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Burping cows and sheep harm the environment

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11th July, 2007

THE ARTICLE

Burping cows and sheep harm the environment

Scientists are making cows and sheep scapegoats for a small part of global warming. There are new reports that methane gas produced from the animals burping and flatulence could be more hazardous to the environment than four-wheel-drive cars. Experts claim cows are responsible for about three per cent of Britain's greenhouse gases. Michael Abberton of the Institute of Grassland and Environmental Research said the average cow or bull belches out about 100 to 200 litres of methane each day, a lot more damaging than the carbon emitted by gas guzzling cars. Methane emissions from cattle account for a quarter of the gas in our air. In Britain, cows and sheep are the biggest single source of methane - a gas that is 23 times more harmful than carbon dioxide when it comes to global warming.

The race is now on to reduce burping and farting in cows and sheep. If scientists can achieve this, it could help Britain reach its commitments under the Kyoto agreement. Researchers are trying to find a new way to feed cattle and sheep which leads to less gas being produced. The key seems to be in developing new types of food that are easier for farm animals to digest. Scientists in Wales believe putting garlic in their food could reduce the impact on global warming by cutting the amount of gas produced by up to 50 per cent. Project leader Professor Jamie Newbold said: "Garlic directly attacks the organisms in the gut that produce methane." He is conducting tests to see if the garlic gives the animals bad breath or, more specifically, if it lead to garlic flavoured milk and meat.

WARM-UPS

1. COWS & SHEEP: Walk around the class and talk to other students about cows and sheep. Change partners often. After you finish, sit with your original partner(s) and share what you found out.

2. CHAT: In pairs / groups, decide which of these topics or words from the article are most interesting and which are most boring.

scientists / cows / sheep / burping / flatulence / experts / carbon dioxide / achievements / commitments / digestion / farm animals / garlic / bad breath

Have a chat about the topics you liked. Change topics and partners frequently.

3. BODILY NOISES & SMELLS: In pairs / groups, tell each other stories about the following bodily noises and smells:

- burping
- farting
- hiccups
- sniffing
- sneezing
- snoring
- BO (body odor)
- bad breath

4. HEADLINES: Talk with your partner(s) about these headlines. What are the stories behind the headlines? Do you think they'll come true? Change partners and share what you said and heard.

- a) New pill stops burping and flatulence
- b) Government to introduce fines for public burping and farting
- c) Farmyard animal gases the key to future energy supplies
- d) Garlic the secret key in preventing global warming
- e) Riots in streets over garlic flavoured milk
- f) Ants have the biggest carbon footprint

5. FLATULENCE: Spend one minute writing down all of the different words you associate with flatulence. Share your words with your partner(s) and talk about them. Together, put the words into different categories.

6. QUICK DEBATE: Students A think burping is worse than farting. Students B think the opposite. Change partners often. Share your findings.

BEFORE READING / LISTENING

1. TRUE / FALSE: Look at the article's headline and guess whether these sentences are true (T) or false (F):

- | | |
|---|-------|
| a. Scientists say sheep and cows contribute to climate change. | T / F |
| b. Gases from cows burping and farting harm the environment. | T / F |
| c. Cows are responsible for 13% of the UK's greenhouse gases. | T / F |
| d. The gas cows produce by burping is much more potent than CO ₂ . | T / F |
| e. Scientists are keen to make cows and sheep fart less often. | T / F |
| f. Garlic may reduce the amount of gas from cows farting by 50%. | T / F |
| g. Garlic prevents the production of a dangerous gas in the cow's gut. | T / F |
| h. Scientists hope to produce lots of garlic flavoured milk. | T / F |

2. SYNONYM MATCH: Match the following synonyms from the article:

- | | |
|----------------|-------------------|
| 1. flatulence | a. carrying out |
| 2. hazardous | b. sole |
| 3. claim | c. perilous |
| 4. emitted | d. obligations |
| 5. single | e. accomplish |
| 6. achieve | f. farting / wind |
| 7. commitments | g. stomach |
| 8. impact | h. argue |
| 9. gut | i. effect |
| 10. conducting | j. released |

