GREENHOUSE EFFECT

Worksheet

Exercise 1

Use the tables to take turns asking and answering questions with your partner, and write down the answers. Student A, use this table. Student B, use table 2 on the next page. (Do not look at your partner's table.)

Table 1: Student A

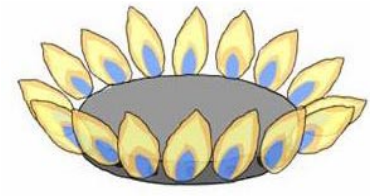
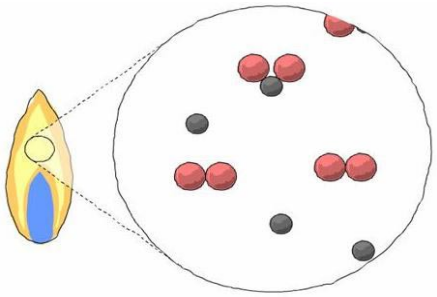
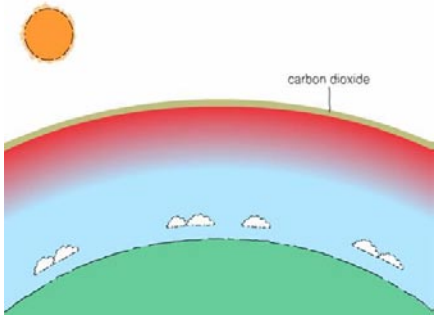
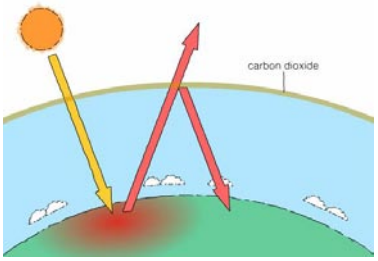
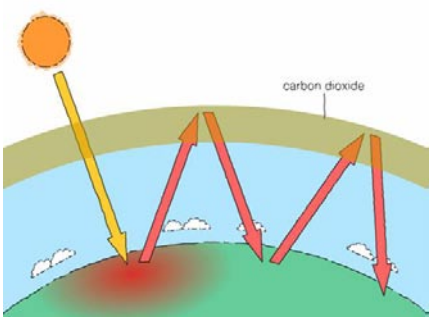
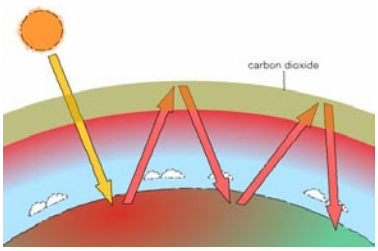
Fossil fuels contain carbon from plants and animals that died millions of years ago.  _____ _____ _____	What happens when we burn fossil fuels? 
A greenhouse gas traps heat in the Earth's atmosphere. 	How does a greenhouse gas trap heat in the Earth's atmosphere?  _____ _____ _____
As more and more carbon dioxide goes into the atmosphere, we begin to trap more heat and the Earth gets warmer and warmer. 	What happens when the Earth gets warmer?  _____ _____ _____

