

Get ready!

1 Before you read the passage, talk about these questions.

- 1 What do scientists believe is the main cause of global warming?
- 2 What could be one effect of global warming?

Reading

2 Read the letter. Then, choose the correct answers.

- 1 What is the purpose of the letter?
 - A to compare two different climate change theories
 - B to explain the causes and effects of climate change
 - C to support the author of a recent article on climate change
 - D to highlight a good solution to climate change
- 2 Which of the following is NOT an effect of human activities?
 - A They make the greenhouse effect worse.
 - B They cause permafrost to melt.
 - C They contribute to CO₂ and methane levels.
 - D They bring about a drop in sea levels.
- 3 What can be inferred about the United States?
 - A It produces the most greenhouse gases.
 - B It has established some CO₂ storage locations.
 - C It has not ratified the Kyoto Protocol yet.
 - D It has reached the tipping point for climate change.

Letters to the Editor

Climate Change is Here; Humans to Blame

Dear Editor,

A recent article blamed natural processes for **climate change**. It's true that throughout history there have been periods of **global warming** and **global cooling**. These were due to volcanic eruptions, meteors, and other natural events. But we need to face the truth: today, **human activities** are the main cause.

How? We burn fossil fuels. We cut down trees. We use chemicals on our farms. These activities produce harmful **emissions**, like carbon dioxide and **methane**. The effects are incredibly destructive. For example, these gases **enhance** the **greenhouse effect**. The Earth heats up, and **permafrost** and ice in the Arctic Circle begin to melt. Melting ice **reflects** less sunlight and causes even more heat to be absorbed. **Sea levels rise**. Eventually, entire cities may be **submerged** and ecosystems will be destroyed. And that's just one possible chain of events!

We must deal with this problem before we reach the **tipping point** for our climate. At that point, the effects will be irreversible. One solution is to develop **CO₂ storage**. Geologic formations like oil fields and rocks may hold gases for millions of years. All countries need to ratify and follow the **Kyoto Protocol**. This includes the U.S., the second biggest producer of greenhouse gases. Everyone must accept responsibility and take action - no exceptions.

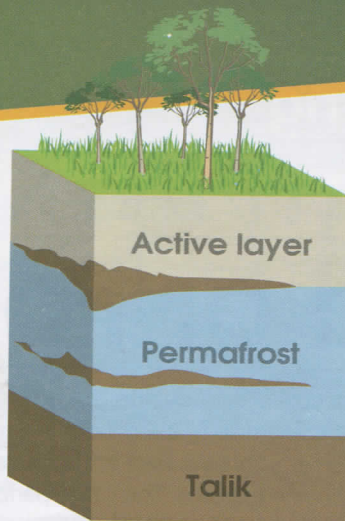
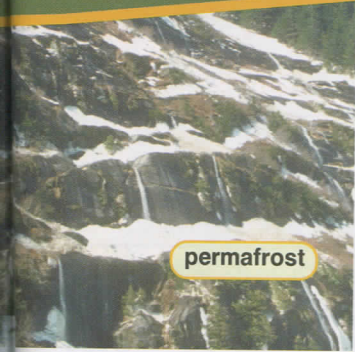
Sincerely,
Rachel McGrath

Vocabulary

3 Match the words (1-7) with the definitions (A-G).

- | | |
|-----------------|-------------------------|
| 1 ___ submerge | 5 ___ global cooling |
| 2 ___ methane | 6 ___ climate change |
| 3 ___ enhance | 7 ___ greenhouse effect |
| 4 ___ sea level | |

- A to strengthen the effect of something
- B a natural phenomenon in which the Earth's temperature decreases
- C a gas that captures heat in the atmosphere
- D an alteration in weather patterns over an extended period of time
- E to cover with water
- F a phenomenon in which gases trap heat in the Earth's atmosphere
- G the height of the surface of the ocean



Active layer
Permafrost
Talik

4 Fill in the blanks with the correct words and phrases from the word bank.

Word BANK

global warming human activities rise
tipping point permafrost reflect
CO₂ storage emissions Kyoto Protocol

- 1 Scientists think _____ contribute to global warming more than natural ones.
- 2 _____ may cause a temperature increase of up to 8°C by 2100.
- 3 The _____ has been ratified by 191 countries.
- 4 Some people think the planet has reached its _____ and is forever damaged.
- 5 Burning coal causes carbon dioxide levels to _____.
- 6 Electric cars do not release harmful _____ into the air.
- 7 For soil to be considered _____, it must remain frozen for at least two years.
- 8 Melting ice does not _____ enough light back into the atmosphere.
- 9 The ocean is one possible location for _____, but it would kill marine animals.

5 Listen and read the letter again. What could cause cities to become submerged?

Listening

6 Listen to a conversation between two scientists. Mark the following statements as true (T) or false (F).

- 1 ___ The man is surprised by the news article.
- 2 ___ The speakers agree on the human contribution to global warming.
- 3 ___ The man believes fossil fuels can be eliminated within ten years.

7 Listen again and complete the conversation.

Scientist 2: It's clear that 1 _____ are part of the problem.

Scientist 1: Yes, I wish more people realized that. We need to 2 _____ to stop our harmful activities.

Scientist 2: Well, there's the 3 _____.

Scientist 1: That isn't enough. We need to 4 _____ that.

Scientist 2: What 5 _____?

Scientist 1: We should push for government incentives to use 6 _____ sources. And eliminate fossil fuels entirely.

Speaking

8 With a partner, act out the roles below based on Task 7. Then switch roles.

USE LANGUAGE SUCH AS:

We need to make an effort to ...
We need to go beyond ...
We should push for ...

Student A: You are a scientist. Talk to Student B about:

- why some people disagree with global warming theories
- why you think those arguments are incorrect
- what should be done to stop global warming trends

Student B: You are a scientist. Talk to Student A about ways to reduce global warming.

Writing

9 Use the letter and the conversation from Task 8 to write a letter to a newspaper editor. Include: what you think is causing global warming, its effects, and possible solutions.