3. PHRASE MATCH: Match the following phrases from the article (sometimes more than one combination is possible):

- | | |
|---|------------------------------------|
| 1. making cows and sheep | a. emitted by gas guzzling cars |
| 2. more hazardous to the environment | b. when it comes to global warming |
| 3. cows are responsible for about 3% | c. gives the animals bad breath |
| 4. more damaging than the carbon | d. on to reduce burping |
| 5. more harmful than carbon dioxide | e. than four-wheel-drive cars |
| 6. The race is now | f. under the Kyoto agreement |
| 7. help Britain reach its commitments | g. the gut that produce methane |
| 8. new types of food that are easier for | h. scapegoats |
| 9. Garlic directly attacks the organisms in | i. of Britain's greenhouse gases |
| 10. tests to see if the garlic | j. farm animals to digest |

WHILE READING / LISTENING

GAP FILL: Put the words into the gaps in the text.

Burping cows and sheep harm the environment

Scientists are making cows and sheep _____ for a small _____ of global warming. There are new reports that methane gas produced from the animals burping and flatulence could be more _____ to the environment than four-wheel-drive cars. Experts _____ cows are responsible for about three per cent of Britain's greenhouse gases. Michael Abberton of the Institute of Grassland and Environmental Research said the _____ cow or bull belches out about 100 to 200 litres of methane each day, a lot more damaging than the carbon emitted by gas _____ cars. Methane emissions from cattle account for a quarter of the gas in our air. In Britain, cows and sheep are the biggest _____ source of methane - a gas that is 23 times more harmful than carbon dioxide when it _____ to global warming.

single

claim

part

average

comes

scapegoats

guzzling

hazardous

The race is now on to _____ burping and farting in cows and sheep. If scientists can _____ this, it could help Britain reach its commitments under the Kyoto agreement. Researchers are trying to find a new _____ to feed cattle and sheep which _____ to less gas being produced. The key seems to be in developing new types of food that are easier for farm animals to _____. Scientists in Wales believe putting garlic in their food could reduce the impact on global warming by cutting the _____ of gas produced by up to 50 per cent. Project leader Professor Jamie Newbold said: "Garlic directly attacks the _____ in the gut that produce methane." He is conducting tests to see if the garlic gives the animals bad breath or, more _____, if it lead to garlic flavoured milk and meat.

specifically

achieve

amount

leads

reduce

organisms

digest

way

LISTENING

Listen and fill in the spaces.

Burping cows and sheep harm the environment

Scientists are making cows and sheep scapegoats _____ global warming. There are new reports that methane gas produced from the animals burping and flatulence _____ to the environment than four-wheel-drive cars. Experts claim cows are responsible for about three per cent of Britain's greenhouse gases. Michael Abberton of the Institute of Grassland and Environmental Research said the average cow or _____ 100 to 200 litres of methane each day, a lot more damaging than the carbon _____. Methane emissions from cattle account for a quarter of the gas in our air. In Britain, cows and sheep _____ of methane - a gas that is 23 times more harmful than carbon dioxide _____ global warming.

The _____ burping and farting in cows and sheep. If scientists can achieve this, it could help Britain _____ under the Kyoto agreement. Researchers are trying to find a new way to feed cattle and sheep which _____ produced. The key seems to be in developing new types of food that are easier for farm animals to digest. Scientists in Wales believe putting garlic in their food _____ on global warming by cutting the amount of gas produced by up to 50 per cent. Project leader Professor Jamie Newbold said: "Garlic directly attacks the organisms _____ methane." He is conducting tests to see if the garlic gives _____ or, more specifically, if it lead to garlic flavoured milk and meat.

