

## Feeling Hot! Hot! Hot!

### ***Scenario:***

This past summer, the San Joaquin Valley set records for high temperatures compared to previous years. Dairies experienced a loss of cows, and some farms had low crop yields due directly to increased temperatures. Several news reports from climate experts state that high temperatures are an indication that global warming is occurring and that we can expect more summers like this past one or worse. This has raised concern among our local ranchers and farmers, and they want information that can help them make the best choices for their businesses. The local Farm Bureau has invited your team to speak to the local farmers and ranchers to give them information about global warming and advice on how to have a successful business if the environment does become hotter.

### ***Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):***

1. An overview about global warming and how it could affect local temperatures.
2. How do this past year's temperatures compare to previous years?
3. Why are some plants and animals better suited to survive in a hotter climate?
4. Pick one type of agriculture and tell why it is adversely affected by high temperatures.
5. Pick one type of agriculture and tell why it is positively affected by high temperatures.
6. What would be involved if a rancher or farmer decided to make a change from their product in question 4 to one you recommend in question 5?

### ***Possible Sources***

Library books, agriculture experts, local farmers and ranchers, videos, encyclopedias, science textbooks

ERS Portal sources: EBSCO, United Streaming, California Streaming, Brainpop, Associate Press Extensive Photo Archive and Marco Polo Science NetLinks <http://www.erslibrary.org>

Internet websites:

Science Daily: <http://www.sciencedaily.com/releases/2002/09/020919065913.htm>

Environmental Protection Agency: <http://www.epa.gov/globalwarming/kids/index.html>

U. C. Agriculture: <http://calag.ucop.edu/Default.htm> (people to interview)

Tulare County Farm Bureau: <http://www.tulcofb.org/> (people to interview)

### ***Bibliography***

Be sure to have a printed bibliography to hand to the judges before you begin your presentation. You are encouraged to cite all of your sources including graphics. A simple web tool to organize your bibliography can be found at <http://citationmachine.net/>.

## Animal Crackers

### **Scenario:**

The Animal Planet Cable Network is looking for a new program investigating the impact of global warming on endangered species. Your media production company has an idea for just such a program: "Endangered Animal of the Week." Your plan is to travel the world to tell the story of animals in danger of extinction. The Network Programming Director has announced a request for proposals. Your presentation should describe the pilot episode. You must select one animal that your research shows is endangered and how it has been affected by global warming.

### **Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):**

1. What is global warming?
2. What is extinction?
3. What animal would you feature on the first episode and why?
4. What critical factors are affecting the survival of the animal?
5. What evidence is there that global warming is affecting the animal's environment?
6. What is the animal's primary food source and how does global warming impact the food source?
7. What impact would the loss of your animal have on other animals and humans in the area?
8. If the climate of the habitat changes, what animals might thrive in the new environment?
9. How will this program be marketed?
10. Who will be the target audience?
11. What features of the show will make it interesting?
12. Who will be the host of the show and why?

### **Possible Sources**

Library books, wildlife experts, climatologists, videos, encyclopedias, science textbooks  
ERS Portal sources: EBSCO, United Streaming, California Streaming, Brainpop, Associate Press  
Extensive Photo Archive and Marco Polo Science NetLinks <http://www.erslibrary.org>  
Internet websites:

- <http://www.animaloftheweek.co.uk/>
- <http://www.worldwildlife.org/endangered/>
- <http://www.endangeredspecie.com/>
- <http://www.kidsplanet.org/factsheets/map.html>
- <http://www.solcomhouse.com/species.htm>
- <http://www.biologicaldiversity.org/swcbd/species/polarbear/index.html>
- <http://www.epa.gov/globalwarming/kids/index.html>

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## Cold, Hard Facts

### **Scenario:**

The debate over global warming focuses attention on the issue of melting glaciers. A major university is proposing a study tour for 5th grade teachers. This tour would enable teachers to travel to a number of glaciers to study, gather evidence and create teaching materials. Since Your travel company wants to win the contract to provide the travel package for the study tour. The Request for Proposals asks that you address at least some of the following questions.

### **Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):**

1. Which glaciers would you place on the tour and why?
2. What equipment should the teachers bring?
3. What amenities will the tour provide?
4. What modes of transportation would you use?
5. Can anything be done to restore glaciers and the environment?
6. What are the different types of glaciers and how are they formed?
7. How many glaciers are there in the world?
8. Are glaciers receding?
9. Is global warming having an impact on glaciers?
10. Are melting glaciers having an impact on global warming?
11. What evidence is there supporting the impact of global warming on glaciers?
12. What is the current impact on our environment?
13. What is the potential impact on our environment?

