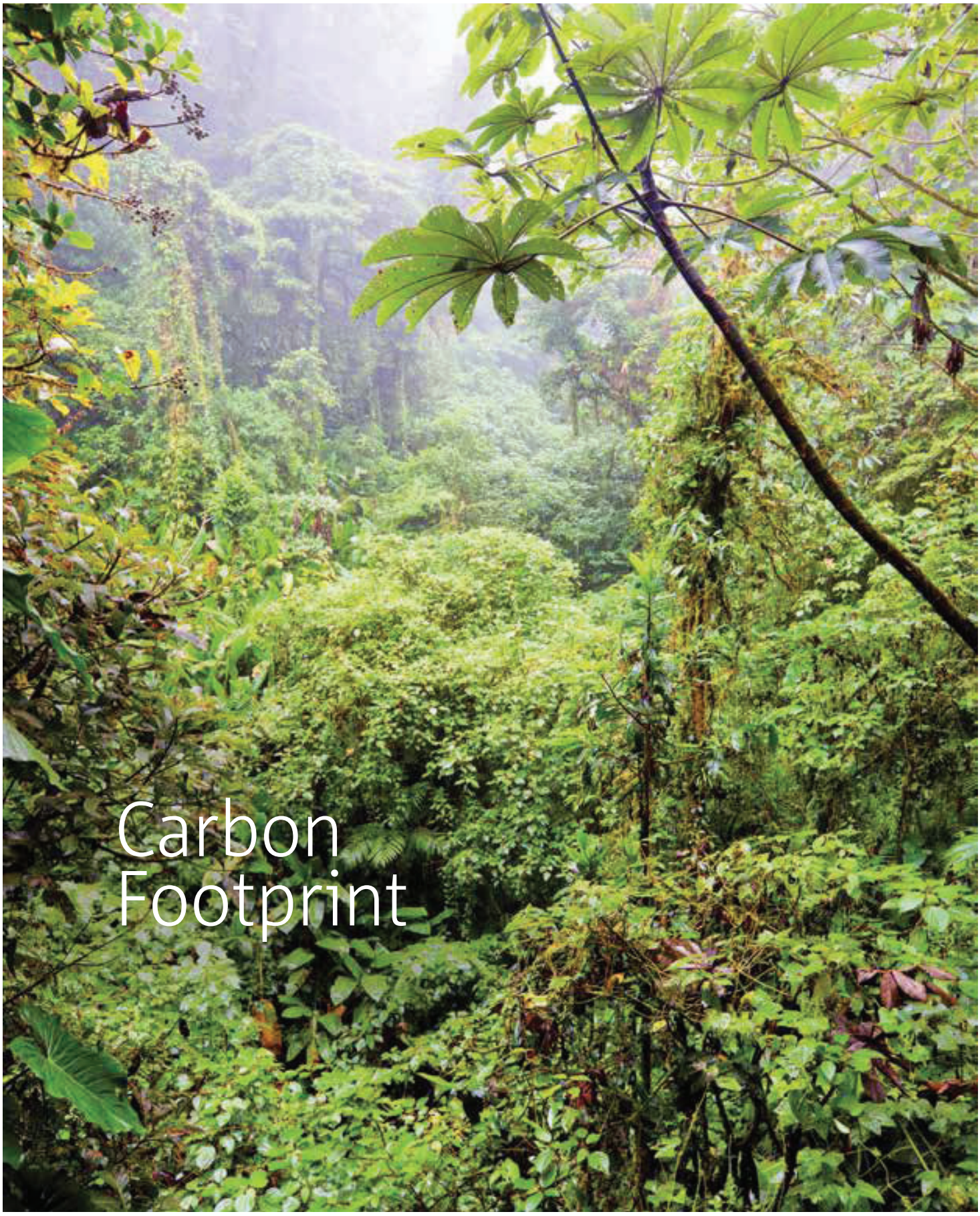

Carbon
Footprint

What's your carbon footprint?

Studies show that human activity is causing major changes to Earth's climate. Leaders in environmentalism share a sense of responsibility towards preventing further global climate change and improving the overall state of the environment. These leaders are innovative thinkers who dedicate themselves to preserving the planet. The lessons and activities in this section are designed to encourage your development as an environmental leader.

Step 1: Understanding

On your journey to become a responsible global citizen, you should consider the opportunity to make a difference in the world, no matter how big or small. You may think the actions of one person will not make an impact, so you aren't motivated to change. If you have thought this at one time or another, you are not alone. Many people decide not to worry about the consequences of their actions because they are convinced that it wouldn't make a difference anyway. Imagine if every individual in every country thought this way. What are the effects of this perspective? How would our world be different?