AFTER READING / LISTENING

1. WORD SEARCH: Look in your dictionaries / computer to find collocates, other meanings, information, synonyms ... for the words 'cow' and 'sheep'.

cow	sheep
------------	--------------

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall exactly how these were used in the text:

<ul style="list-style-type: none">• small part• hazardous• three per cent• guzzling• source• 23 times	<ul style="list-style-type: none">• race• agreement• feed• garlic• gut• milk
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STUDENT BURPING & FARTING SURVEY

Write five GOOD questions about BURPING and FARTING in the table. Do this in pairs. Each student must write the questions on his / her own paper.

When you have finished, interview other students. Write down their answers.

	STUDENT 1	STUDENT 2	STUDENT 3
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

- a) What did you think when you read the headline?
- b) Do you think the world's animals pose a threat to our environment?
- c) What action do you think governments should take to reduce the levels of burping and flatulence in cows and sheep?
- d) Do you think bodily gases from people also need reducing?
- e) How much methane do you think you produce each day?
- f) Do you think we could use the methane from cows and sheep to solve some energy problems?
- g) Should there be ads to make people aware of this problem?
- h) Do you think farmers should pay a burping and flatulence tax?
- i) What other animals do you think governments should look at?
- j) Do you think we should be vegetarian to cut down on methane?



STUDENT B's QUESTIONS (Do not show these to student A)

- a) Did you like reading this article?
- b) Do you think scientists will win the race to reduce the methane?
- c) If Britain reduces levels of cow and sheep emissions, do you think it can relax on cutting down on industrial pollution?
- d) Do you think cutting methane emissions by 50% will help the environment?
- e) What other ways do animals harm the environment?
- f) Do you like garlic?
- g) Would you drink garlic flavoured milk if it helped protect the environment?
- h) Would you change your diet if it helped protect the environment?
- i) What do you think cows and sheep would think of this article?
- j) Did you like this discussion?

AFTER DISCUSSION: Join another partner / group and tell them what you talked about.

- a) What was the most interesting thing you heard?
- b) Was there a question you didn't like?
- c) Was there something you totally disagreed with?
- d) What did you like talking about?
- e) Which was the most difficult question?

LANGUAGE

CORRECT WORD: Put the correct words from a–d below in the article.

Burping cows and sheep harm the environment

Scientists are (1) _____ cows and sheep scapegoats for a small part of global warming. There are new reports that methane gas produced from the animals burping and flatulence (2) _____ be more hazardous to the environment than four-wheel-drive cars. Experts (3) _____ cows are responsible (4) _____ about three per cent of Britain's greenhouse gases. Michael Abberton of the Institute of Grassland and Environmental Research said the average cow or bull belches out about 100 to 200 litres of methane each day, a lot more damaging than the carbon emitted (5) _____ gas guzzling cars. Methane emissions from cattle account for a quarter of the gas in our air. In Britain, cows and sheep are the biggest single source of methane - a gas that is 23 times more harmful than carbon dioxide when it (6) _____ to global warming.

The race is now (7) _____ to reduce burping and farting in cows and sheep. If scientists can achieve this, it could help Britain reach its commitments (8) _____ the Kyoto agreement. Researchers are trying to find a new way to feed cattle and sheep which leads to less gas being produced. The key seems to be (9) _____ developing new types of food that are easier for farm animals to (10) _____. Scientists in Wales believe putting garlic in their food could reduce the impact on global warming by cutting the amount of gas produced by up to 50 per cent. Project leader Professor Jamie Newbold said: "Garlic directly attacks the (11) _____ in the gut that produce methane." He is conducting tests to see if the garlic gives the animals (12) _____ breath or, more specifically, if it lead to garlic flavoured milk and meat.