### **Possible Sources**

Library books, glaciologists, climatologists, videos, encyclopedias, science textbooks  
ERS Portal sources: EBSCO, United Streaming, California Streaming, Brainpop, Associate Press  
Extensive Photo Archive and Marco Polo Science NetLinks <http://www.erslibrary.org>  
Internet websites:

<http://42explore.com/glaciers.htm>

<http://yosemite.epa.gov/oar/globalwarming.nsf/content/index.html>

<http://www.nsidc.org/>

<http://www.nsf.gov/>

<http://www.ncdc.noaa.gov/oa/climate/globalwarming.html>

<http://www.alaskascenes.com/alaskaglaciars.html>

<http://archives.cnn.com/2002/TECH/science/07/18/glacier.melt/index.html>

[http://news.nationalgeographic.com/news/2001/12/1217\\_alaskaglaciars.html](http://news.nationalgeographic.com/news/2001/12/1217_alaskaglaciars.html)

<http://www.pewclimate.org/search/results.cfm>

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## Global Warming: A River Runs Through It

### **Scenario:**

A Senate fact-finding committee is studying environmental issues impacting the United States. Of particular concern is the country's non-participation in the Kyoto Agreement, the debate over global warming and its impact on future foreign and domestic policy. Your team, a group of scientists working for a university-related institute studying Earth's oceans, is called to testify. The Committee Chairperson identifies possible topics to cover (listed below) and asks that you address those that, in your professional opinion, are most important for the country to understand. The committee welcomes any recommendations for action that you feel are appropriate based on scientific evidence. The committee reminds you that they have a full agenda and you have only ten minutes for your presentation.

### **Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):**

1. What is global warming?
2. How can we determine if this is really occurring?
3. Are Earth's oceans related to global warming?
4. Do ocean currents affect climate?
5. Can melting glaciers and sea ice affect ocean currents?
6. Could global warming cause a new ice age?
7. Are hurricanes and typhoons related to ocean temperature?
8. Would global warming have an impact on these storms?
9. Can we be sure global warming is caused by human activity and not just a normal climate cycle?

### **Possible Sources**

Library books, oceanographers, climatologists, videos, encyclopedias, science textbooks  
ERS Portal sources: EBSCO, United Streaming, California Streaming, Brainpop, Associate Press  
Extensive Photo Archive and Marco Polo Science NetLinks <http://www.erslibrary.org>

Internet websites:

EPA Global Warming: Kids Site:

<http://www.epa.gov/globalwarming/kids/climatesys.html>

National Oceanic and Atmospheric Administration:

<http://www.ncdc.noaa.gov/oa/climate/globalwarming.html>

Woods Hole Oceanographic Institution:

<http://www.whoi.edu/institutes/occi/viewTopic.do?o=read&id=501>

National Geographic.com:

[http://news.nationalgeographic.com/news/2005/06/0627\\_050627\\_oceancurrent.html](http://news.nationalgeographic.com/news/2005/06/0627_050627_oceancurrent.html)

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## EarthTalk Radio

### **Scenario:**

One of the hottest and most controversial topics in the news involves the theory of global warming. There are a lot of news stories about global warming and related topics with differing opinions and theories expressed. Your group is part of a media promotion company that sells ideas to radio stations and advertisers. Your group is making a presentation to the leadership of a national talk radio station to have a weekly program that deals with global warming. The basic premise of the broadcast is to have the show host interview guests with differing opinions. Your first proposed show would deal with the rapid extinction rate of species and how this may be tied to global warming. Your pilot program should include a show host and two guests who have established a reputation in the area of global warming.

### **Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):**

1. Provide a brief overview of global warming theories.
2. Provide the group with some background on why the adaptive characteristics of some species are insufficient for their survival if global warming does occur.
3. Compare the present to previous eras when species extinction was at a high level.
4. Tell about the two guests and why they would be good to have on the show.
5. How do their theories or opinions differ?
6. What could the host read before the show to be able to ask knowledgeable questions?
7. What would be some probing questions to move the show along?
8. How would you market this show to the public to get a lot of listeners?