As you ponder these questions, consider one important topic: the emission of carbon dioxide and its affect on our planet. Carbon dioxide is one of the most important greenhouse gases. Greenhouse gases trap heat in the atmosphere which, in turn, contributes to global warming. This warming in average world temperatures will continue to melt glaciers and polar ice, increase the mean sea level, and increase the frequency of extreme weather and natural disasters. If the global climate change trend continues, these changes in the environment may alter the Earth forever.

One way to help fight this trend is to be aware of your own carbon footprint. Your carbon footprint is the impact your activities have on the environment, particularly the climate change. This figure is usually expressed in equivalent tons of carbon dioxide (CO_2). Whether you realize it or not, you are constantly engaged in activities throughout the day that contribute to your carbon footprint.

What's Your Carbon Footprint? *continued*

Step 2: Awareness

Producing some level of CO_2 is inevitable, but as a responsible world citizen you should make a conscious effort to reduce your own carbon footprint. You can do this by taking part in activities and making decisions that require less carbon dioxide. A simple choice like using cold water instead of hot water to wash clothes reduces your carbon footprint which, in turn, decreases the greenhouse gas effect on global climate change. If everyone made minor adjustments to their daily life, there would be a measurable difference in the global climate change trend.

"Nobody made a greater mistake than he who did nothing because he could only do a little."

—Edmund Burke
Statesman and Philosopher

Calculate an estimate of your carbon footprint. You may need to ask for help with some general information.

Calculation

_____ A = Average monthly electric bill x 105

_____ B = Average monthly gas bill x 105

_____ C = Average monthly oil bill x 113

_____ D = Total yearly gas mileage x 0.79 (AAA estimates the average American travels 12,000 miles per year)

_____ E = Number of flights per year that are 4 hours or less x 1,100

_____ F = Number of flights per year that are 4 hours or more x 4,400

_____ G = Do you recycle paper? Yes = 0, No = 184

_____ H = Do you recycle aluminum and tin? Yes = 0, No = 166

Equation:

A + B + C + D + E+ F + G + H = _____ Your Carbon Footprint

My carbon footprint is: (circle one)	
Below 6,000	Excellent
Between 6,000 - 15,999	Great
Between 16,000 - 21,999	Average
Over 22,000	Needs Work

Step 3: Action

Now that you have estimated your carbon footprint, you have been charged with the responsibility of reducing it.

Take a look at the several suggestions below to help you. Highlight or circle at least three actions that you can try to implement in your daily routine for at least two weeks. All these actions, multiplied by everyone's efforts, can really add up!

Action	How to Do it	Why it Helps
Reduce air conditioning	Go without air conditioning in the car. Stay cooler by finding a shady parking spot, opening the windows, or using sun shades. At home, open windows to let in natural air instead of turning on the AC.	Air conditioning puts enormous demands on the electrical system. In the US, most electricity is produced by burning coal. Air conditioning contributes to dirty air, acid rain, and global climate change.
Ridesharing	Take turns driving with your neighbors and friends. Carpooling makes a lot of sense when you're going to and from school, after-school practices, or out-of-town tournaments.	Vehicles are responsible for one-third of the carbon dioxide emitted into the atmosphere, contributing to global climate change.
Buy local groceries	At the grocery store, read the signs to see where your fruits and vegetables come from. If they're coming from halfway across the world, try shopping at a farmers market instead.	Most of our food is carried on large hauling trucks that release a lot of carbon dioxide. It's better for the environment to eat foods grown nearby that require no long distance shipping.
Choose organic	Choose to eat organic food during one meal of the day.	Organic agriculture uses less energy than other farming methods and reduces carbon dioxide emissions.
Drink fewer carbonated drinks	Choose to drink water, tea, or juice instead of soft drinks.	Carbonated drinks aren't great for the environment. They contain high amounts of sugar which requires a lot of water to make.
Wash clothes in cold water	Instead of washing your laundry in hot or warm water, use cold water.	Heating water takes energy, and a top-loading washing machine uses about 160 liters (42 gallons) of water per load.
Unplug electronics	Unplug things like your television, cell phone charger, computer, DVD player, or anything else that has a transformer (a black box around the plug or on the cord). Turn off your computer monitor or get a black screensaver.	This will save energy since electronics still use a small amount of power even when you switch them off.

What's Your Carbon Footprint? *continued*

Write down the actions you implemented in your daily life over a two-week period. Don't forget to record dates so you don't skip a day.

