

GETTING STARTED**A presentation on
global warming****This unit includes:****LANGUAGE****Vocabulary**

Words and phrases related to global warming

Pronunciation

Intonation: Yes-no questions & echo questions

Grammar

Perfect gerunds and perfect participles

SKILLS

- Reading for general ideas and specific information about the causes and effects of global warming
- Expressing opinions, agreements, or disagreements about solutions to global warming
- Listening for specific information about the causes and effects of global warming
- Writing an essay about the causes, effects and possible solutions to global warming

COMMUNICATION AND CULTURE

- A global warming problem
- Young Voices for the Planet



OBJECTIVES

By the end of this unit, Ss can

- use words and phrases related to global warming
- recognise and use rising intonation on yes-no questions & echo questions
- use perfect gerunds and perfect participles
- read for general ideas and specific information about the causes and effects of global warming
- express opinions, agreements, or disagreements about solutions to global warming
- listen for specific information about the causes and effects of global warming
- write an essay about the causes and effects of global warming and the possible solutions

GETTING STARTED

A presentation on global warming

Lead-in: Inform the class of the lesson objectives: introducing the topic, some vocabulary related to global warming, the two grammar points (perfect gerunds and perfect participles), and intonation on yes-no questions and echo questions.



1 Ms Hoa, an English teacher, is helping a group of students in her class to prepare for their presentation. Listen and read.

Ms Hoa: Now, Group 2, how are your preparations going? Is your topic global warming?

Lan: Yes, it is. We've already decided on the main points to talk about and agreed on the presentation outline. Having planned the content, we're now looking for supporting information.

Ms Hoa: Sounds good.

Minh: First, we'll talk about causes such as greenhouse gas emissions from factories and vehicles.

Mai: There are also other causes, like the use of chemical fertilisers and deforestation. Global warming is man-made!

Minh: Man-made?

Ms Hoa: That's right. In the past, a lot of industries denied having contributed to global warming, but nowadays most people admit we are all responsible.

Minh: I see. Then we'll focus on the effects of global warming on people's health and life on Earth in general.

Mai: Yes. Having treated the environment irresponsibly, humans now have to suffer the effects of global warming. Do you agree, Lan?

Lan: Yes. Global warming leads to climate change, allowing for some infectious diseases to spread more easily. We should also make it clear how global warming contributes to heat-related illnesses and death.

Mai: It also has severe impact on water supplies, threatens food production and upsets ecological balance.

Ms Hoa: These are all excellent points. Have you come up with any solutions?

Lan: Yes, Ms Hoa. We'll point out how people can change their daily habits to reduce their carbon footprint.

Ms Hoa: That's great. Now, go through all your points again and decide who in your group will present each part.

Lan, Minh, and Mai: Thanks for your help, Ms Hoa.

2 Answer the questions.

1. What is the topic of Lan, Mai and Minh's presentation?
2. How many main parts do they intend to include in their presentation? What are they?
3. What causes of global warming are mentioned in the conversation?
4. What effects of global warming do they talk about?
5. According to Lan, what do people need to change to reduce their carbon footprint?
6. Can you add some more causes and effects of global warming besides those mentioned in the conversation?

3 Read the conversation again. Match the words and phrases with their definitions.

1. greenhouse gas	a. an increase in the average temperature of the earth's atmosphere
2. climate change	b. the amount of carbon dioxide released into the atmosphere
3. emission	c. a gas in the atmosphere that traps heat above the earth
4. carbon footprint	d. a gas or other substance which is sent out into the air
5. global warming	e. an illness that can be passed from one person to another, especially through the air people breathe
6. infectious disease	f. poor health resulting from extreme heat
7. ecological balance	g. a long-term change in the earth's weather due to changes in the atmosphere
8. heat-related illness	h. a stable ecosystem in which a large number of species live together

4 Find the sentences with the structure *having + past participle* in the conversation and write them down in the space below.

Example:

Having planned the content, we're now looking for supporting information.

- 1 Ask Ss to look at the picture and tell them that the people are Ms Hoa and her students – Mai, Minh and Lan. Ms Hoa is checking how they are preparing for a team presentation on global warming and is suggesting some ideas. Tell Ss that they are going to listen to the conversation between Ms Hoa and her students.
- Play the recording. Have Ss listen and read the conversation silently. Tell them not to worry about the new vocabulary as unfamiliar words will be dealt with later in Activities 2 and 3.

- 2 This activity focuses on comprehension. Tell Ss to read the questions carefully before they read the conversation the second time. Help Ss with key words or phrases to make sure that they understand all the questions. Let Ss work in pairs to answer the questions.
- Divide the class into three groups and have each group write their answers on separate pieces of paper. Then divide the board into three sections. Read each question and have a student from each group stick their answer onto their section on the board. Then read the three answers to each question and have Ss decide on the correct or best one.

Key

1. Global warming.
2. Three parts: 1) the causes, 2) the effects, 3) the solutions.
3. Greenhouse gas emissions from factories and vehicles; use of chemical fertilisers, and deforestation.
4. Climate change allows for infectious diseases to spread more easily; contributes to heat-related illnesses and death; has severe impact on water supplies, threatens food production and upsets ecological balance.
5. They should change their daily habits.
6. Students' answers.

- 3 This activity focuses on the meaning of some key words used in the conversation. Encourage Ss to use the context and clues in the conversation.

- Ask Ss to read the conversation again and find the phrases in the left-hand column and underline them. Encourage Ss to guess the meanings of the phrases and then match them with their definitions in the right-hand column.
- Check Ss' answers as a class.

Key

- | | | | |
|------|------|------|------|
| 1. c | 2. g | 3. d | 4. b |
| 5. a | 6. e | 7. h | 8. f |

- 4 The aim of this activity is to help Ss to identify sentences with the structure *having + past participle* in the conversation and write them down in the space provided.

Note

This activity does not check Ss' understanding of the meaning or use of the structure yet.

Key

- In the past, a lot of industries denied having contributed to global warming.
- Having treated the environment irresponsibly, humans now have to suffer the effects of global warming.

Vocabulary

Complete the sentences with the right form of the words / phrases from 3 in GETTING STARTED.

Example:

Global warming occurs when the greenhouse gases in the atmosphere trap the heat from the sun.

1. Having measured the company's _____, they realised that the amount of carbon dioxide (CO₂) it produced was great.
2. Scientists have warned about the relationship between climate change and the spread of _____.
3. A large amount of carbon dioxide _____ are released into the atmosphere by burning fossil fuels.
4. Deforestation is one of the biggest environmental threats to the _____ in the world.
5. As global temperatures rise, there are more cases of _____.
6. Although global warming is causing changes in weather patterns, it is only one aspect of _____.

2. A: Scientists are concerned about the effects of global warming.
B: Scientists are concerned about what?
3. A: I cycle to work every day.
B: You do?
4. A: By 2050, rising temperatures could lead to the extinction of a million species.
B: The extinction of a million species?
5. A: In order to save our environment, we should reduce our use of paper products.
B: We should do what?



