REDUCING YOUR CARBON Footprint

1 FOCUS ON THE TOPIC

1. Look at the photo. Is this something happening now, in the near future, or in the distant future?

2. Over the past 100 years, temperatures and weather patterns around the world have changed. There are more storms, floods, and extreme temperatures. What extreme weather have you heard about or experienced?

3. Scientists believe that climate change is caused by global warming. Global warming is an increase in temperatures all over the world. What do you think might be some of the causes of global warming?

LISTENING ONE LIVING SMALL

VOCABULARY

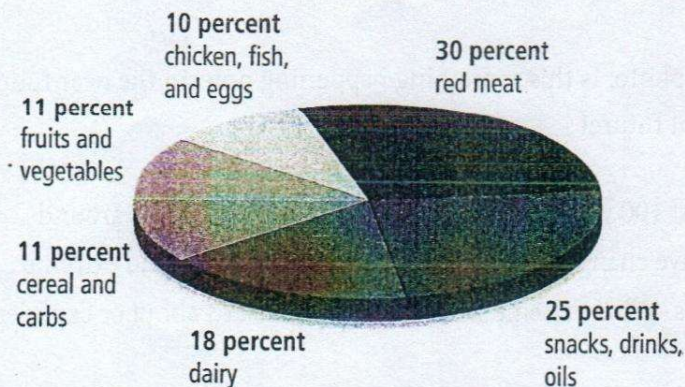1 🎧 Read and listen to the article about how our lifestyle can affect global warming. Notice the boldfaced words.

PERSONAL CARBON FOOTPRINT

Your *personal carbon footprint* is the amount of carbon dioxide (CO_2)[1] that you put into the air when you drive a car, fly in an airplane, or use electricity made by burning coal[2] or gas.
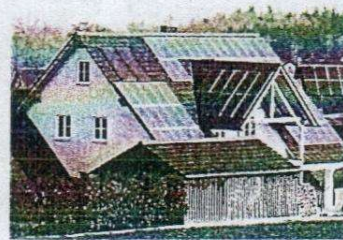
CO_2 and other **greenhouse gases** have a serious impact on the environment. They make Earth warmer, causing climate change.

Even the food you eat affects your personal carbon footprint. A diet that includes a lot of meat creates a bigger footprint, while the footprint of a vegetarian diet is smaller. This is because a lot of **resources** are used to raise animals and **transport** meat from the farm to your table.
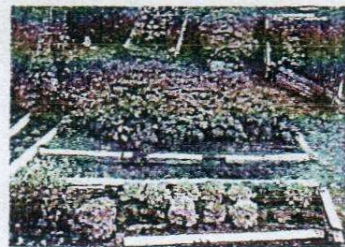
Foods: sources of greenhouse gas emissions

10 percent
chicken, fish, and eggs

30 percent
red meat

11 percent
fruits and vegetables

11 percent
cereal and carbs

18 percent
dairy

25 percent
snacks, drinks, oils

Ways to Reduce Your Personal Carbon Footprint

Install **solar panels** to make electricity for your house.
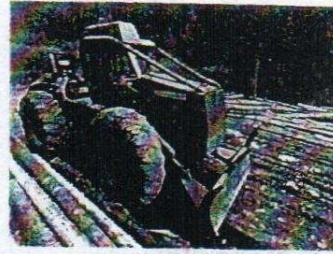
Grow vegetables in a raised **bed** in your garden.

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[1] **carbon dioxide:** often called CO_2 in speech and writing
[2] **coal:** a hard, black mineral that is dug out of the ground and burned to produce heat

What can we do to protect the environment for future generations? Collectively, we must reduce our energy consumption. Start with simple changes to reduce your own carbon footprint. For example, skip a serving of meat each week. It may seem like a **drop in the bucket**, but it's equal to driving 320 miles (515 kilometers) in a car.