Week One	Description	Week Two	Description
Monday		Monday	
Tuesday		Tuesday	
Wednesday		Wednesday	
Thursday		Thursday	
Friday		Friday	
Saturday		Saturday	
Sunday		Sunday	

Are you curious about national carbon footprints? Check out this information!

Rank	Country	Annual CO_2 emissions (in metric tons)	Percentage of global total
1	China	10,877	29.34%
2	United States	5,107	13.77%
3	India	2,455	6.62%
4	Russia	1,765	4.76%
5	Japan	1,321	3.56%
6	Germany	797	2.15%
7	South Korea	673	1.82%
8	Iran	671	1.81%
9	Saudi Arabia	639	1.72%
10	Canada	617	1.66%
11	Indonesia	511	1.38%
12	Mexico	507	1.37%
13	Brazil	493	1.33%
14	South Africa	468	1.26%
15	Turkey	430	1.16%
16	Australia	402	1.08%
17	United Kingdom	379	1.02%
18	Italy	361	0.97%
19	France	338	0.91%
20	Poland	319	0.86%
	World	37,077	100.00%

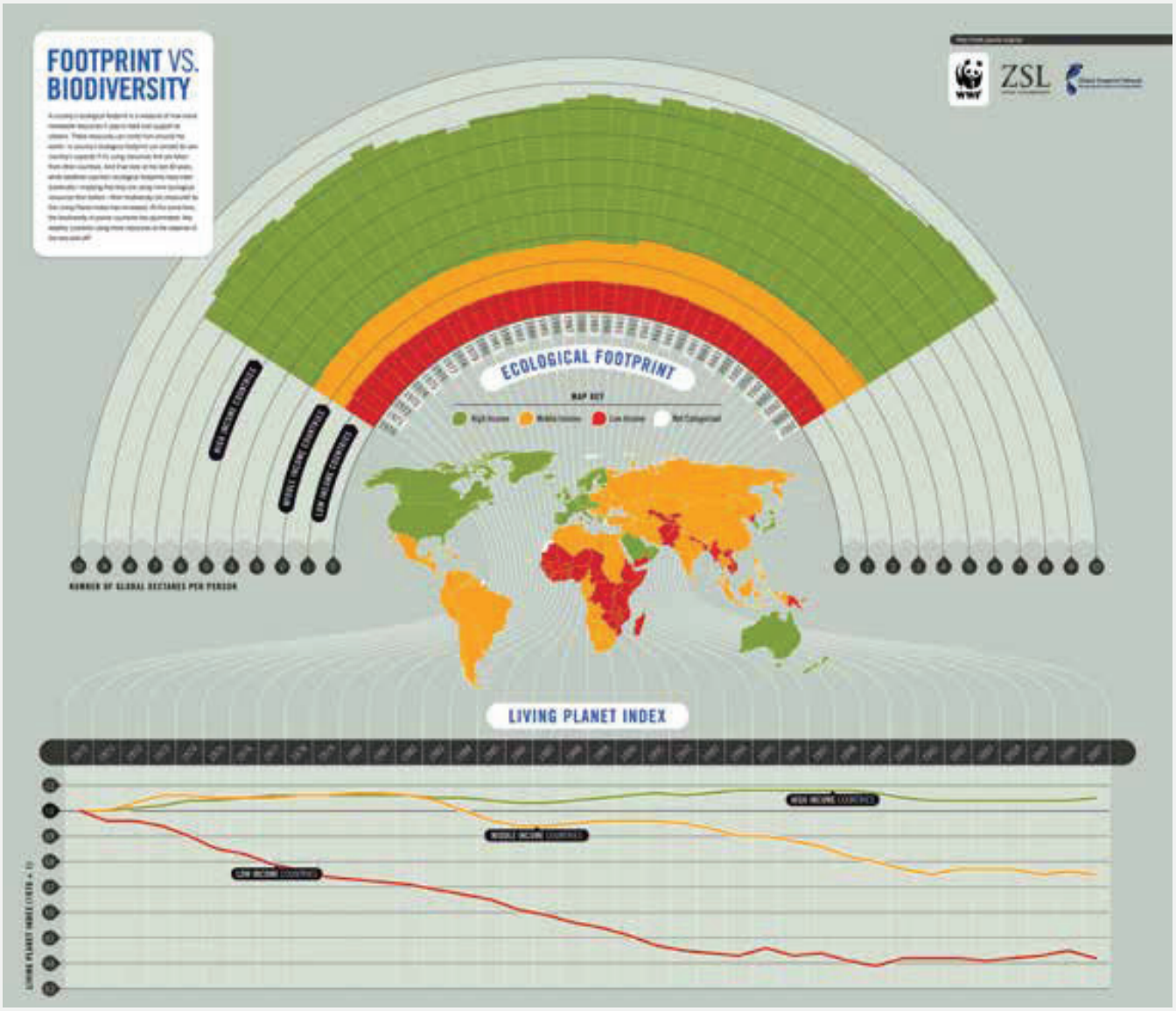
Step 4: Comparison

The chart to the left shows the 20 countries with the highest CO_2 emissions in the world as of 2018.