DO YOU KNOW...?

- An echo question is a type of question that repeats part or all of a sentence that someone has just said. We use echo questions when we do not completely hear or understand what a speaker has said, or when we want to express surprise or doubt about it. Echo questions are usually spoken with a rising intonation. We usually expect the speaker to repeat or confirm the information.

Example:

A: Climate change presents a dangerous threat to the human race.

B: A dangerous threat to the human race? ↗

Pronunciation

Intonation on yes-no questions and echo questions

1 Listen and repeat these questions, paying attention to their rising intonation.

1. Do you agree with me?
2. Can you talk about the effects of global warming?
3. Do you think that we can reduce our carbon footprint?
4. Is it true that global warming is getting worse?
5. Are most of the environmental problems caused by humans?

2 Listen and mark ↗ (rising intonation) on the echo questions. Then practise reading the exchanges.

1. A: Most of the environmental problems are man-made.
B: Man-made?

Grammar

Perfect participles in clauses of time and reason

1 Work in pairs. Underline the perfect participles in the sentences in 4 in GETTING STARTED. Then rewrite the sentences, using *after / then* or *because / since*.

LANGUAGE

Vocabulary

This activity provides Ss with an opportunity to use the phrases they learnt in Activity 3 in **GETTING STARTED** in the sentences. Go through the phrases and check Ss' understanding.

- Tell Ss to read each sentence carefully and use the contextual clues to work out which phrase best completes it. Ask Ss, *What are the surrounding words? What do they mean?*
- Let Ss complete the sentences individually. Check answers as a class.

Key

- | | |
|---------------------------|------------------------|
| 1. carbon footprint | 2. infectious diseases |
| 3. emissions | 4. ecological balance |
| 5. heat-related illnesses | 6. climate change |

Pronunciation

Intonation on yes-no questions and echo questions

- 1 This activity focuses on rising intonation on yes-no questions.
 - Play the recording and ask Ss to listen to the questions paying attention to the rising intonation at the end of each question.
 - Play the recording again. Pause after each question for Ss to repeat.
- 2 This activity focuses on rising intonation on echo questions.
 - Ask Ss to read through the exchanges. Tell them that B's responses are echo questions. Elicit from Ss what echo questions are and what intonation pattern is usually used for them.
 - Play the recording for Ss to check the answers. Have them write an upward arrow (↗) after the echo questions.
 - Let Ss practise the exchanges in pairs.

Key

1. A: Most of the environmental problems are man-made.
B: Man-made? ↗
2. A: Scientists are concerned about the effects of global warming.
B: Scientists are concerned about what? ↗

3. A: I cycle to work every day.

B: You do? ↗

4. A: By 2050, rising temperatures could lead to the extinction of a million species.

B: The extinction of a million species? ↗

5. A: In order to save our environment, we should reduce our use of paper products.

B: We should do what? ↗

Grammar

Perfect participles in clauses of time and reason

Ask Ss to read the *Do you know...?* box and focus on the form and use of perfect participles. Point out that perfect participle clauses can be rather formal and are not often used in speech. However, these structures are very useful in formal writing as they help to combine information into one sentence.

- 1 The aim of this activity is to help Ss to understand the meaning of perfect participles in sentences and how to use them in clauses of time and reason.
 - Ask Ss to read the sentences with perfect participles they have written down in 4 in **GETTING STARTED** and discuss with a partner how the perfect participle is used in each sentence.
 - Tell Ss to rewrite the sentences individually. Then check as a class.

Key

– Having planned the content, we're now looking for supporting information.

⇒ *After we have planned the content, we're now looking for supporting information.*

Note: The perfect participle is used in a clause of time to talk about an action that comes before another connected one.

– Having treated the environment irresponsibly, humans now have to suffer.

⇒ *Because / Since humans have treated the environment irresponsibly, they now have to suffer.*

Note: The perfect participle is used to express a reason.



DO YOU KNOW...?

- The perfect participle is a compound verb form consisting of the auxiliary 'having' and the past participle of the verb, e.g. *having collected*, *having treated*.
- We can use the perfect participles in a clause of time to talk about an action that comes before another connected one.

Example:

Having collected all necessary information, he started writing his report.

- We can also use the perfect participle clause to talk about the reason for the action in the main clause.

Example:

Having treated the environment irresponsibly, we now have to suffer the effects of climate change.

Note: We tend not to use participle clauses so much in speech since they can be rather formal.

2 Match the two parts to make complete sentences.

1. After we identified the causes of global warming,	a. now they have to suffer severe floods.
2. Since they have used up the fossil fuel resources in their country,	b. we decided to sell our car and get a bicycle instead.
3. Because local people have cut down the forests to make way for farming,	c. they have to find some types of alternative energy.
4. After we read the report on how the burning of petrol in cars contributes to climate change,	d. we were determined to reduce our carbon footprint.
5. Because farmers had been informed about the bad effects of chemical fertilisers,	e. we worked out some solutions to reduce its effects.
6. After we talked with the environmentalist,	f. they have to suffer its effects now.
7. Since people have ignored warnings about global warming for more than 20 years,	g. they started using them sparingly on their farms.
8. After we had learnt that humans are responsible for global warming,	h. we changed our attitude to nature.

1. e 2. _____ 3. _____ 4. _____
5. _____ 6. _____ 7. _____ 8. _____

Rewrite the sentences, using perfect participles.

Example:

1. e *Having identified the causes of global warming, we worked out some solutions to reduce its effects.*

2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Perfect gerunds

Combine the sentences, using perfect gerunds.

Example:

Someone had started a fire in the forest. Tom admitted that he had done it.

⇒ *Tom admitted (to) having started a fire in the forest.*

1. In the Tree Planting Competition, the students in Group 11G planted the most trees in the schoolyard. They were praised for that.
2. Someone had cut down the oldest tree in the park. The police suspected Mike of doing it.
3. He had dumped lots of rubbish onto the beach. He denied it.
4. You had saved the lives of hundreds of wild animals. Thank you for that.
5. They had hunted and killed many wild animals. Later they regretted what they had done.
6. The factory had dumped tons of toxic waste into the river. It was heavily fined for that.
7. Denis had taken an active part in the Green Summer activities. He was rewarded for that.



DO YOU KNOW...?

- We can use the perfect gerund to emphasise that an action happened in the past, before the past action denoted by the main verb of the sentence. It can be used in the following structures:

(1) Verb + (object) + preposition + perfect gerund

Verbs: *apologise for, accuse ... of, admire ... for, blame ... for, congratulate ... on, criticise ... for, punish ... for, praise ... for, thank ... for, suspect ... of*

Example:

He apologised for having made us wait so long.