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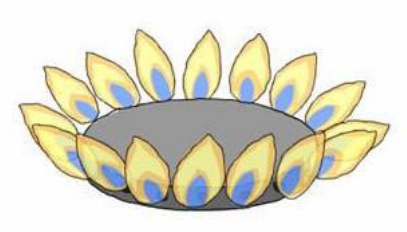
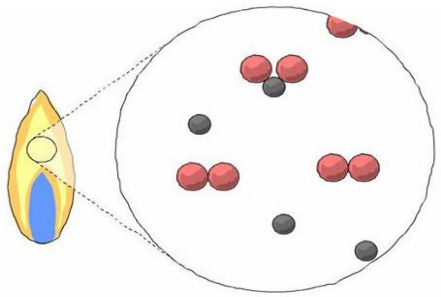
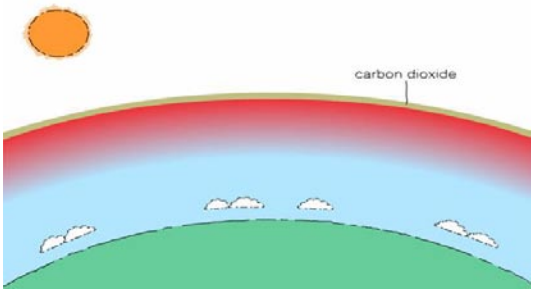
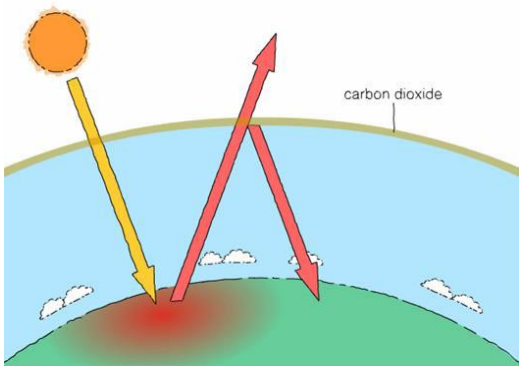
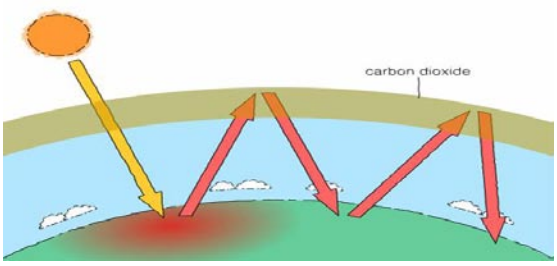
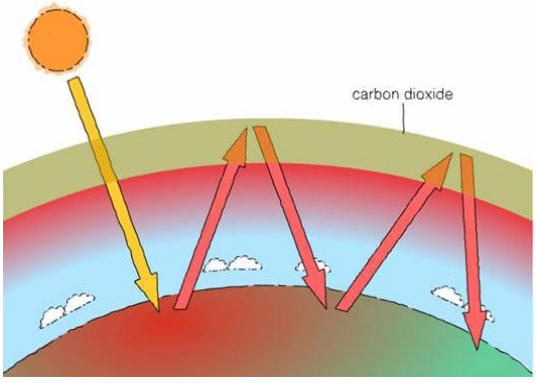
Table 2: Student B

What do fossil fuels contain? 	When we burn fossil fuels, carbon dioxide is produced 
What does a greenhouse gas do?  	It lets the Sun's light in, but doesn't let all the heat produced by the sunlight back out again 
What happens when more and more carbon dioxide goes into the atmosphere?  	When the Earth gets warmer, there are changes in the weather, and sea levels rise. 

Exercise 2

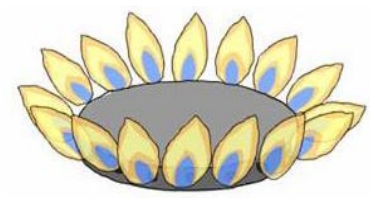
Watch the animation and complete the gaps.

1. Oil and gas are _____.
2. When we burn fossil fuels, the carbon reacts with _____in the air to make _____.
3. Carbon dioxide is a greenhouse gas which means it acts like a _____ .
4. It traps_____ in the Earth's _____.
5. It does this by letting the Sun's light in but not letting _____ produced by the sunlight back out again.
6. As more and more carbon dioxide goes into the atmosphere, we begin to trap more heat, and the Earth gets _____ .
7. This triggers _____ in the weather and causes _____ to rise.

Exercise 3

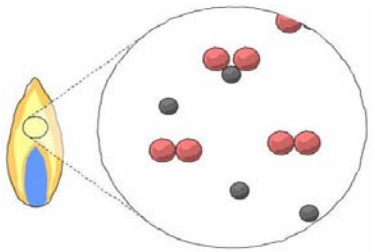
Talk about the pictures using the prompts.

1



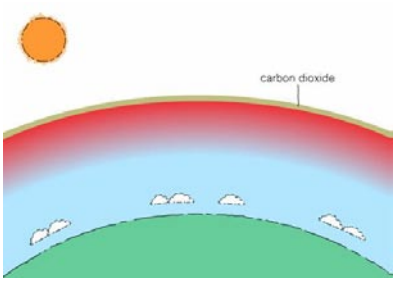
fossil fuels/contain/carbon/plants and animals/die/millions of years ago

2



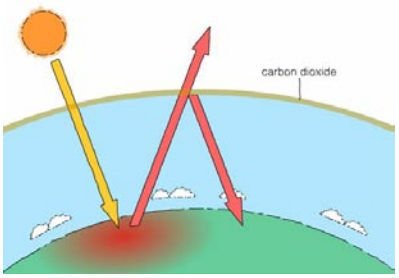
burn/fossil fuels/carbon/react with/oxygen/air/make/carbon dioxide

3



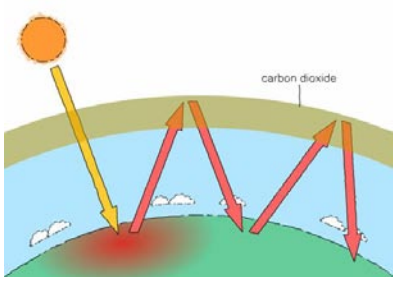
carbon dioxide/greenhouse gas/trap/heat/Earth's atmosphere/like/blanket

4



greenhouse gases/let/Sun's light/in/not let/all/heat/produce by/sunlight/back out

5



more and more/carbon dioxide/go into/atmosphere/Earth/get/warmer and warmer/weather/change/ sea levels/rise

TEACHER'S NOTES

GREENHOUSE EFFECT

Objectives

Science

Students learn about the greenhouse effect: the way in which greenhouse gases trap heat in the Earth's atmosphere, causing the Earth to warm up.

