

BOOK
#2
2010-11

NEWS4YOUTH

Investigates

GLOBAL WARMING

A Graphic Non-Fiction Adventure



Teacher's Guide

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TABLE OF CONTENTS:

Working With The Text

Part I: About Global Warming

- A. Multiple Choice 1
- B. Written Response 2
- C. Venn Diagram 3
- D. Graph Analysis 4

Part II: The Impacts of Global Warming

- A. Multiple Choice 5
- B. Written Response 6
- C. Rating Impact 7

Part III: The World's Response

- A. Multiple Choice 8
- B. Word Work 10
- C. Create a Timeline 11

Part IV: What We Can Do

- A. Graphic Organizer 12

Putting It All Together

- A. Create and Conduct a Poll 13
- B. Develop a Slogan 14
- C. Write an Email 15
- D. Respond to a Quote 16
- E. Create a Sociogram 17
- F. Research 18
- G. Analyze an Editorial Cartoon 19
- H. Analyze an Editorial Cartoon 20
- I. Crossword 21
- J. Map Analysis 22

Answer Key 23

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WORKING WITH THE TEXT

Part I: About Global Warming

A. Write the letter that corresponds to the *best* answer on the line beside each question.

- Global warming is the increase, over time, of the Earth's average ...
 - atmospheric pressure
 - atmospheric temperature
 - core pressure
 - surface temperature
 - none of the above
- By about how many degrees Celsius has the Earth warmed over the past 200 years?
 - 0 degrees
 - 0.5 degrees
 - 1.0 degrees
 - 1.5 degrees
 - none of the above
- Which of the following is NOT a greenhouse gas?
 - calcium chloride
 - nitrous oxide
 - carbon dioxide
 - water vapour
 - all of the above
- Which of the following contribute to global warming?
 - farming
 - garbage
 - home heating
 - cars
 - all of the above
- By how much are temperatures on Earth likely to rise over the next 100 years?
 - by 5 degrees Celsius
 - between 1.8 and 4 degrees Celsius
 - another 2 degrees Celsius
 - more than in the previous 20 years



B. Answer the following in complete sentences:

1. a) What is your understanding of the term 'weather'? If necessary, use a dictionary to help you define this term.

b) What is your understanding of the term 'climate'?

c) As you see it, in what ways are these two terms related? Explain.

2. ***The current warming trend is nothing unusual.***
Do you agree or disagree with this statement?
Give reasons to support your response.

3. Give one example of a natural event that may have led to the warming or cooling of our planet in the past.

4. What reasons can you suggest to explain why many scientists are concerned about an average global temperature increase of just 0.5 degrees Celsius? Explain.

5. a) Explain what the greenhouse effect is.