(2) Verb + perfect gerund

Verbs: *deny, admit, forget, mention, remember, recall, regret*

Example: *She denied having broken the flower vase.*

- 2 This activity focuses on the use of perfect participles in clauses of time and reason.
- Encourage Ss to look for clues in the two parts that can help them to do the matching easily and quickly. Grammatical clues can include pronoun agreement and verb tense. Weaker students may also have difficulty with some words or phrases (*identified, sparingly, make way for, attitude, etc.*), so you may have to explain the meaning or provide the Vietnamese translation to save time for the practice activity.
 - Ask Ss to work in pairs to match the two parts of each sentence. Check answers as a class.

Key 2. c 3. a 4. b 5. g
6. h 7. f 8. d

- Have Ss rewrite the sentences individually, and then work in pairs to compare their answers.

Key

- Having used up the fossil fuel resources in their country, they have to find some types of alternative energy.
- Having cut down the forests to make way for farming, now they / local people have to suffer severe floods.
- Having read the report on how the burning of petrol in cars contributes to climate change, we decided to sell our car and get a bicycle instead.
- Having been informed about the bad effects of chemical fertilisers, they / the farmers started using them sparingly on their farms.
- Having talked with the environmentalist, we changed our attitude to nature.
- Having ignored warnings about global warming for more than 20 years, people have to suffer its effects now.
- Having learnt that humans are responsible for global warming, we were determined to reduce our carbon footprint.

Perfect gerunds

- The aim of this activity is to show Ss how the perfect gerund can be used to emphasise that an action had happened in the past, before the past action denoted by the main verb of the sentence. Point out the two structures:
- Verb + (object) + preposition + perfect gerund
 - Verb + perfect gerund

- Tell Ss that in many cases the perfect gerund is optional since it is often obvious from the context which action takes place first so the simple gerund can be used as well, e.g., *She denied breaking the flower vase.*
- Ask Ss to underline the verbs in the second sentences that will be used as the main verbs or verb phrases in the combined sentences. Then elicit from Ss each verb or verb phrase. Have Ss pay attention to any prepositions that need to be added, e.g. *suspect (suspect somebody of doing / having done something).*
- Have Ss do the activity individually first, then compare their answers with a partner. After that, check as a class.

Key

- The students in Group 11G were praised for having planted the most trees in the schoolyard in the Tree Planting Competition.
- The police suspected Mike of having cut down the oldest tree in the park.
- He denied having dumped lots of rubbish onto the beach.
- Thank you for having saved the lives of hundreds of wild animals.
- They regretted having hunted and killed many wild animals.
- The factory was heavily fined for having dumped tons of toxic waste into the river.
- Denis was rewarded for having taken an active part in the Green Summer activities.

- Tell Ss to read the *Do you know....?* box. For weaker Ss, provide more examples with the verbs followed by a gerund (simple or perfect one). For stronger Ss, have them work in pairs and make as many sentences as they can.

LESSON OUTCOME

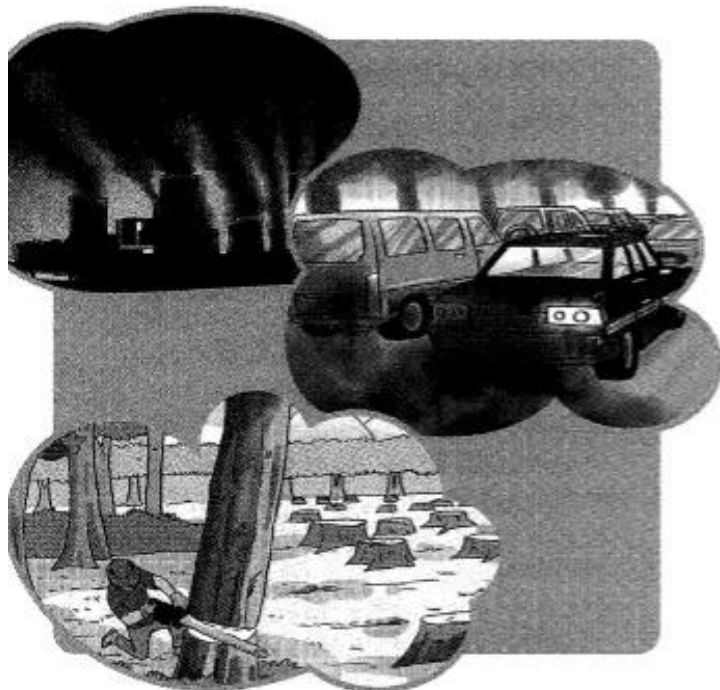
- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I have learnt how to use rising intonation on yes-no questions and echo questions. I can also use perfect participles and perfect gerunds in sentences.*

SKILLS

READING

Global warming is real

- 1** Work with a partner and guess what problems are described in the pictures. Then answer the question: What do you know about these problems?



- 2** Read the text and select the statement that expresses its main idea.

- Global warming is the rise in the world's temperature.
- Global warming leads to the extinction of millions of species in the world.
- Global warming is mainly caused by humans and has negative impacts on people's lives.
- People have to work together to reduce the risks of global warming.

Global warming, the rise in temperature around the earth's atmosphere, is one of the biggest issues facing humans nowadays. The results of numerous studies show that global warming is real. It is mainly man-made and its effects on people and nature are catastrophic.

The biggest cause of global warming is carbon dioxide (CO_2) emissions from coal burning power plants. When coal is burnt to make electricity, it releases a large amount of carbon dioxide into the atmosphere. In the USA, about 40% of CO_2 emissions come from

electricity production. The second greatest source of CO_2 emissions is the burning of petrol for transport. In the USA, motor vehicles running on petrol are responsible for about 33% of CO_2 emissions. The situation is getting worse as the demand for cars is increasing rapidly in the modern world. Another reason for the temperature rise is the cutting down of forests for wood, paper or farming. Forests absorb and capture CO_2 from the atmosphere. This process has been disrupted by the current alarming rate of deforestation.

The worst effect of global warming is the rise in sea levels worldwide, which could make millions of people lose their homes. Global warming also results in severe weather-related natural disasters such as droughts and floods that can kill or injure large numbers of people. Global warming with increasingly high temperatures can reduce crop harvests globally, which may lead to famine. It is also predicted to have the worst impact on water supplies. Water shortages are likely to delay economic growth and damage ecosystems. Another scary effect of global warming is the disappearance of millions of species in the world. Widespread loss of species is a matter of great concern for humans since we cannot exist without species diversity on Earth.

It is important that people understand that human-caused global warming is happening and its effects on us are serious. Everybody has to take some action now to reduce the risks.

- 3** Match the words with their meanings.

- | | | |
|-----------------------|---|--|
| 1. catastrophic (adj) | a | all living creatures and plants in a certain area and the relationships between them |
| 2. famine (n) | b | the mixture of gases surrounding the earth |
| 3. absorb (v) | c | the fact of having many different types of people, animals, plants or things |
| 4. capture (v) | d | take in (gas, liquid, heat) from the space or surface around |
| 5. atmosphere (n) | e | catch and keep somebody / something in a place |
| 6. ecosystem (n) | f | when a lot of people do not have enough food and many die |
| 7. diversity (n) | g | disastrous |

SKILLS

Reading

Global warming is real

Lead-in: Inform the class of the lesson objectives: skimming and scanning a text for general ideas and specific information.