How does the country you are visiting compare to your home country?

*Go online and search for a report that reflects both countries' **current** CO_2 emission levels. How do they compare?*

Why should we care about the level of our country's CO2 emissions? What will happen in 5, 10, 20, or 100 years if we continue at the present rate?



Footprint vs. Biodiversity

A country's ecological footprint is a measure of how many renewable resources it uses to feed and support its citizens. These resources can come from around the world—a country's ecological footprint can exceed its own capacity if it's using resources that are taken from other countries. And if we look at the last 40 years, while wealthier country's ecological footprints hace risen drastically—implying they are using more ecological resources than begore—their biodiversity (as measured by the Living Planet Index) has increased. At the same time, the biodiversity of poorer countries has plummeted. Are wealthy countries using more resources at the expense of the less well off?

Country Categorization

High Income: *Andorra, Antigua and Barbuda, Australia, Austria, Bahamas, Bahrain, Barbados, Belgium, Bermuda, Brunei Darussalam, Canada, Cayman Islands, Channel Islands, Cyprus, Denmark, Equatorial Guinea, Finland, French Polynesia, Germany, Greece, Guam, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Republic of Korea, Kuwait, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Netherlands Antilles, New Caledonia, New Zealand, Norway, Oman, Portugal, Puerto Rico, Qatar, San Marino, Saudi Arabia, Singapore, Spain, Sweden, Switzerland, Trinidad and Tobago, United Kingdom, United States, US Virgin Islands.*

Middle Income: *Albania, Algeria, American Samoa, Angola, Argentina, Belize, Bhutan, Bolivia, Brazil, Bulgaria, Cameroon, Cape Verde, Chile, China, Colombia, Congo, Costa Rica, Cuba, Djibouti, Dominica, Dominican Republic, Ecuador, El Salvador, Gabon, Grenada, Guatemala, Guyana, Honduras, India, Indonesia, Islamic Republic of Iran, Iraq, Jamaica, Jordan, Kiribati, Lebanon, Libyan Arab Jamahiriya, Malaysia, Maldives, Mauritius, Mayotte, Mexico, Mongolia, Morocco, Namibia, Nicaragua, Panama, Paraguay, Peru, Philippines, Poland, Romania, Saint Lucia, Saint Vincent and Grenadines, Samoa, Seychelles, South Africa, Sri Lanka, Sudan, Suriname, Syrian Arab Republic, Thailand, Timor-Leste, Tonga, Tunisia, Turkey, Uruguay, Vanuatu, Bolivarian Republic of Venezuela.*

Low Income: *Afghanistan, Benin, Burkina Faso, Burundi, Côte d'Ivoire, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, Kenya, Democratic People's Republic of Korea, Liberia, Madagascar, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Nigeria, Pakistan, Papua New Guinea, Senegal, Sierra Leone, Solomon Islands, Somalia, Togo, Uganda, Vietnam, Yemen, Zimbabwe.*

Step 5: Challenge

The United States, one of the world's largest carbon dioxide emitters, has realized Americans need to make more of an effort towards reducing the country's emission level of CO_2. The government selected you to be the head of the CO_2 emission level reduction team. You must devise an effective six-word motto that will become the slogan for the country to help reduce the national carbon footprint.
Use the infographic and data on the previous pages to research what an ecological footprint is and view the comparison between different nations.

Step 6: Make a Motto

The US is only one country. Let's think globally. See what other countries' efforts have been, and think about what specific measures all are taking to fight this global dilemma. What are our governments doing differently to monitor emission levels and control the ecological footprints of our countries? Keep in mind that private companies and corporations can do their part as well! Recent studies have shown that as few as 20 companies are responsible for a third of all global carbon emissions. Now, create a **six-word motto** that captures the goal to reduce the carbon footprint in this moment. Your goal is to solicit "statements of value" for a place in need of renewed focus. The fate of the world rests in your hands and we need a motto that will unite and bring us together for this one goal: to reduce the world's carbon footprint.

Notes:

Motto: