

《高中英语》（上外版）选择性必修三 第四单元 第2课时  
学案（教师版）

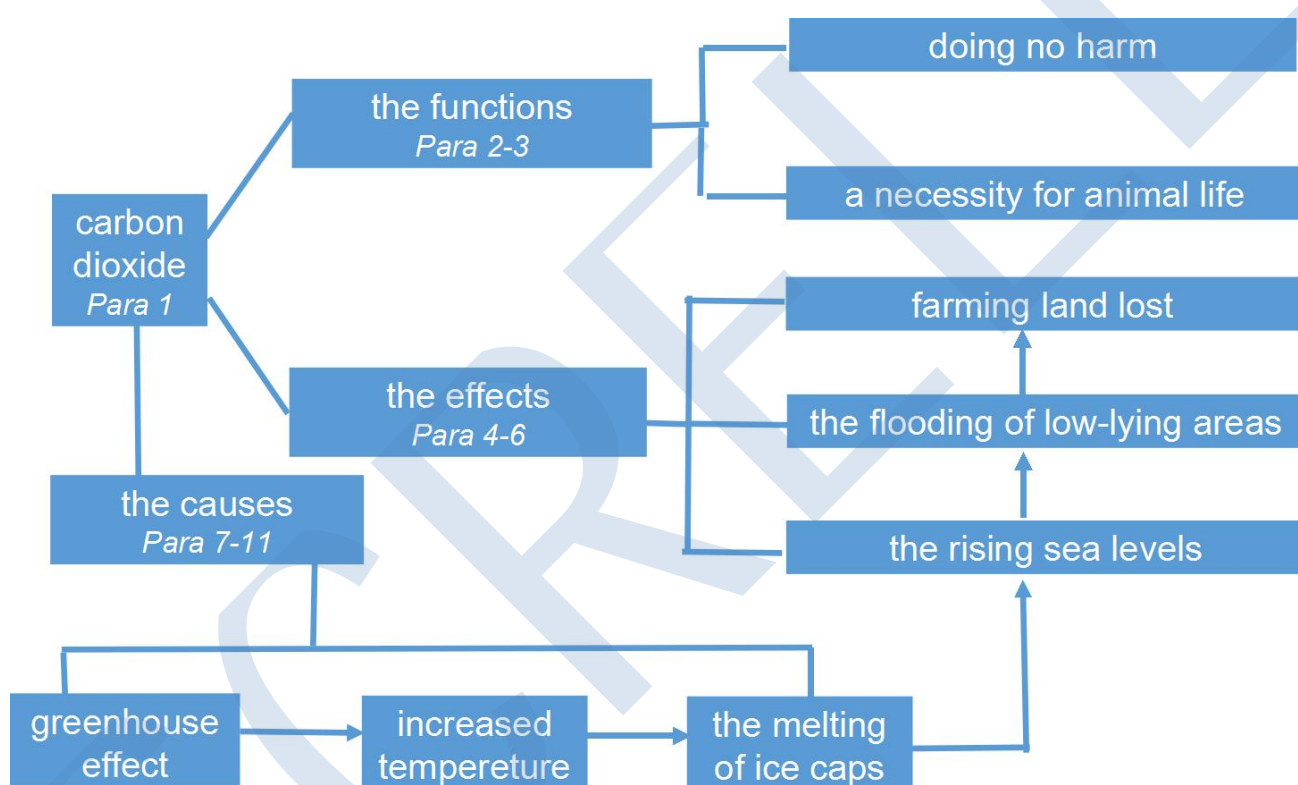
## I. Warm-up

**Interactive Task 1:** Review the main idea and organization of Reading A.

Q1: What is the theme of the text?

The writer describes the functions of small quantity of carbon dioxide, harmful effects of carbon dioxide, and the causes of these consequences to make the public aware of the serious results of global warming.

Q2: What is the organization of the text?



## II. Language Focus

**Interactive Task 2:** Review and analyse the functions of small quantity of carbon dioxide in Para. 2-3 .

Q1: Can you identify the connector that links the two functions of carbon dioxide in Para. 2-3?

What's more.

1) what's more

to add more information that emphasizes what you are saying 更为甚者：更为重要的是

- 空气中少量的二氧化碳对我们没有害处，更为重要的是它对生命很重要。(what's more)

A small quantity of carbon dioxide in the air does us no harm, and what's more it is essential to life.

Q2: How do plants produce “food” ?

Plants absorb carbon dioxide and convert it into their own tissue, which serve as the basic food supply for all

## 2C Unit 4 The Villain in the Atmosphere

of animal life (including human beings, of course).

2) absorb /əb'sɔ:b / vt.

*to take in liquid, gas, or another substance from the surface or space around something* 吸收 (液体、气体等)

absorb heat/carbon dioxide/water/knowledge

sb. be absorbed in one's work

absorption /əb'sɔ: pʃən / noun

absorbent /əb'sɔ: bənt / adjective

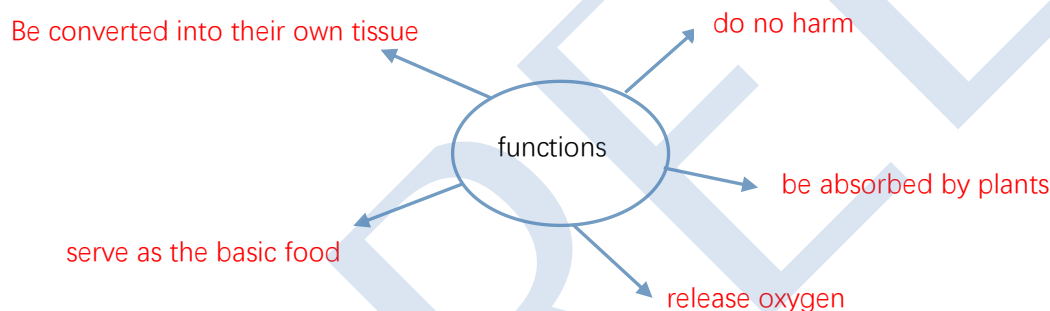
**Choose the word and phrases mentioned above and fill in the blanks in proper forms.**

1. The scientists \_\_\_\_\_ their work on plants' \_\_\_\_\_ of carbon dioxide.

2. To sell recognized that these qualities might make it useful as an \_\_\_\_\_ material for removing carbon dioxide.

1. are absorbed in ; absorption    2. absorbent

Q3: Could you list the words and expressions related to the function of CO<sub>2</sub> in Para. 2-3?



**Interactive Task 3: Review and analyse the harmful effects of CO<sub>2</sub> in Para. 4-6.**

Q1: Why is this apparently harmless and certainly essential gas harmful to us?

The sea level is rising very slowly and in all likelihood, it will continue to rise and do so at a greater rate in the course of the next hundred years.

3) likelihood /'laɪklihəd/

n. the chance of sth happening; how likely sth is to happen 可能; 可能性

adj. & adv. likely sb./sth. be likely to do sth.

It's likely that...

e.g. In all likelihood, the sea level will continue to rise and do so at a greater rate in the course of the next hundred years.

= The sea level will be likely to continue to rise and do so at a greater rate in the course of the next hundred years.

## 2C Unit 4 *The Villain in the Atmosphere*

= It's likely that the sea level will continue to rise and do so at a greater rate in the course of the next hundred years.