- 1 This activity is a pre-reading activity which aims to get Ss involved in the lesson and help them to activate their prior knowledge about the topic.
 - Have Ss work in pairs, discuss the problems depicted in the pictures (*greenhouse gas emissions from factories and cars, deforestation, etc.*) and answer the question.
 - Invite some pairs to present their answers to the class. Do not correct Ss' mistakes at this stage of the lesson. Just praise them for expressing their opinions and tell them to compare their ideas with those in the text after they have read it.
- 2 This activity provides Ss with an opportunity to practise reading for gist and summarising key ideas into a statement.
 - Ask Ss to read the text quickly and choose the statement that best expresses the main idea. Help Ss to eliminate the wrong options by analysing them: option a is a definition of global warming, b mentions only about one of the effects of global warming explained in the text, c is the most comprehensive one since it mentions both causes and effects, and d mentions only one solution. Option c is the best answer as it covers all points mentioned in the text.

Key c

- 3 This activity focuses on the skill of guessing the meaning of new vocabulary in context.
 - Have Ss read the words in the left-hand column and find them in the text. Encourage them to use contextual clues to guess the general meaning of the words, then read the definitions provided in the right-hand column and match them with the words.

Key 1. g 2. f 3. d
4. e 5. b 6. a 7. c

- 4 This activity provides practice in reading for specific information.
 - Ask Ss to read the questions and underline the key words in each of them. After that, have Ss read through the text to locate where they can find the answers to the questions.
 - Have Ss compare their answers with a partner. Then check as a class.

Key

1. Humans / People / We are responsible.
2. It releases a large amount of carbon dioxide into the atmosphere.
3. Deforestation disrupts the process of absorbing and capturing CO₂ from the atmosphere, which causes the world's temperature to rise.
4. They could lose their homes.
5. They can reduce crop harvests globally.
6. Because humans cannot exist without species diversity on Earth.

- 5 This activity is a post-reading one, which gives Ss an opportunity to express their own ideas about what they have learnt in the text (question 1), and encourages them to think further about the content of the text (question 2).
 - Have Ss discuss the questions in groups. A weaker class can skip the second question.
 - Ask one or two groups to report the results of their discussion.

LESSON OUTCOME

- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I have learnt about some causes and effects of global warming. I can read for general ideas and specific information and can understand new words using context.*

4 Answer the following questions.

1. Who is mainly responsible for global warming?
2. What happens when coal is burnt to make electricity?
3. How does deforestation contribute to global warming?
4. What could happen to people when sea levels rise?
5. How can high temperatures affect crops?
6. Why is widespread loss of species a matter of great concern for humans?

5 Work in groups. Discuss the questions.

1. Which of the effects of global warming do you think is the most serious?
2. What do you think we should do to reduce the risks caused by global warming?

SPEAKING

Going green

1 Work in pairs. In your opinion, which of the activities in the table below can help to reduce global warming?

1. Reusing and recycling glass, plastic, paper and other products	
2. Reducing use of paper products	
3. Travelling by air around the world to study global warming	
4. Cutting down on energy use: use LED light bulbs and unplug unused electronic devices	
5. Using green methods of transport: ride a bicycle or just walk	
6. Planting trees or plants wherever they can grow	
7. Living in forests surrounded by a diverse population of species	

2 The table below presents the reasons why the activities in 1 can help to reduce global warming. Match them with the activities.

	Reasons
a.	This helps to reduce the amount of emissions from the burning of petrol in vehicles.
b.	This helps to save trees and forests since these products are made from wood.
c.	These are more efficient, longer lasting and use much less electricity. Even when turned off, electronic devices still use energy.
d.	They absorb carbon dioxide and give off oxygen. A single tree can absorb about one ton of carbon dioxide in its lifetime.
e.	This helps to reduce waste and pollution, and conserve natural resources.

3 Lan, Mai and Minh are talking about the activities presented in 1. Work in groups of three. Complete their conversation, using the phrases in the box and then practise it.

planting trees reusing and recycling
electronic devices carbon dioxide
energy use

Lan: Minh, which of these activities do you think are the most effective in reducing global warming?

Minh: In my opinion, the most effective activity is cutting down on (1) _____. If you use LED light bulbs or turn off your (2) _____ when they are not in use, you can save a large amount of electricity.

Lan: Uh-huh. And these things are very easy to do. What about you, Mai?

Mai: I think (3) _____ is the most effective way to help to reduce global warming.

Minh: I'm not so sure about that. What makes you think so?

Mai: It's because trees absorb (4) _____ and give off oxygen. A single tree can absorb about one ton of carbon dioxide in its lifetime. Do you agree with me, Lan?

Lan: Well, I don't think these can reduce global warming significantly. I believe that (5) _____ are more effective, because they can reduce waste and pollution, and conserve natural resources.

4 What do you think about these solutions to global warming? Work in groups of 3. Use the ideas in 1 & 2 to have a similar conversation.



Speaking

Going green

- 1 This activity is the first step in preparing Ss for achieving the final objective of the Speaking lesson – expressing ideas / agreements / disagreements about solutions to global warming.
- Have Ss read the activities carefully. Explain any new words / phrases, if necessary.

Notes

LED (light-emitting diode) light bulb: loại bóng đèn chiếu sáng có cấu tạo từ một bán dẫn loại N ghép với bán dẫn loại P, giống như *điốt phát quang*, chỉ cho dòng điện một chiều chạy qua. LED phát sáng là do sự tái hợp của điện tử và lỗ trống trong chất bán dẫn khi có dòng điện chạy qua. Không giống như bóng đèn sợi đốt thông thường hoạt động dựa trên việc đốt nóng dây tóc, nguyên lý phát quang của đèn LED làm cho nó có hiệu suất phát sáng cao hơn nhiều do ít bị hao tổn nhiệt.

- Ask Ss to work in pairs and discuss which of the activities in the table can help to reduce global warming. Check answers as a class. It might also be necessary to explain the following points:
 - ‘*Travelling by air around the world to study global warming*’ may contribute to the increase of global warming instead of reducing it as air travel and other forms of transport such as motor vehicles, rail and sea transport are main sources of CO₂ emissions.
 - Just ‘*Living in forests surrounded by a diverse population of species*’ cannot stop deforestation or protect species from extinction.

Key 1 2 4 5 6

- 2 This activity helps Ss to link the activities in 1 to the specific reasons why they can help to reduce global warming.
- Have Ss read the reasons carefully. Explain any words or phrases, if necessary.
- Demonstrate to Ss how they can use the clues or key words in the reasons to determine the activities they relate to. For example, in reason a, the clues are ‘*petrol*’ and ‘*vehicles*’ as these words are related to ‘*transport*’ and ‘*bicycle*’.

- Have Ss work in pairs to match the reasons with the activities. Check as a class.

Key 1. e 2. b 4. c 5. a 6. d

- 3 This activity provides Ss with a model conversation expressing ideas, agreement, and disagreement.
- Ask Ss to read the conversation and use the words in the box to fill the blanks individually. Then have Ss work in groups to role-play the conversation.