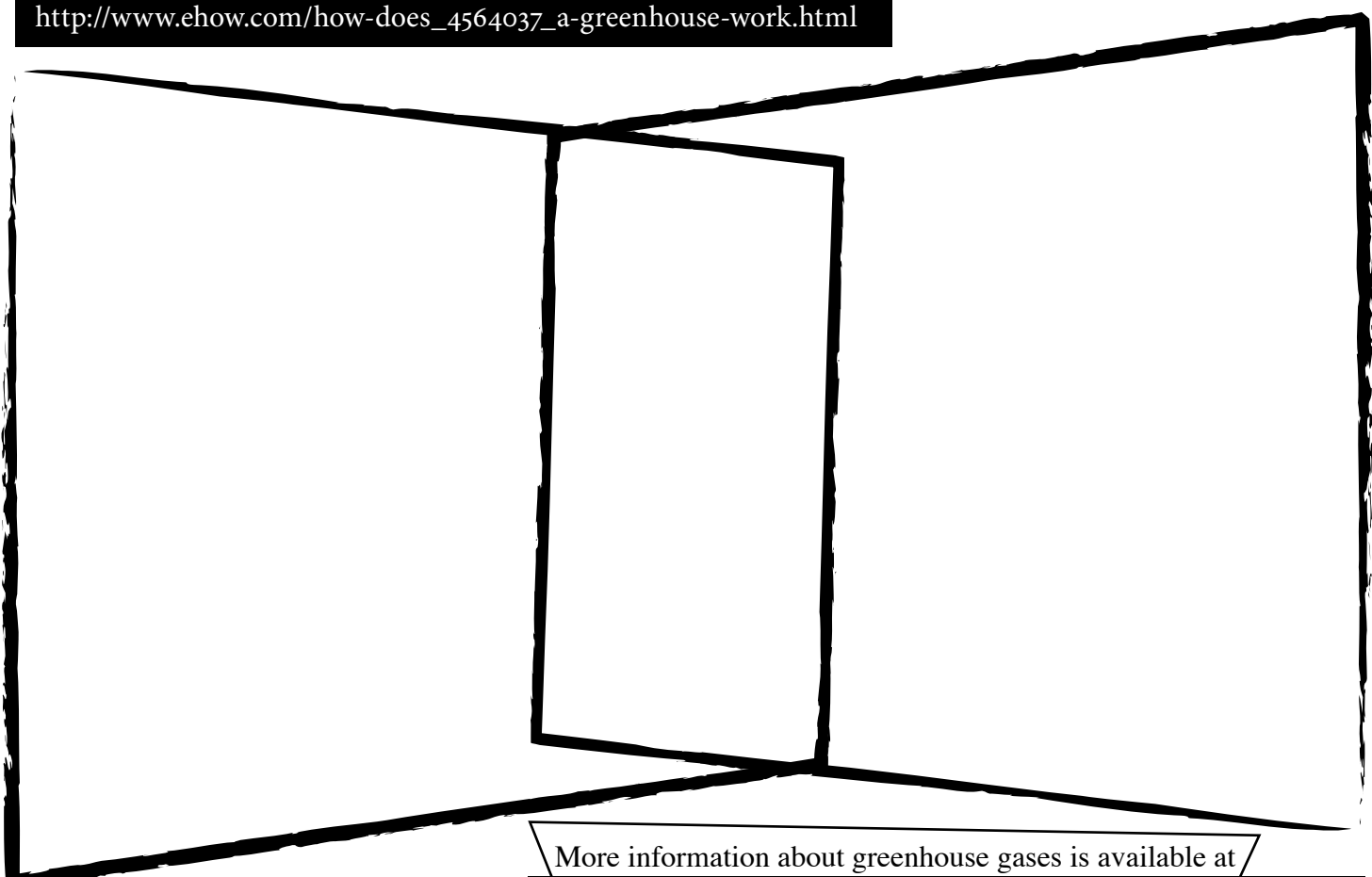
b) For what reasons is the greenhouse effect key to life on Earth?

c) How has the Earth's natural warming system been thrown out of balance over the past 200 years?

6. What evidence supports the idea that the 2007 report prepared by the United Nations Intergovernmental Panel on Climate Change is credible? Explain.

C. In what ways is a greenhouse similar to greenhouse gases? In what ways are a greenhouse and greenhouse gases different? Complete the Venn diagram below with as many similarities and differences as you can think of. Consider the composition, purpose, and effect of greenhouses and greenhouse gases when completing your diagram.

For more information about greenhouses, visit
http://www.ehow.com/how-does_4564037_a-greenhouse-work.html



More information about greenhouse gases is available at
<http://www.buzzle.com/articles/what-are-greenhouse-gases.html>