Protect and plant trees. **Dense** forests around the world are being cut down to make room for farms. This causes a faster increase in greenhouse gasses. Trees have a positive impact on climate by taking CO_2 out of the air. Forests take in nearly 40 percent of human-made CO_2.

2 Complete the definition. Circle the best answer.

1. **greenhouse gas:** a gas, especially carbon dioxide (CO_2) or methane (CH_4), that traps _____ above the Earth and causes global warming

   a. water

   b. heat

   c. pollution

2. **resource:** a supply of something _____ such as land, oil, or coal

   a. useful

   b. expensive

   c. big

3. **transport:** to _____ goods or people _____

   a. keep . . . in one place

   b. take . . . from one place to another in a vehicle

   c. look for . . . that can be helpful

4. **generation:** all people _____

   a. living together

   b. of about the same age

   c. in the same country

(continued on next page)

5. **collectively:** _____

   a. as a group

   b. alone

   c. with friends

6. **consumption:** the _____ of energy, oil, or electricity

   a. use

   b. cost

   c. selling

7. **a drop in the bucket:** an action that has _____ effect

   a. a big

   b. little or no

   c. an unexpected

8. **solar panel:** equipment that makes energy from the _____

   a. sun

   b. wind

   c. ocean

9. **(raised) bed:** an area in a garden that is used to _____

   a. keep chickens

   b. collect trash

   c. grow plants

10. **dense:** made of a lot of things that are very _____

    a. small

    b. far apart

    c. close together

PREVIEW

Julia Peters is trying to leave a small carbon footprint. She describes her life in a podcast.

🎧 Listen to an excerpt from Julia's podcast. Which topics will she mention in the podcast? Check (✓) your predictions.

_____ **a.** driving an hour to work

_____ **b.** growing food

_____ **c.** using solar energy

_____ **d.** cutting forests to build houses

_____ **e.** living with other people

_____ **f.** starting a large chicken factory

MAIN IDEAS

1 🎧 Listen to the whole podcast. Look again at your predictions from the Preview section. How did your predictions help you to understand the podcast?

2 Complete each statement. Circle the correct answer.

1. Julia lives with a small carbon footprint to _____.

   a. save money

   b. protect Earth for future generations

   c. live a healthy life

2. Julia grows her own food because _____.

   a. food from the store has been transported from far away

   b. the stores near her house don't have fresh vegetables

   c. her garden has many raised beds

3. Julia has solar panels to _____.

   a. produce all the energy for her house

   b. avoid using energy that comes from coal

   c. encourage her neighbors to use clean energy

4. Julia shares her house with other people because _____.

   a. she likes living with friends

   b. the government gives her money for sharing

   c. it saves energy

5. Julia believes that the efforts of _____ can help to make a change.

   a. the government

   b. one person

   c. her family

DETAILS

Listen again. All the statements contain some FALSE information. Cross out the parts that are untrue and write corrections.

                                                Peters

1. The speaker's name is Julia ~~Smith~~.

2. Julia lives in San Francisco, California.

3. She lives in an old house.

4. Julia says that she grows carrots, basil, and squash in her yard.

5. For the average American, the food he / she eats has traveled 500 miles.

6. In the summer Julia's chickens lay about two eggs a day.

7. If we don't reduce our coal consumption, the average temperature of the earth will increase two or three degrees.

8. There are three people living in Julia's house.

9. It's difficult for one person to have an impact on climate change when there are 4 billion people on the planet.

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MAKE INFERENCES

INFERRING CONTRAST FROM CONTEXT

A speaker may indirectly express a contrast between two situations. The listener can infer the contrasting ideas based on the context.

In the listening, Julia implies that her life is different from the lives of most Americans. Notice the boldfaced words.

Example

Here in the backyard, you can see, *it's not much of a yard. There's not much grass.* We've taken out most of the grass to put in raised beds so that we can grow more of our own food.

Julia is *implying* that her yard is different from most other yards and that most Americans have grass instead of raised beds.