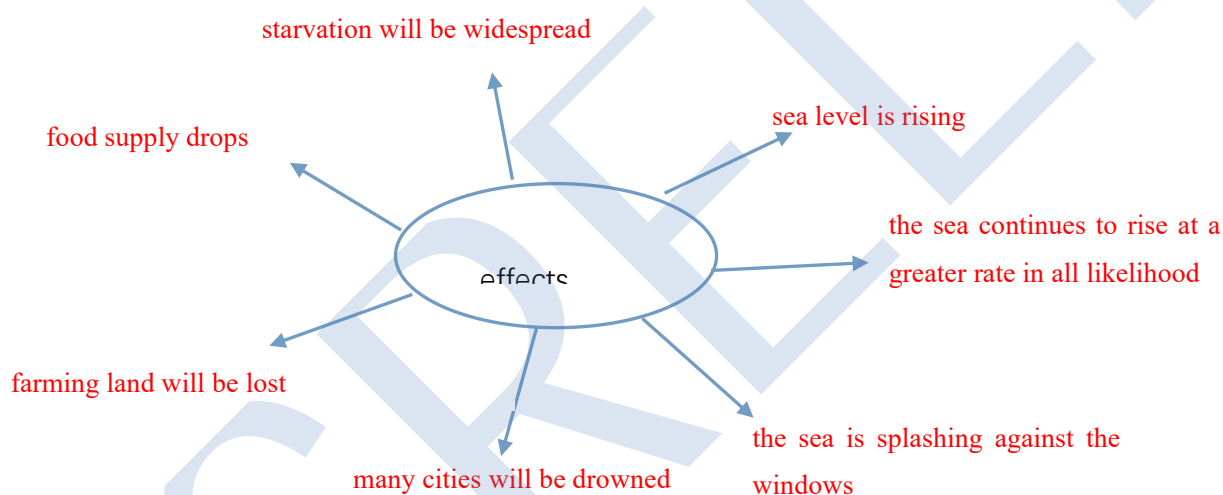
- 随着海平面的每年上升，许多城市很可能被淹没，引起了世界上很多耕地丢失。

As the sea level is rising from year to year, in all likelihood, many cities will be drowned, causing much of the most farming land of the world to be lost.

As the sea level is rising from year to year, many cities are likely to be drowned, causing much of the most farming land of the world to be lost.

As the sea level is rising from year to year, it's likely that many cities will be drowned, causing much of the most farming land of the world to be lost.

Q2: Could you list the words and expressions related to the harmful effects of CO<sub>2</sub> in Para. 4-6?



### Interactive Task 4: Review and analyse the causes of consequences of CO<sub>2</sub> in Para. 7-11.

Q1: What does the greenhouse effect mean?

It means an increase in the concentration of carbon dioxide in the atmosphere that leads to an increase in the planet's average temperature.

4) concentration /ˌkɒnsənˈtreɪʃən/

n. the amount of a substance contained in a liquid or in another substance 浓度; 含量

n. the ability to direct all your effort and attention on one thing, without thinking of other things 专心; 专注

vt. concentrate 集中于; 专注

concentrate one's efforts/attention/energy/mind etc on something 全神贯注于; 集中于

- 在这节课上，生物老师将着重讲温室效应是怎样形成的。(concentrate)

In this class, the biology class shall concentrate (his attention) on how the greenhouse effect comes about.

- 随着温室气体浓度的下降，地球开始再次变冷，最终又将回到冰河时代。(concentration)

## 2C Unit 4 *The Villain in the Atmosphere*

- Gradually as the concentration of greenhouse gases goes down, Earth starts to cool again, and eventually you slip back into an Ice Age.
- Human beings need powers of concentration to stop the concentration of carbon dioxide from moving upwards to avoid the greenhouse effect.

为了避免温室效应，人类必须集中精力阻止二氧化碳的浓度上升。

Q2: What is it that demonstrates the villainy of carbon dioxide?

It is the melting of the ice caps that demonstrates the villainy of carbon dioxide.

5) demonstrate /'demənstreɪt/

v. to show sth clearly by giving proof or evidence 证明；证实；论证；说明

~ sth (to sb)

~ that /how/what/why etc

n. demonstration

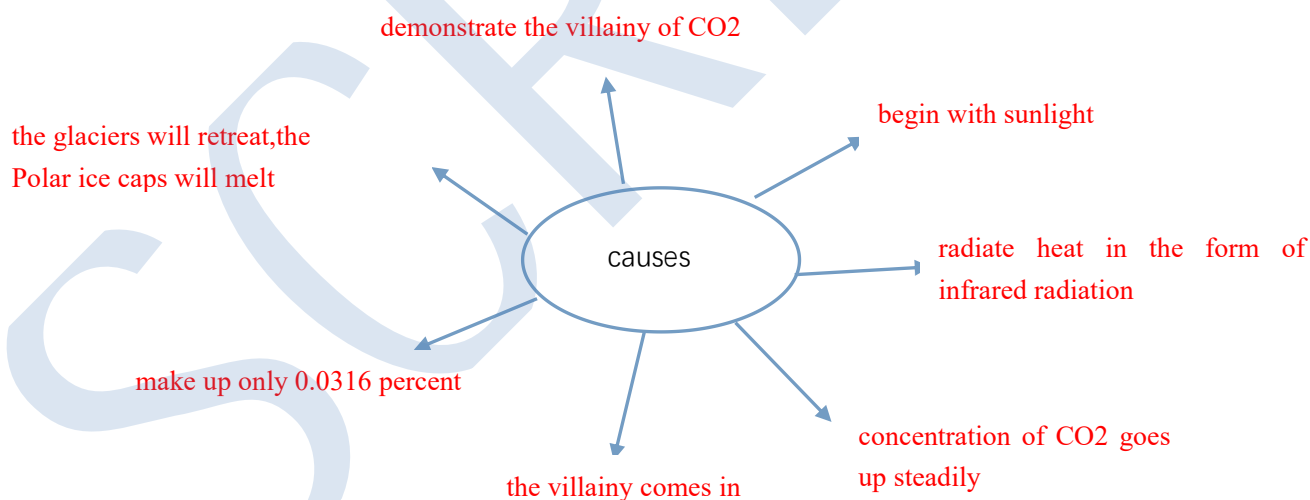
• 这些结果有力地证明，空气中的坏人是二氧化碳。(demonstrate)