Language

Skills: Speaking, listening, reading and writing
Grammar: Present simple tense
Vocabulary: Nouns: *fossil fuel, carbon, carbon dioxide, greenhouse gas, Earth, atmosphere, sea levels, oxygen, blanket*
Verbs: *produce, trap, rise, react with, trigger*

Activities

Activities	***Language skills***
Students say what they know about the greenhouse effect	Speaking; vocabulary; present simple tense
They ask and answer questions about the process in pairs	Speaking; reading; vocabulary; present simple tense
They watch the animation and do a gap-fill activity	Listening; reading; writing; vocabulary
They talk about a picture sequence	Speaking; vocabulary; present simple tense
(Groups only:) They give an oral commentary on the animation	Speaking; vocabulary; present simple tense

Procedure

With the whole class

(Typical situation: whole class watching the presentation and animation on an interactive whiteboard or projector.)

1 Introduce the topic, and explain to students that they are going to try and answer some questions about the greenhouse effect. Introduce some key vocabulary (see above). Show students the questions on slide 1 and ask them to give answers, but don't correct their answers at this stage.

2 *[Slide 1]* Ask the students to work in pairs and do exercise 1 on the worksheet: they use the tables to take turns asking and answering the questions with each other, and write down the answers. Student A uses table 1 and Student B uses table 2. (They should not look at each other's table.) Give students a few minutes to read through the information on their tables before doing the activity.

3 *[Slide 2]* Students work in their pairs and discuss the answers to the questions in exercise 1. Help them with anything they find difficult to understand. Ask them whether they guessed the answers correctly.

4 *[Slides 3 and 4]* Tell students not to look at exercise 1 while they do the next exercise. Students look at exercise 2 on the worksheet and read through the sentences. Then play the animation and ask them to listen for the answers and complete the gaps. (You may need to play the animation more than once.)

5 Students check their answers in pairs. Then check answers with the whole class. (See answer key.)

6 *[Slide 5]* In groups, the students do exercise 3 on the worksheet: they talk about the pictures, using the prompts. Monitor and help. Students can check their answers using the suggested sentences in the answer key.

With groups (one group studies the greenhouse effect and then presents it to the class)

(Typical situation: students arranged in groups around computers eg, in a language lab)

1 *[Slide 1]* Show students the questions on slide 1 and let them try and answer the questions in their group.

2 *[Slide 2]* Ask the students to work in pairs and do exercise 1 on the worksheet: they use the tables to take turns asking and answering the questions with each other, and write down the answers. Student A uses table 1 and Student B uses table 2. (They should not look at each other's table.) Give students a few minutes to read through the information on their tables before doing the activity.

3 Students work in their group and discuss the answers to the questions in exercise 1, checking that they understand everything.

4 *[Slides 3 and 4]* Tell students not to look at exercise 1 while they do the next exercise. Students look at exercise 2 on the worksheet and read through the sentences. Then they play the animation, listening for the answers, and complete the gaps.

5 Students check their answers in their group. Then they can use the answer key.

6 *[Slide 5]* In their group, the students do exercise 3 on the worksheet: they describe the process of the greenhouse effect, as shown in the pictures, using the prompts. Students can check their answers using the suggested sentences in the answer key.

7 *[Slide 6]* The group gets ready to give an oral commentary on the animation. They can rehearse once or twice if they wish. Play the animation without sound; students give the commentary.

Greenhouse effect Worksheet answer key

Exercise 2

1. fossil fuels
2. oxygen/carbon dioxide
3. blanket
4. heat/atmosphere
5. all of the heat
6. warmer and warmer
7. changes/sea levels

Exercise 3

Suggested answers:

1. Fossil fuels contain carbon from plants and animals that died millions of years ago.
2. When we burn fossil fuels, the carbon reacts with oxygen in the air to make carbon dioxide.
3. Carbon dioxide is a greenhouse gas which traps the heat in the Earth's atmosphere like a blanket.
4. Greenhouse gases let the Sun's light in but do not let all of the heat produced by the sunlight back out.
5. As more and more carbon dioxide goes into the atmosphere, the Earth gets warmer and warmer, and the weather changes and sea levels rise.