Key

- | | |
|--------------------------|-----------------------|
| 1. energy use | 2. electronic devices |
| 3. planting trees | 4. carbon dioxide |
| 5. reusing and recycling | |

- 4 This activity is free practice: Ss use the activities and reasons they learnt in 1 and 2, and the model conversation in 3 to express their own ideas.
- Put Ss into groups of three. Ask them to exchange their ideas and express agreement or disagreement about solutions to global warming.
- While Ss are doing the activity, walk around the class to offer support, if necessary.
- Invite one or two groups to role-play their discussions in front of the class. Provide comments and correct any frequently occurring mistakes.

LESSON OUTCOME

- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I have learnt what activities can help to reduce global warming and the reasons why they can do so. I can take part in a discussion expressing my ideas, agreements, or disagreements about the solutions.*

LISTENING

Save the planet, save your life

1 a. Match the words with the pictures.



a. famine

b. forest fire

c. drought

d. flood

e. water shortage

1. _____ 2. _____ 3. _____ 4. _____ 5. _____

b. What is the common cause of all the disasters depicted in the pictures above?



2 Prof. Linn is talking to a class of grade 11 students about global warming. Listen to the talk and choose the best answers.

- Which of the following is NOT mentioned in the talk?
 - What global warming is.
 - What causes global warming.
 - The effects of global warming.
 - How to reduce global warming.
- What is the main purpose of Prof. Linn's talk?
 - To make the students understand global warming.
 - To make the students understand that it is their duty to reduce global warming.
 - To make the students understand what greenhouse gases are.
 - To make the students understand that global warming leads to catastrophic weather patterns.
- How many sources of greenhouse gas emissions does Prof. Linn mention?
 - one
 - two
 - three
 - four
- How many people may have to suffer from the effects of global warming?
 - A million people.
 - Hundreds of people.
 - Hundreds of millions of people.
 - 20–30% of the world's population.
- According to the talk, what is the first step to take to help to reduce global warming?
 - To have a lot of information about the topic.
 - To change your lifestyle.
 - To inform others about the topic.
 - To inspire others to change.

3 Listen to the talk again and answer the questions.

- According to Prof. Linn, what are the greenhouse gases?
- What leads to the increase in temperature?
- What catastrophic weather patterns are mentioned in the talk?
- What can the catastrophic weather patterns lead to?
- Why is it necessary to be well-informed about the topic?

4 Work in groups. Discuss if the weather patterns in Viet Nam have changed over the last ten years. Provide some examples. Then report the results to the class.

Listening

Save the planet, save your life

Lead-in: Inform the class of the lesson objectives: listening to a talk by a professor for specific information about the causes and effects of global warming.

- 1 This activity is a pre-listening activity, which aims to introduce the topic of the listening text and get Ss to brainstorm ideas related to the topic.
- a. Ask Ss to match the words with the pictures. Then have them read aloud the words in pairs to make sure that they can pronounce them.
- b. Ask Ss to discuss the question in pairs. Encourage them to write down their answers so that they can compare them later, after listening to the talk.

Key 1. c (drought) 2. d (flood) 3. a (famine)
4. e (water shortage) 5. b (forest fire)

- 2 This activity focuses on the skill of listening for specific information.
- Tell Ss to read through the questions and the answer options so that they have some idea about what they have to listen for. Help them to identify the key words in each question.
- Play the recording without pausing. Have Ss answer the questions individually.
- Let them compare their answers with a partner. After that, check as a class. If there are many wrong answers, play the recording again, pausing where Ss may have difficulty understanding the listening text or where Ss can get the answer to a specific question.

Key 1. D 2. B 3. B 4. C 5. A

- 3 This activity provides further comprehension practice on the listening text by open-ended questions.
- Have Ss read the questions and ask them to pay attention to the key word(s) in each of them.
- Play the recording again. Ask Ss to take notes while listening and then use the notes to answer the questions. For a weaker class, pause after the information for each question.
- Let Ss compare their answers in pairs. Then check as a class.

Key

1. Carbon dioxide, carbon monoxide, methane, water vapour.
2. The thick layer of the greenhouse gases traps more heat from the sun leading to the increase of the temperature on the earth.
3. Heat waves, floods, droughts and storm surges.

4. Famine, water shortages, extreme weather conditions and a 20 – 30% loss of animal and plant species.
5. When you have a lot of information about the topic, you'll be more willing to change your lifestyle and you'll be able to inform others and inspire change.



Audio script

Hi, everybody. In my talk today, I'll discuss global warming, and its causes and effects on our lives. I hope you can all understand that it's everyone's duty to help reduce global warming right now.

You all know that global warming is the rise in the average temperature of the earth due to the increase of greenhouse gases such as carbon dioxide, carbon monoxide, methane, and water vapour. Climate scientists now believe that humans are mainly responsible for this. The burning of fossil fuels such as coal, oil and natural gas, and the cutting down of large areas of forests have contributed to the emission of a large amount of harmful gases into the atmosphere in recent years. The thick layer of these gases traps more heat from the sun, which leads to the increase in the earth's temperature.

Global warming results in climate change and catastrophic weather patterns such as heat waves, floods, droughts and storms, which can affect human lives. Hundreds of millions of people may suffer from famine, water shortages, and extreme weather conditions if we do not reduce the rate of global warming. This could also result in a 20 – 30% loss of animal and plant species.

Being well-informed about the effects of global warming is the first important step towards solving this problem. You'll be more willing to change your lifestyle if you understand the impact of global warming. Moreover, you'll be able to inform others and inspire change.

- 4 This activity is a post-listening one, which provides Ss with an opportunity to relate the content of the listening text to their own situation.
- Put Ss into groups to discuss the changes in weather patterns in Viet Nam over the last ten years. For a weaker class, give Ss some hints such as *longer summers, heat waves, floods, droughts, storms, etc.*
- Invite Ss from one or two groups to report the results of their discussion.
- Give encouraging feedback and correct only frequently occurring mistakes.