- | | | | | |
|-----|----------------|---------------|---------------|----------------|
| 1. | (a) make | (b) making | (c) made | (d) makes |
| 2. | (a) are | (b) should | (c) could | (d) is |
| 3. | (a) clam | (b) claiming | (c) reclaim | (d) claim |
| 4. | (a) for | (b) by | (c) with | (d) at |
| 5. | (a) for | (b) with | (c) by | (d) in |
| 6. | (a) pollutes | (b) rises | (c) goes | (d) comes |
| 7. | (a) on | (b) off | (c) in | (d) out |
| 8. | (a) in | (b) under | (c) by | (d) from |
| 9. | (a) throughout | (b) across | (c) down | (d) in |
| 10. | (a) digest | (b) digestion | (c) digestive | (d) digests |
| 11. | (a) organic | (b) organs | (c) organisms | (d) organizers |
| 12. | (a) smell | (b) bad | (c) odor | (d) fragrant |

HOMEWORK

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find more information about cows and sheep. Talk about what you discover with your partner(s) in the next lesson.

3. ANIMALS: Make a poster showing how different animals might be contributing to climate change. Show your poster to your classmates in the next lesson. Did you all find out similar things?

4. MAGAZINE ARTICLE: Write a magazine article about the effects of cows and sheep burping and being flatulent. Discuss whether the carbon created by cows and sheep should be reduced.

Read what you wrote to your classmates in the next lesson. Which article was best and why?

5. LETTER: Write a letter to a farmer. Ask him/her three questions about cows and sheep burping and farting. Give three suggestions about how to reduce methane levels in farm animals. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

TRUE / FALSE:

a. T b. T c. F d. T e. T f. T g. T h. F

SYNONYM MATCH:

- | | |
|----------------|-------------------|
| 1. flatulence | a. farting / wind |
| 2. hazardous | b. perilous |
| 3. claim | c. argue |
| 4. emitted | d. released |
| 5. single | e. sole |
| 6. achieve | f. accomplish |
| 7. commitments | g. obligations |
| 8. impact | h. effect |
| 9. gut | i. stomach |
| 10. conducting | j. carrying out |

PHRASE MATCH:

- | | |
|---|------------------------------------|
| 1. making cows and sheep | a. scapegoats |
| 2. more hazardous to the environment | b. than four-wheel-drive cars |
| 3. cows are responsible for about 3% | c. of Britain's greenhouse gases |
| 4. more damaging than the carbon | d. emitted by gas guzzling cars |
| 5. more harmful than carbon dioxide | e. when it comes to global warming |
| 6. The race is now | f. on to reduce burping |
| 7. help Britain reach its commitments | g. under the Kyoto agreement |
| 8. new types of food that are easier for | h. farm animals to digest |
| 9. Garlic directly attacks the organisms in | i. the gut that produce methane |
| 10. tests to see if the garlic | j. gives the animals bad breath |

GAP FILL:

Burping cows and sheep harm the environment

Scientists are making cows and sheep **scapegoats** for a small **part** of global warming. There are new reports that methane gas produced from the animals burping and flatulence could be more **hazardous** to the environment than four-wheel-drive cars. Experts **claim** cows are responsible for about three per cent of Britain's greenhouse gases. Michael Abberton of the Institute of Grassland and Environmental Research said the **average** cow or bull belches out about 100 to 200 litres of methane each day, a lot more damaging than the carbon emitted by gas **guzzling** cars. Methane emissions from cattle account for a quarter of the gas in our air. In Britain, cows and sheep are the biggest **single** source of methane - a gas that is 23 times more harmful than carbon dioxide when it **comes** to global warming.

The race is now on to **reduce** burping and farting in cows and sheep. If scientists can **achieve** this, it could help Britain reach its commitments under the Kyoto agreement. Researchers are trying to find a new **way** to feed cattle and sheep which **leads** to less gas being produced. The key seems to be in developing new types of food that are easier for farm animals to **digest**. Scientists in Wales believe putting garlic in their food could reduce the impact on global warming by cutting the **amount** of gas produced by up to 50 per cent. Project leader Professor Jamie Newbold said: "Garlic directly attacks the **organisms** in the gut that produce methane." He is conducting tests to see if the garlic gives the animals bad breath or, more **specifically**, if it lead to garlic flavoured milk and meat.

LANGUAGE WORK

1 - b 2 - c 3 - d 4 - a 5 - c 6 - d 7 - a 8 - b 9 - d 10 - a 11 - c 12 - b