These results demonstrate convincingly that the villain in the atmosphere is carbon dioxide.

• 冰盖的融化清楚的说明了全球的气候变暖。(demonstration)

The melting of the ice caps is a clear demonstration of global warming.

Q3: Could you list the words and expressions related to the causes of these consequences in Para.7-11?



**Interactive Task 5: List the topic-related words and expressions.**

The Villain in the Atmosphere		
1. Functions of carbon dioxide	2. Harmful effects of carbon dioxide	3. Causes of these consequences

## 2C Unit 4 *The Villain in the Atmosphere*

do no harm, be absorbed by plants, release oxygen, serve as the basic food, be converted into their own tissue ...	sea level is rising, in all likelihood, it continues to rise at a greater rate, splash against the windows, many cities will be drowned, farming land will be lost, food supply drops, starvation will be widespread, ...	begin with sunlight, radiate heat in the form of infrared radiation, concentration of CO <sub>2</sub> goes up steadily, the villainy comes in, make up only 0.0316 percent the glaciers will retreat, the Polar ice caps will melt, demonstrate the villainy of CO <sub>2</sub> , ...
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### III. Language application

#### Interactive Task 6:

Fill in the blanks with the appropriate forms of the given words and expressions to complete the dialogue.

Note that there are two more options than you need.

widespread	atmosphere	estimate	quantity	release
do harm to	at a rate of	come about	absorb	concentration

A: Do you know anything about carbon dioxide?

B: Carbon dioxide is a gas. We breathe in oxygen and breathe out carbon dioxide. And plants 1 \_\_\_\_\_ carbon dioxide.

A: So carbon dioxide is not really harmful?

B: Well, carbon dioxide itself does not 2 \_\_\_\_\_ the environment, but the 3 \_\_\_\_\_ of it in the atmosphere causes the “greenhouse effect.”

A: What is the “greenhouse effect”?

B: It is the process by which radiation from the sun is blocked by the greenhouse gases and not reflected back into space. The 4 \_\_\_\_\_ retains more heat than necessary.

A: How does that 5 \_\_\_\_\_?

B: In the last few centuries, coal, oil and natural gas have been burned for energy at a rapidly increasing rate. The carbon contained in these fuels is being 6 \_\_\_\_\_ in the form of carbon dioxide and poured into the atmosphere.

A: And the forests, once 7 \_\_\_\_\_, have been disappearing rapidly in the last couple of centuries.

B: Exactly. It is 8 \_\_\_\_\_ that tropical forests are now disappearing 9 \_\_\_\_\_ about 13 million hectares per year.

A: I see. The burning of fuel adds more carbon dioxide to the atmosphere, and as the forests disappear, less carbon

## 2C Unit 4 *The Villain in the Atmosphere*

dioxide is being removed by plants.

B: As a result, the 10 \_\_\_\_\_ of the carbon dioxide in the atmosphere is going up year by year.

1. absorb    2. do harm to    3. concentration    4. atmosphere    5. come about  
6. released    7. widespread    8. estimated    9. at a rate of    10. quantity

### **Interactive Task 7: Group discussion**

Question: what aspects of your daily life have been affected by the global warming?

Requirements:

- a. introduce the effects of the global warming.
- b. explain possible causes in a logical way.
- c. use as many words and expressions learnt in the text as possible.

### **IV. Homework**

- 1. Complete Ex II on P55-P56;
- 2. Write a short passage (at least 100 words) on “what aspects of your daily life have been affected by the global warming? ”

Requirements:

- a. introduce the effects of the global warming.
- b. explain possible causes in a logical way.
- c. use as many words and expressions learnt in the text as possible.