1. Listen to the excerpts. Julia explains what she does and implies what most Americans do. Complete the chart.

	WHAT JULIA DOES	WHAT MOST AMERICANS DO
EXCERPT 1		
EXCERPT 2		

2. Work with a partner. Talk about the information that helped you find the answers.

EXPRESS OPINIONS

Discuss the questions with the class.

1. What do you think about Julia's way of "living small"? Would you want to live like she does? Why or why not?

2. Are Julia's efforts just "a drop in the bucket," or do you think that her actions can have an impact on global warming?

3. In what ways is Julia's lifestyle different from the way people live in your home country? In what ways is it similar?

VOCABULARY

1 Read the fact sheet. Notice the boldfaced words.

FACT SHEET

1. The motor vehicle **industry** is one of the top 10 areas of manufacturing in the United States.

2. **Factories** in China produce 25 percent of the automobiles in the world.

3. Newer cars are more **energy-efficient**, so they need less gasoline than older cars.

4. New **technology**, such as radar to help cars drive backwards, will make cars easier and safer to drive.

5. Newer cars use less gasoline, and this reduces their carbon dioxide (CO_2) **emissions**.

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2 Match the boldfaced words with the definitions. Write the words.

_____ **a.** gases that go into the air

_____ **b.** using less of a resource (gas, oil, water)

_____ **c.** buildings where products are made by machines

_____ **d.** a group of businesses that make the same type of product

_____ **e.** machines that are based on modern knowledge of science and computers
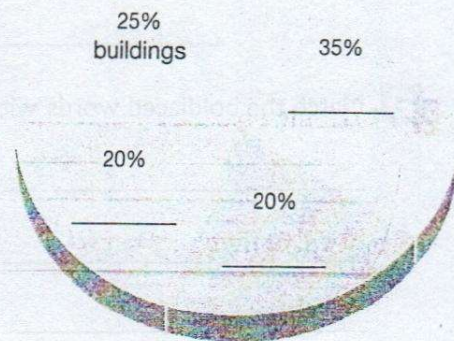
COMPREHENSION

🎧 Listen to the speech at an environment rally. Then answer the questions.

1. Label the percentages in the graph with the source of CO_2 emissions.

    a. making electricity

    b. transportation

    c. industry (businesses and factories)

25%
buildings   35%

20%

20%

2. What is the main point the speaker is trying to make? Circle the correct answer.

    a. Factories and businesses produce a lot of pollution.

    b. Government and industry need to do more to reduce carbon emissions.

    c. Individuals should do more to reduce their personal carbon footprints.

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LISTENING SKILL

1 🎧 Listen to an excerpt of the speech "A Call to Action." What words or phrases does the speaker repeat?

REPETITION TO EMPHASIZE A POINT

Speakers repeat words, phrases, and grammatical patterns to make their points stronger or to signal that they are important. The repetition also creates a rhythm (like a song or poem) that sounds good to the listener. Repetition is especially common in public speeches.

🎧 Listen to the example. Notice the boldfaced words and the underlined patterns.

Example

It's not enough for individuals to **change**. <u>We need</u> governments <u>to</u> **change**. <u>We need</u> industry <u>to</u> **change**. <u>We need</u> big **changes** if we want to stop global warming from destroying our planet.

The speaker repeats the word *change* and the pattern *we need _____ to _____*. The repetition makes the statement stronger and emphasizes the need for change.

2 🎧 Listen to the excerpts. Fill in the missing words in the repeated grammatical patterns. Then answer the questions.

Excerpt One

_____ government and industry _____ together to lower these emissions. _____ new, cleaner technology to heat our homes, power our factories, and _____ the lights on.

1. What words and / or grammatical patterns are repeated? _____

2. What ideas is the speaker trying to emphasize? _____

Excerpt Two

_____ government and industry _____ together to build more energy-efficient cars and trucks. _____ more public transportation.

1. What words and / or grammatical patterns are repeated? _____

2. What ideas is the speaker trying to emphasize? _____

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