Changing Planet

UNIT 3

Lesson A Vocabulary and Grammar

A Complete the sentences with the words in the box. One word requires a different form.

created	effects	experienced	law	level	negative	pollution	quality	thick	vehicles

1. They printed the photos on very high-_____ paper.
2. The government passed a _____ against industries that pollute.
3. The research reveals dangerous _____ of plastics in the ocean.
4. The negative _____ of her actions surprised Jane.
5. The new public transport system reduced the number of _____ on our streets.
6. The _____ answer disappointed us.
7. _____ causes serious health problems.
8. _____ fog makes driving very dangerous.
9. The energy company _____ thousands of new jobs.
10. They _____ something new and exciting.

Lesson B Listening

A 6 **Listen to the conversation. Circle the correct options to describe the speakers' project.**

Miguel and Shaniqua are making a *quote* / *video* about the effects of *nature* / *pollution*.

B 6 **Listen again and write *T* (true), *F* (false), or *DS* (doesn't say). Correct the false sentences in your notebook.**

_____ **1.** Miguel found something he and Shaniqua can use for their project.
_____ **2.** Greenpeace used the exact words somebody else said.
_____ **3.** The article gives the name of the person who said the words.
_____ **4.** Shaniqua agrees they should change the words.
_____ **5.** Miguel has a store.
_____ **6.** Miguel is from Bolivia.
_____ **7.** There are a lot of rivers in Bolivia.
_____ **8.** Miguel and Shaniqua agree on the message they want in their project.

C 6 **Match the words to the definitions. Then listen again and check your answers.**

_____ **1.** chemical	**a.** something that may kill you if you breathe, eat, or drink it
_____ **2.** destroy	**b.** the exact words that someone has said or written
_____ **3.** organization	**c.** something produced in factories or laboratories
_____ **4.** poison	**d.** damage something so much that it cannot be used or repaired
_____ **5.** profit	**e.** a group of people who work together for a specific purpose
_____ **6.** quote	**f.** the price of something minus the money it cost to produce it

D 6 **Listen again and complete the quote.**

"When the last (1) _____ is (2) _____, when the last (3) _____ has been (4) _____, when the last (5) _____ has been (6) _____, then we will find out that we (7) _____ eat (8) _____."

B Complete the paragraphs with the correct form of the words and phrases in the box. Four words and phrases do not need to change.

damage	extreme weather events	heatwave	hit
often / kill	snowstorm	tornado	usually / cause

There are two types of (1) _____: the ones that happen when they are not expected—for example, out of season—and the ones that happen in season but are much more intense than normal. A lot of damage (2) _____ by both types.

An example of the first type is a (3) _____ in spring. The white stuff can be beautiful to look at, but growing plants (4) _____ by it. Furthermore, the sudden drop in temperature affects insects and flowers in fruit trees, which may freeze and die.

Other types of extreme weather can be dangerous in any season. For example, elderly people (5) _____ during a (6) _____. The high temperatures can also start wildfires that destroy people's homes and land. Also, when an area (7) _____ by a (8) _____, the strong wind damages everything in its path.

What Can One City Do?

In 2008, Naema Omar decided to improve her 80-year-old house in Cambridge, Massachusetts in the United States, and make it **energy-efficient**. Firstly, to keep the heat inside in the winter, she filled the space inside the walls with **insulation**. This is usually made from chemicals, but in her house, she used something new—insulation made from recycled blue jeans and other clothes. Secondly, she replaced the windows. And lastly, she put in energy-efficient LED **lightbulbs** that use only a tiny amount of electricity. They also last 50 times longer than traditional lightbulbs.

Naema was able to do this because the Cambridge City Council had created the Cambridge Energy Alliance (CEA) the year before to encourage energy efficiency and solar power. CEA's goal was to help residents and businesses save money and reduce the city's carbon **emissions**.

The city council had started to work on reducing global warming as early as 1999. In May that year, it had voted to join Cities for Climate Protection, an international group of communities that work to reduce environmental damage from fossil fuels.

First, the council needed to study the situation. So, surveys and research were conducted, and they showed that more than 80 percent of the **carbon dioxide** produced in Cambridge was coming from buildings—not from cars.

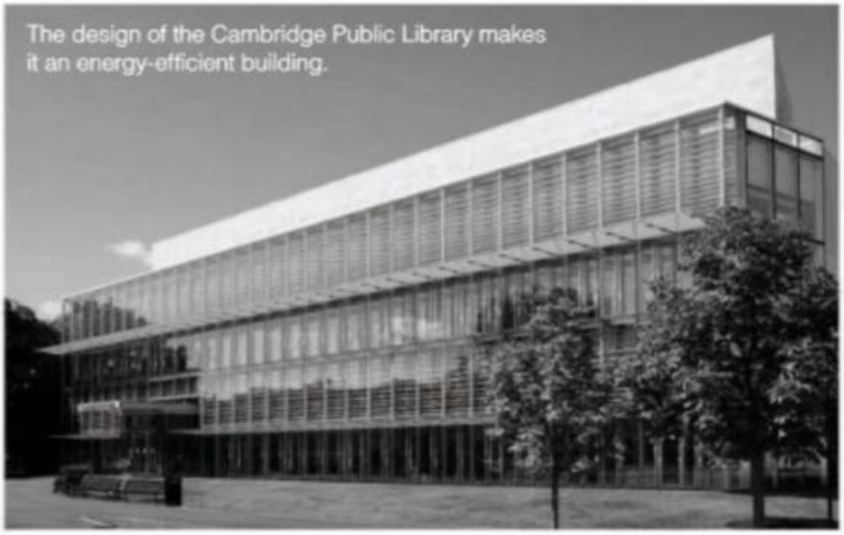
Next, it decided to make the buildings energy-efficient. In addition to saving energy and reducing emissions, the objective was to create new jobs for local people: workers were needed to put in insulation, install energy-efficient doors and windows, and make other energy improvements on buildings.

Soon after that, however, the city council realized that eco-friendly insulation and lighting are much more expensive than the usual kind, and many people in Cambridge couldn't afford them. That's why it created the CEA and encouraged every resident and business to contact them. And that's what Naema did.

First of all, individuals or businesses can ask the CEA, which, since 2011 has been part of the city's Community Development Department, to come and look at their house or office building. Then the CEA makes a plan to save 15 to 30 percent on heating, gas, water, and electricity. Finally, it helps people take out a loan to pay for the improvements. The money that people save by being more efficient should be enough to pay back the money they borrowed.

So, it looks like one city can do a lot, if it wants to!

energy-efficient using little energy
insulation material used in construction to keep heat inside
lightbulbs glass containers that produce light when electricity passes through them
emissions gases released into the atmosphere
carbon dioxide a gas that contributes to global warming



The design of the Cambridge Public Library makes it an energy-efficient building.

A Skim the article and check the best description of its topic.

- ☐ **1.** The article is about how the city of Cambridge has been helping people conserve energy.
- ☐ **2.** The article is about the life of 80-year-old Naema Omar, a resident of Cambridge.
- ☐ **3.** The article is about how Naema Omar started working for the Cambridge Energy Alliance.

B Match each group or organization to its description.

1. Cambridge City Council	**a.** a group of communities working together
2. Cambridge Energy Alliance	**b.** a group existing within a larger organization
3. Cities for Climate Protection	**c.** an organization set up to encourage energy efficiency
4. Community Development Department	**d.** a government organization responsible for a city

C Read the article again. Number the events in the correct order.

- _____ **a.** Naema Omar contacted the Cambridge Energy Alliance.
- _____ **b.** Cambridge City Council created the Cambridge Energy Alliance.
- _____ **c.** Cambridge City Council joined Cities for Climate Protection.
- _____ **d.** Cambridge City Council studied the results of research into carbon dioxide emissions in the city.
- _____ **e.** Cambridge City Council decided to make the city buildings energy-efficient.
- _____ **f.** The Cambridge Energy Alliance became part of the Community Development Department.

Lesson E Writing

A Read the text and number the paragraphs in the correct order, from the introduction to the conclusion.

The Polar Vortex

_____ **a.** Secondly, and as a result of the stratosphere becoming warmer, the polar vortex broke down and the winds became much weaker.

_____ **b.** The idea that extreme cold can be caused by a rise in temperature is confusing, but this is what happened. First, the stratosphere suddenly became warmer. This, for example, happened in December 2018.

_____ **c.** That's why in early February 2019, the US Midwest froze and Chicago was nearly as cold as the North Pole.

_____ **d.** The phrase "polar vortex" was first seen in US media in 2014, when extreme cold weather affected parts of the country. As weather experts explain, however, cold weather is not produced by the polar vortex itself but by the breaking of the polar vortex. But to understand how it breaks, we need to understand what it is.

_____ **e.** Thirdly, a month later, the extremely cold air above the North Pole was no longer contained by the weaker polar vortex, so it traveled south, toward the north of Asia, Europe, and North America.

_____ **f.** First of all, there is extremely cold air above the North Pole, but it is normally kept there by very strong winds that blow around it. These winds are called the polar vortex. It is found in the stratosphere, which is between six and 30 miles above the ground. This wind vortex is like a barrier that cannot be crossed by the cold air, so it protects places south of the North Pole. But in the winters of 2014, 2018, and 2019, something went wrong.

Review

A Complete the text with the active or passive form of the verbs in parentheses.

There isn't much for young people to do in my community. Six months ago, the students in my school (1) _____ (get) together to discuss a solution. We (2) _____ (decide) to ask the principal for access to the school's facilities for after-school classes, but he (3) _____ (tell) us that there wasn't enough money to pay staff for that. Another meeting (4) _____ (call). This time, parents (5) _____ (invite). To our great surprise, they (6) _____ (volunteer) to supervise us using the facilities. Also, baking classes and bicycle-repair workshops (7) _____ (set up). We (8) _____ (interview) by the local TV station, and when an article about us (9) _____ (publish) in the local paper, we (10) _____ (become) famous. Now cakes (11) _____ (sell) and bicycles (12) _____ (fix) at our school in the evenings.

B Write the numbers.

_____ **1.** four thousand (and) fifty-one
_____ **2.** Sixty-nine million four hundred (and) twelve
_____ **3.** Twenty-eight thousand three hundred and two
_____ **4.** Nine hundred thousand
_____ **5.** Four hundred (and) thirteen thousand nine hundred and one
_____ **6.** Sixty-two million seven hundred thirty thousand and forty-seven

C Complete the sentences with the simple past or past perfect.

1. Mami had never spoken (never speak) English before she went (go) to New York last summer.
2. I was late for class, and the teacher _____ (collect, already) the homework when I _____ (come) in.
3. The children _____ (not be) hungry for dinner because they _____ (eat) a lot of candy after school.
4. Danny _____ (hate, always) jazz until he _____ (go) to a concert last year.
5. By the time the game _____ (start), the rain _____ (stop), so everyone _____ (be) happy.