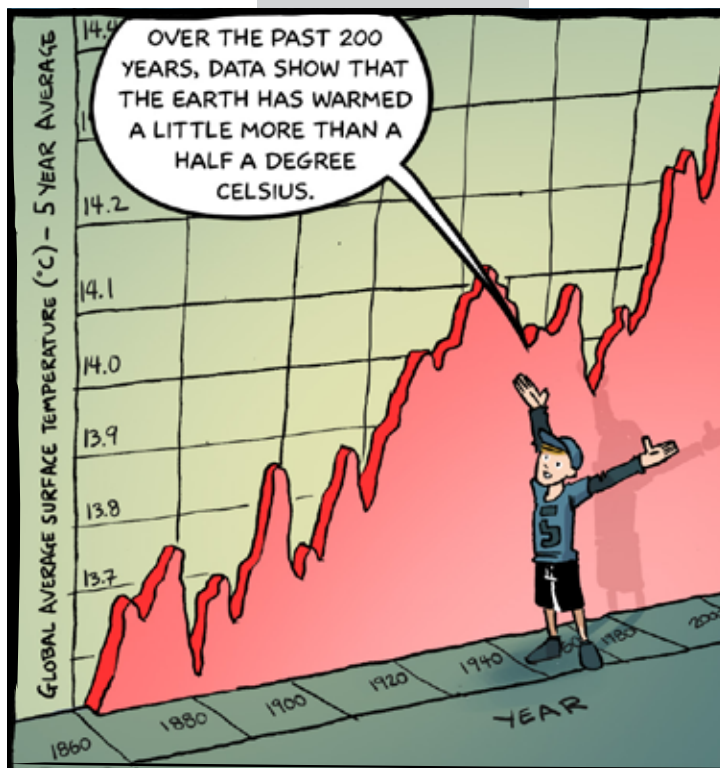
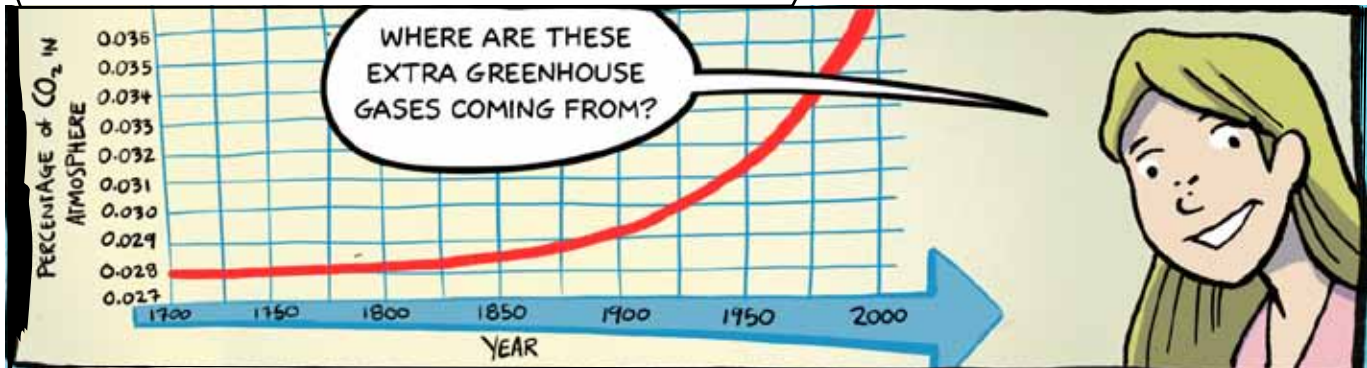
After completing the diagram, consider:

1. As you see it, what is the greatest similarity between greenhouses and greenhouse gases? Explain.

2. What is the biggest difference? Explain.

The greatest similarity is *the aspect that is most alike*. The greatest difference is *the aspect that is most unlike*.

Answer the following questions using the graphs to help you:



1. a) What was the approximate global average surface temperature of the Earth in 1860? In 2000?

b) What observations can you make about the global average surface temperature of the Earth between 1860 and 2000? Explain.

2. a) What was the percentage of carbon dioxide in the atmosphere in 1800? In 2000?

b) What observations can you make about the percentage of carbon dioxide in the atmosphere between about 1850 and 2000? Explain.

3. Compare the two graphs. In what ways are they similar? In what ways are they different?

4. What conclusions can you draw based on these comparisons? Explain.

Part II: The Impacts of Global Warming

A. Write the letter that corresponds to the *best* answer on the line beside each question.

- Global warming is already causing:
 - hot summers around the globe
 - increasingly frequent extreme weather
 - ice in the Arctic and Antarctic to melt
 - b and c
 - none of the above
- As a result of global warming, 100 years from now sea levels are expected to:
 - drop by 100 centimetres or more
 - stay the same
 - rise between 50 and 150 centimetres
 - vary considerably
 - none of the above
- Which of the following is NOT likely to result from global warming?
 - improved human health
 - the extinction of many plants and animals
 - freshwater shortages
 - changes in food production conditions
 - none of the above
- Which countries will likely suffer most as a result of global warming?
 - poorer countries
 - smaller countries
 - richer countries
 - larger countries
 - none of the above
- How may we avoid the most catastrophic impacts of global warming ?
 - by stopping all emissions today
 - by keeping temperatures from rising more than 2 degrees Celsius above 1800 levels
 - a and b
 - all of the above
 - none of the above