LESSON OUTCOME

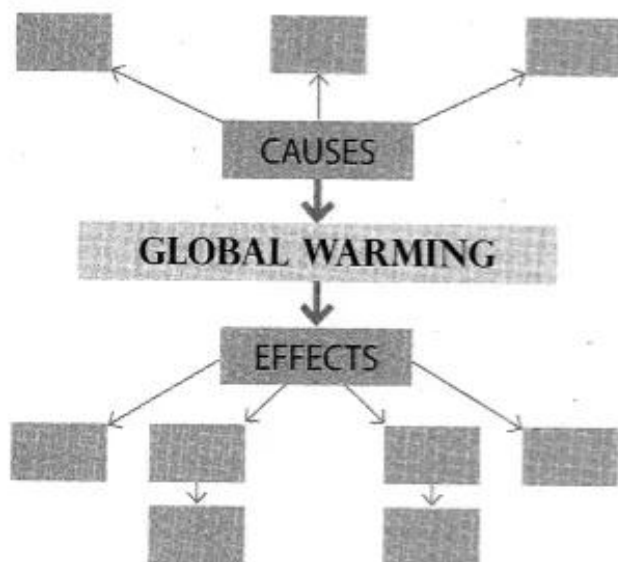
- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I can listen for specific information in a talk about the causes and effects of global warming.*

WRITING

Global warming: causes and effects

1 Which are the causes and which are the effects of global warming? Complete the diagram with the ideas below.

1. Heat-related illnesses and death, and spread of infectious diseases
2. Carbon dioxide emissions from the burning of fossil fuels in power plants and motor vehicles
3. The melting of polar ice caps and rising of sea levels
4. Deforestation for farmland, wood and paper
5. People losing homes
6. Extreme weather patterns such as severe storms, heat waves, floods and droughts
7. The increasing use of chemical fertilisers on croplands
8. Widespread extinction of species
9. Water and food shortages



2 Work in pairs. Discuss and complete the outline, using the ideas from **1**. Brainstorm some possible solutions.

1. Introduction

2. What global warming is and what causes it

3. Effects of global warming

4. Some possible solutions

5. Conclusion

3 Now write your essay (between 160-180 words), using the helpful expressions in the box, the outline and your notes in **2**.

Helpful expressions

lead to	contribute to	result in	cause
have serious consequences / impact on			make

Example:

The deforestation for farmland, wood and paper contributes to higher temperatures which lead to the melting of polar ice caps and rising of sea levels.

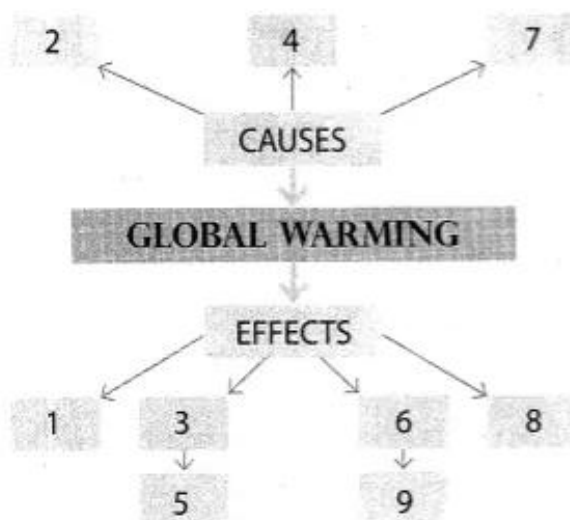


Writing

Global warming: causes and effects

Lead-in: Inform the class of the lesson objectives: by the end of the lesson, Ss should be able to write an essay about the causes and effects of global warming and possible solutions to it.

- 1 The aim of this activity is to provide some ideas and prepare Ss for the lesson's final writing task.
- Draw the diagram on the board and explain to Ss its different parts: there are several causes leading to global warming, which has a number of effects on human life and nature; then some of these effects can cause further impact on humans and nature.
- Put Ss into pairs. Ask them to read the phrases carefully and decide which of them are causes and which are effects. Remind Ss that they have already learnt about these causes and effects in the reading and listening lessons.
- Ask a pair of Ss to come to the board and complete the diagram. Then check answers as a class.



- 2 The aim of this activity is to help Ss to develop an outline before they start writing their essays. Remind Ss that all the ideas necessary for the outline have been provided for them in the previous parts of the unit. Tell Ss that they can complete the outline with just phrases, not complete sentences.
- Write the outline on the board and ask some Ss to complete the part of the outline about the causes and effects while others complete the outline in their notebooks. Check as a class.
- Have Ss work in pairs to think about the possible solutions to reducing global warming. Remind them of the solutions they have discussed in the speaking lesson.

An example of a completed outline:

- 1) **Introduction:** (introduce the topic and the main content of the essay)
 - one of the biggest issues facing humans nowadays
 - caused mainly by humans
 - most catastrophic effects on humans
 - humans have to take actions to reduce the risks
 - the essay will discuss the causes and effects, and possible solutions
 - 2) **What global warming is and its causes**
 - the rise in the average temperature of the earth due to the increase of greenhouse gases in the atmosphere
 - causes:
 - carbon dioxide emissions from the burning of fossil fuels
 - deforestation for farmland, wood and paper
 - increasing use of chemical fertilisers on croplands
 - 3) **Effects of global warming**
 - heat-related illnesses and death, and spread of infectious diseases
 - melting of polar ice caps and rising of sea levels
 - extreme weather patterns such as severe storms, heat waves, floods and droughts
 - widespread extinction of species
 - 4) **Some possible solutions**
 - reducing energy use
 - planting trees or plants
 - using green methods of transport
 - 5) **Conclusion** (summarise the main points and state your opinion)
- 3 The product of this activity should be Ss' completed essays.
- Ask Ss to write their essays individually, using the helpful expressions in the box and the outline they have completed. Then let Ss work in pairs swapping their essays for their partners to read and give comments.
 - If time is limited, this activity can be assigned as homework.

LESSON OUTCOME

- Ask Ss: *What have you learnt today?*
What can you do now?
- Elicit answers: *I can write an essay about the causes and effects of global warming and how to reduce its risks.*

COMMUNICATION AND CULTURE

Communication

Green Teens Club is a youth organisation whose purpose is to protect the environment. You are members of the club. Work in groups. Discuss and select ONE main cause of global warming, and prepare a talk to present in the club meeting. Your talk should include the following parts:

A. INTRODUCTION

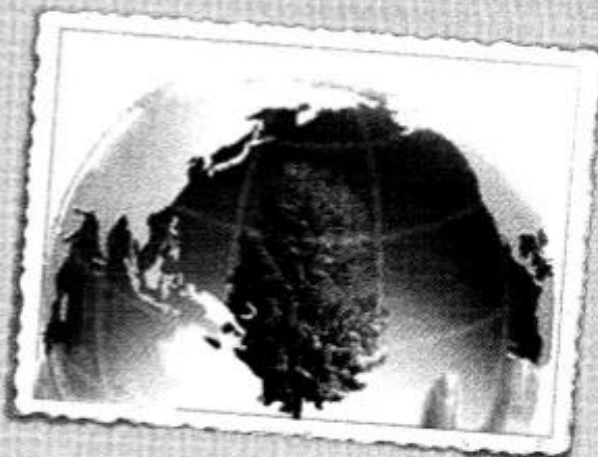
1. Getting attention: *Hello / Good morning / Good afternoon / Can we start? / Shall we start?*
2. Introducing the topic and the purpose of your talk: *The subject of my presentation / The topic of my talk is ... I'm going to talk about ...*
3. Giving a preview of the talk: *There are ... main parts in my presentation: In the first part, I'll talk about ..., the second part will focus on ..., and then in the third part, I'll ...*

B. BODY

1. Describing one of the main causes
2. Explaining its effects
3. Giving some possible solutions (things that we should do)

C. CONCLUSION

1. Restating your message: *To sum up, In short, ... In a nutshell, ... The important thing to remember is ...*
2. Thanking the audience for their attention



COMMUNICATION AND CULTURE

Lead-in: Inform the class of the lesson objectives: further skills development.