### **Possible Sources**

Library books, glaciologists, climatologists, videos, encyclopedias, science textbooks  
ERS Portal sources: EBSCO, United Streaming, California Streaming, Brainpop, Associate Press  
Extensive Photo Archive and Marco Polo Science NetLinks <http://www.erslibrary.org>  
Internet websites:

Environmental Protection Agency: <http://www.epa.gov/globalwarming/kids/index.html>

Wikipedia: <http://en.wikipedia.org/wiki/Extinction>

MPR: [http://news.minnesota.publicradio.org/features/2005/01/31\\_olson\\_d\\_biodiversity/](http://news.minnesota.publicradio.org/features/2005/01/31_olson_d_biodiversity/)

Roundtable: [http://www.pbs.org/wgbh/evolution/extinction/massex/statement\\_03.html](http://www.pbs.org/wgbh/evolution/extinction/massex/statement_03.html)

Wikipedia: [http://en.wikipedia.org/wiki/Talk\\_radio](http://en.wikipedia.org/wiki/Talk_radio)

NPR: <http://www.npr.org/templates/story/story.php?storyId=5625218>

Poynter Online: <http://poynter.org/column.asp?id=36&aid=38681>

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## Amicus Curiae

### **Scenario:**

There is a lawsuit in the news by the State of California against the six leading automobile manufacturers stating that they are the cause of nearly one third of the state's emissions problem and a leading cause of global warming. The judge for this case needs background information so that he/she can be prepared to hear motions as to whether the case should be dismissed or move forward and possibly go to trial. Your group has been hired in the role of "friend of the court," or in Latin, amicus curiae, to provide the judge with an overview of the impact of the lawsuit. The judge has a very busy schedule, so you only have ten minutes to get her/him up to speed on the issues.

### **Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):**

9. What is your role as a "friend of the court?"
10. What evidence is there that automobile emissions are leading to global warming?
11. What negative impact could California claim is a result of global warming?
12. What does the State of California hope to gain by filing this lawsuit?
13. How does the State of California's actions relate to the Kyoto conference?
14. Why would the automobile manufacturers want to fight this lawsuit?
15. Why could this case be considered unusual?
16. What are some potential outcomes to this lawsuit?

### **Possible Sources**

Newspapers, environmental scientists, weather experts, automobile dealerships library books, videos, encyclopedias, science textbooks  
ERS Portal sources: EBSCO, United Streaming, California Streaming, Brainpop, Associate Press Extensive Photo Archive and Marco Polo Science NetLinks <http://www.erslibrary.org>  
Internet websites:

Tech Law Journal: <http://www.techlawjournal.com/glossary/legal/amicus.htm>

Environmental Protection Agency: <http://www.epa.gov/>

New York Times:

[http://www.nytimes.com/2006/09/21/business/21auto.html?\\_r=1&oref=slogin](http://www.nytimes.com/2006/09/21/business/21auto.html?_r=1&oref=slogin)

Bloomberg:

[http://www.bloomberg.com/apps/news?pid=20601103&sid=aSthCirr\\_IoI&refer=us](http://www.bloomberg.com/apps/news?pid=20601103&sid=aSthCirr_IoI&refer=us)

Wikipedia: [http://en.wikipedia.org/wiki/Kyoto\\_Protocol](http://en.wikipedia.org/wiki/Kyoto_Protocol)

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## Greenhouse Gas or Smokescreen?

### **Scenario:**

A Senate fact-finding committee is studying environmental issues impacting the United States. Of particular concern is the country's non-participation in the Kyoto Agreement, the debate over global warming and its impact on future foreign and domestic policy. Your team, a group of scientists working for a university-related institute studying Earth's climate, is called to testify. The Committee Chairperson identifies possible topics to cover (listed below) and asks that you address those that, in your professional opinion, are most important for the country to understand. He welcomes any recommendations for action that you feel are appropriate based on scientific evidence. He reminds you that they have a full agenda and you have only ten minutes for your presentation.

### **Possible topics to cover (these are only suggestions and are not a requirement for a superior presentation):**

10. What is Global Warming? How can we determine if this is really occurring?
11. What is the Greenhouse Effect and what causes it? How did it get its name?
12. How can changes in the atmosphere affect life on Earth? Has it ever happened before in Earth's history?
13. Have recent changes in the atmosphere already affected life on Earth?
14. Will melting ice caps and glaciers contribute to the Greenhouse Effect?
15. How can we be sure global warming is caused by human activity and not just a normal climate cycle?

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National Oceanic and Atmospheric Administration:

<http://www.ncdc.noaa.gov/oa/climate/globalwarming.html>

The Earth Institute at Columbia University: <http://www.earth.columbia.edu/>

RealClimate: <http://www.realclimate.org/>

Wikipedia: [http://en.wikipedia.org/wiki/Global\\_warming](http://en.wikipedia.org/wiki/Global_warming)

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