Communication

This activity aims at developing Ss' presentation skills on the topic of global warming.

- Tell Ss that they have to present a talk to an environmental club about one of the causes of global warming and its effects. In the talk, they will also have to suggest some solutions related to the problems.
- Ask Ss to read the causes in the Writing section and choose the one they think is the most important and want to talk about.
- Have Ss study the outline in groups or pairs before they start preparing for their talk. Encourage them to practise their talks with their partners.
- Invite one or two Ss to present their talk to the class. Give comments focusing on the structure of the talk and Ss' presentation skills. Encourage other Ss to give comments, too.

Culture

Young Voices for the Planet

- 1 Read the paragraphs about how youths can contribute to reducing the risks of global warming and answer the questions.**

Young Voices for the Planet is a series of short films that tell real stories about the different ways young people have contributed to reducing the carbon footprint of their homes, schools, communities, and countries. They planted trees, raised money for wildlife protection, raised awareness of environmental dangers, etc. Here are three stories showing that anyone, even young kids, can make significant contributions to slow down climate change.

Having learnt about how trees can help to reduce the amount of carbon dioxide in the atmosphere, 11-year-old Felix Finkbeiner started his project 'Plant for the Planet'. Soon, this project helped to plant 2.5 billion trees in Germany and 12 billion trees worldwide. 'If the adults won't do something, we have to do it, because we'll be around for another 80 years and our grandchildren even longer,' says Felix Finkbeiner.

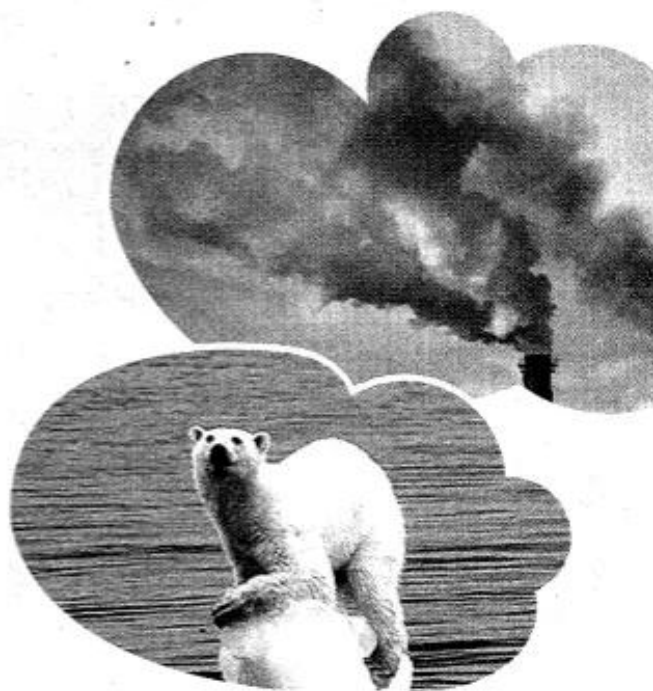
Olivia Bouler, from New York, was also 11 years old when she heard about the 2010 BP oil spill in the Gulf of Mexico and decided to do something to help. She raised money for the clean-up by creating and selling paintings of birds. She raised more than \$200,000 for the National Audubon Society, a group that protects birds and other wildlife. 'Use your strengths,' says Olivia. 'I'm just an average kid who wanted to help'.

A group of students at Santa Monica High School, in California, got together to raise awareness about the dangers of plastic bags on ocean animals and the environment. One student stood covered in plastic bags in front of city lawmakers and asked them to ban plastic bags. It was a success. Santa Monica was one of the first American cities to ban plastic bags.

1. What is Young Voices for the Planet?
2. Why did Felix Finkbeiner start his project 'Plant for the Planet'?
3. Why did Olivia Bouler create and sell paintings of birds?
4. How did the students at Santa Monica High School, in California, raise awareness about the dangers of plastic bags on ocean animals and the environment?



- 2 Discuss with a partner. What do young Vietnamese people do to reduce the carbon footprint of their homes, schools, communities, and country? Do you know any stories about young Vietnamese people who have helped to reduce global warming?**



Culture

Young Voices for the Planet

The aim of this section is to provide Ss with information about how young people can help to reduce global warming.

- As a warm-up activity, ask if Ss know anything about Young Voices for the Planet or what the name tells them. Have Ss brainstorm ideas, but do not correct them at this stage of the lesson. Tell Ss that they will find out more after they read the text.
- Some of the words / phrases in the text may be difficult or unfamiliar. Have Ss guess their meaning or, to save time, provide the equivalent words or explanation in Vietnamese.
 - *awareness*: knowing that something is important
 - *be around*: be present
 - *clean-up*: the process of making a place clean and tidy
 - *lawmaker*: someone who makes laws

1 Ask Ss to read the text carefully and answer the questions 1-4. Check as a class.

- To make the activity more interesting and to save time, use the 'jigsaw reading' strategy. Put Ss into groups of four. Each student in the group has to read one paragraph and then answer the question(s) related to the content of that paragraph.

Key

1. It is a series of short films that tell real stories about the different ways young people have contributed to reducing the carbon footprint of their homes, schools, communities, and countries.
2. Because he has learnt about how trees can help to reduce the amount of carbon dioxide in the atmosphere.
3. To raise money for the clean-up of the BP oil spill in the Gulf of Mexico in 2010.
4. One student stood covered in plastic bags in front of city lawmakers and asked them to ban plastic bags.

- 2 The aim of this activity is to encourage Ss to relate the text content to the situation in Viet Nam. Put Ss into groups to discuss the questions. Then invite one or two groups to present their answers to the class.

LESSON OUTCOME

- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I have improved my speaking and reading skills. I can give a talk on the causes and effects of global warming and propose solutions. I have learnt about the different ways young people around the world contribute to reducing their carbon footprint.*

Complete the sentences with the words in the box.

I believe that the only way for us to reduce global warming is to cut down on
Many species are threatened with
to deforestation and loss of habitat.
Motor vehicles running on petrol are responsible
for a large amount of carbon dioxide

LOOKING BACK

Pronunciation

1 Listen and repeat the questions paying attention to the rising intonation.

1. Do you know that global warming is increasing?
2. Did you turn off the light before you left home?
3. Can we really reduce the carbon footprint of our homes?
4. Are you aware of the dangers of plastic bags on the environment?
5. Have you seen the 'Young Voices for the Planet' films?

2 Listen and mark the rising intonation on the echo questions (✓). Then practise reading the exchanges.

1. A: 'Plant for the Planet' helped plant 12 billion trees worldwide.
B: Twelve billion trees worldwide?
2. A: Even when turned off, electronic devices use energy.
B: Yes, they can still use energy.
3. A: Cutting down on energy use is the best way to help reduce global warming.
B: The best way to do what?
4. A: Global warming has catastrophic effects on humans.
B: Global warming has what on humans?
5. A: A single tree can absorb about one ton of carbon dioxide during its lifetime.
B: How long can a tree live?

Vocabulary

Complete the sentences with the words in the box.

carbon footprint	emissions
deforestation	absorb
energy use	catastrophic
extinction	diversity

1. I believe that the only way for us to reduce global warming is to cut down on _____.
2. Many species are threatened with _____ due to deforestation and loss of habitat.
3. Motor vehicles running on petrol are responsible for a large amount of carbon dioxide _____.

4. There are many ways for us to reduce our _____ in order to save our environment.
5. More trees should be planted as they _____ carbon dioxide and give off oxygen.
6. The alarming rate of _____ results in damage to the quality of the land.
7. Rainforests have the highest species _____ on the earth.
8. Global warming has proved truly _____ for the environment.

Grammar

1 Rewrite the sentences, using perfect participles.

1. After the students had learnt about the benefits of recycling and reusing, they started collecting waste paper, bottles, and cans to recycle and reuse.

2. Since Mai had refused Nam's offer of a lift in his car, she had to walk home.

3. After Ha had read some documents about Green Earth, she decided to join the organisation.

4. Since the farmers used too much chemical fertiliser on their farm, they now have to drink polluted water.

5. After she replaced all the light bulbs in her house with LED lights, she saved a lot of money on her electricity bills.

6. Since we have become too dependent on the use of electricity, we have to find alternative sources of energy before fossil fuels run out.

LOOKING BACK

Lead-in: Inform the class of the lesson objectives: reviewing pronunciation, vocabulary, and grammar.

Pronunciation

- 1 Help Ss to review the use of rising intonation on yes-no questions.
- Play the recording. Ask Ss to listen and repeat the questions paying attention to the rising intonation.
- 2 Help Ss to review the use of rising intonation on echo questions.
- Have Ss listen and mark the rising intonation on the echo questions individually. Then ask them to practise reading the exchanges in pairs. If necessary, explain that response 2 is a statement and response 5 is a wh-question, and usually pronounced with falling intonation.
- Invite some pairs to role-play the exchanges in front of the class.

Key

1. A: 'Plant for the Planet' helped plant 12 billion trees worldwide.
B: Twelve billion trees worldwide? ✓
2. A: Even when turned off, electronic devices use energy.
B: Yes, they can still use energy. ✓
3. A: Cutting down on energy use is the best way to help reduce global warming.
B: The best way to do what? ✓
4. A: Global warming has catastrophic effects on humans.
B: Global warming has what on humans? ✓
5. A: A single tree can absorb about one ton of carbon dioxide during its lifetime.
B: How long can a tree live? ✓

Vocabulary

- The eight words and phrases in the box are the ones most commonly used in the unit. Have Ss write them in the gaps to complete the sentences.

Key	1. energy use	2. extinction
	3. emissions	4. carbon footprint
	5. absorb	6. deforestation
	7. diversity	8. catastrophic

- If time allows, ask Ss to make their own sentences with these words and phrases. Alternatively, ask them to do this at home.

Grammar

- 1 This activity aims to help Ss to review the use of perfect participles in sentences. Ask Ss to do the activity individually, then check as a class.

Key

1. Having learnt about the benefits of recycling and reusing, the students started collecting waste paper, bottles and cans to recycle and reuse.
2. Having refused Nam's offer of a lift in his car, Mai had to walk home.
3. Having read some documents about Green Earth, Ha decided to join the organisation.
4. Having used too much chemical fertiliser on their farm, the farmers now have to drink polluted water.
5. Having replaced all the light bulbs in the house with LED lights, she saved a lot of money on her electricity bills.
6. Having become too dependent on the use of electricity, we have to find alternative sources of energy before fossil fuel runs out.

2 Combine the sentences, using perfect gerunds.

1. Tonya had dumped a lot of rubbish on the beach. She was strongly criticised for that.

2. Sam had not worked hard enough in his previous job. He regretted it.

3. Tony had rescued the kids from the fire. People admired him for that.

4. I have seen him before. I remember that.

5. 'You've lied to us,' the villagers said. The politician denied it.

6. Thanh had forgotten to turn off the gas cooker before he left his house. He admitted that.

PROJECT

- 1 Work in groups. Discuss which of the following activities your group can do to help to reduce the carbon footprint of your school and community.

- Planting trees
- Starting a 3R campaign (3R = Reduce, Reuse, Recycle)
- Organising a community clean-up
- Raising money to protect wildlife
- Raising people's awareness about the dangers of global warming and how to reduce its effects
- Other activities

- 2 Give your group's activity a campaign name and think about its purpose. Then make a detailed plan, using the table below.

Tasks	Person in charge	Time / place	Possible difficulties	Effects on your school / community

- 3 Present your group's detailed plan to the class.

NOW YOU CAN

- Talk about solutions to global warming
- Identify and use rising intonation on yes-no questions and echo questions
- Use the perfect participle in sentences to talk about time and reasons, and the perfect gerund to refer to a past action
- Write about the causes and effects of global warming, and some possible solutions



- 2 This activity aims to help Ss to review the use of perfect gerunds in sentences.
- Ask Ss to do the activity individually, then check as a class.

Key

1. Tonya was strongly criticised for having dumped a lot of rubbish on the beach.
2. Sam regretted not having worked hard enough in his previous job.
3. People admired Tony for having rescued the kids from the fire.
4. I remember having seen him before.
5. The politician denied having lied to the villagers.
6. Thanh admitted having forgotten to turn off the gas cooker before leaving the house / before he left his house.

LESSON OUTCOME

- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I can identify and use rising intonation on yes-no questions and echo questions. I can use perfect participles and perfect gerunds in sentences.*

PROJECT

Lead-in: Inform the class of the lesson objectives: free practice in using the language and ideas from the unit in a realistic situation; team-work skills development.

- 1 Put Ss into groups. Have Ss in each group choose a leader who will assign tasks to the members and monitor the work, and a note-taker who will be responsible for taking notes of the ideas and consolidate them for later discussions. Tell Ss that they can choose from the given activities or think of an activity that is more relevant to the needs of their school or community.
- 2 Encourage Ss to make a detailed plan of their activity. Elicit what information they should put in the table. For example, for the activity of *planting trees*, ask Ss some guiding questions such as *where they will get the tree seedlings, where they can plant them, how many trees they plan to plant, when is the best time to plant trees, who will do what, what difficulties they may face, what effects planting trees will bring to their community, etc.*
- Allow one week for Ss to work on their plans. Have them write their plans on large-size sheets of paper so that they can put them up on the board or wall for the teacher and the rest of the class to give comments and feedback in the next class.

LESSON OUTCOME

- Ask Ss: *What have you learnt today? What can you do now?*
- Elicit answers: *I can make a detailed plan of an environmental activity to help to reduce the carbon footprint of my school and community. I have learnt how to cooperate with other people when working in a group.*