

## Curse of the Were-Rodent

### ***Scenario:***

The local ecosystem has a rodent problem: the population of natural predators has declined and the exploding population of gophers and ground squirrels has created economic, health and quality of life problems for people in the area. The City Council of your town is looking for solutions to the problem and will consider proposals at their next public meeting. Some experts suggest killing all of the gophers and ground squirrels by using chemicals. Your team feels that harsh chemicals are dangerous and using natural methods to control the gophers and ground squirrels is a safer solution. In order to get the funding to implement your program, your multimedia presentation needs to convince the Council that your methods are a better way to solve the problem.

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

1. What were the natural predators and what might have happened to them?
2. What is the history of natural control of pests?
3. What evidence supports the success of natural methods of control?
4. How could you attract more of the original predators into the area?
5. What might happen if you brought in predators that are not native to the area?
6. Why is killing all of the rodents a bad idea?
7. What are the dangers of using chemicals or traps?
8. What natural control would you use?
9. How will your plan affect the local ecosystem?
10. Why will the new control agent adapt to the local biome?

### ***Possible Sources***

Newspapers, libraries, veterinarians, science textbooks, Internet websites:

Biological Control Virtual Information Center <http://cipm.ncsu.edu/ent/biocontrol/>

Gophers, Barn Owls and a Vineyard <http://www.wildlife-control.com/tech/winvin2.html>

Wisconsin's School IPM [http://ipcm.wisc.edu/programs/school/section\\_4/default.htm](http://ipcm.wisc.edu/programs/school/section_4/default.htm)

History of Biocontrol [http://el.erd.usace.army.mil/pmis/biocontrol/html/history\\_.html](http://el.erd.usace.army.mil/pmis/biocontrol/html/history_.html)

### ***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://www.landmark-project.com/citation\\_machine/index.php](http://www.landmark-project.com/citation_machine/index.php)

## High Speed Breaks High Prices

### **Scenario:**

High gas prices threaten to cripple the California economy. The Governor wants to build a high-speed train to help people travel efficiently and economically around the state. He knows that 4<sup>th</sup> Graders in his state study about how electrical energy can be converted to heat, light and motion. and he wants them to help him get the word out. He has announced a valley-wide competition for teams of 4<sup>th</sup> Grade students to create a multimedia presentation for building a high-speed electrical train for California. The winning team will accompany the governor on a tour to inform people throughout the San Joaquin Valley so they can make an informed decision on the issue.

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

1. What is a high-speed electrical train?
2. How does it work?
3. Why should California have one?
4. How safe are they?
5. What cities in California would be on the line?
6. How will a train affect the residents of the San Joaquin Valley?
7. Worldwide, where do they have such trains now?
8. How have the trains helped the people in those places?
9. How does a high speed train system cost?

### **Possible Sources**

Newspapers, libraries, Internet websites

Railway Technology <http://www.railway-technology.com/projects/germany/>

csmonitor.com <http://www.csmonitor.com/2001/1213/p15s1-stct.html>

Science Reference Services <http://www.loc.gov/rr/scitech/tracer-bullets/highrailtb.html>

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## Where in the World?

### **Scenario:**

The Gulf Coast of the United States was recently devastated by a hurricane and subsequent flooding. The President is concerned and wants to know if global warming is a factor in the increasing severity of hurricanes in that region. He has appointed a special commission to study the issue. Your team of consultants has been asked by the President to spearhead the commission because he has great confidence in your scientific expertise. You must develop a multimedia presentation for him, presenting highlights of the commission's report.

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

1. Provide general information about the theory of global warming.
2. Show the causes and projected effects of global warming.
3. Show examples of how changes in ocean temperature affect weather.
4. Show the connection between ocean temperature and hurricanes.
5. Provide information on the different levels of hurricanes and their impact on the Gulf Coast.
6. Make recommendations about how the government should deal with global warming.
7. Show weather maps and data to support the position you take and the recommendations you make.

### **Possible Sources**

Meteorologists, video, encyclopedias, science textbooks, Florida relief workers, Florida schools, library books, your principal, local police department, local fire department, Internet websites:

National Hurricane Center <http://www.nhc.noaa.gov/>

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

NOAA: [http://www.gfdl.noaa.gov/~tk/glob\\_warm\\_hurr.html](http://www.gfdl.noaa.gov/~tk/glob_warm_hurr.html)

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

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

NRDC: <http://www.nrdc.org/globalwarming/>

World Wildlife Fund: <http://www.worldwildlife.org/climate/index.cfm?searchen=google>

Cooler Heads Coalition: <http://www.globalwarming.org/>

BBC: <http://news.bbc.co.uk/1/hi/sci/tech/4276242.stm>

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## Ancient Cities in Modern Times

### ***Scenario:***

The Archaeological Society of America sponsors tours that allow people to work on archeological dig sites. They want to hire new tour guides who can create and market unique, one-week tours that highlight a modern day city that was of historical significance in ancient times, from the Paleolithic Era to the Agricultural Revolution. The city needs to have artifacts remaining from the ancient era that are available for a dig. The tour should provide people not only with historical information but also current travel attractions. Among other factors, the Society will base its hiring decision on a multimedia presentation to its Board of Directors describing the proposed tour.

Your team is a group of history students about to graduate from college. It would be great if you could win this job, allowing you to put your education to work while sharing your knowledge with other people. Your parents, by the way, would be very happy, too!

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

- What cities would you choose?
- What happened there and when?
- How did these historical events impact present civilization?
- Why do you think people would be interested in your tour?
- What aspect of history would you highlight? e.g., culture, science, war, art, etc.
- What complimentary souvenir from the city would you give people on the tour and why would you choose it?

### ***Possible Sources***

Library books, history books, historians, videos, encyclopedias, and Internet websites:  
Archeological Institute of America <http://www.archaeological.org/webinfo.php?page=10003>  
Responsible Travel <http://www.responsibletravel.com/Trip/Trip900184.htm>  
Archaeo-Volunteers <http://www.greenvol.com/arkeo/>

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## A Tale of Two Cities

### ***Scenario:***

Your class won a week-long, all expenses paid, educational tour to Europe sponsored by the International Historical Society. However, the company providing the tour guides just filed for bankruptcy. Your local Board of Education is reluctant to approve the trip because they feel that the educational value of the trip is significantly diminished by the lack of qualified tour guides. Your team feels that they can step in as tour guides. The Board has asked that you demonstrate your historical expertise by creating a multimedia presentation that highlights two cities of historical significance from the period A.D. 500-1789. The cities need to have artifacts remaining from the era that are available for viewing.

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

- What cities would you choose?
- What happened there and when?
- How did these historical events impact present civilization?
- What aspect of history would you highlight? e.g., culture, science, war, art, etc.
- Compare and contrast the cities in terms of their impact on history and later generations.
- If you could bring back only one souvenir from each city, what would it be and why?

### ***Possible Sources***

Library books, history books, historians, videos, encyclopedias, and Internet websites:

Travel Changes Lives <http://www.acis.com/>

University Educational, Inc. <http://www.uet.com/>

Yale Educational Travel <http://alumni.yale.edu/aya/yet/where/europe.php>

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## Around the World in 80 Days

### **Scenario:**

The editors of the *Adventurer Magazine* have put out a call for articles highlighting the adventure of travel. *Adventurer Magazine* is a recently launched magazine geared towards students that are interested in the different cultures of the world. Playing on the popular movie, *Around the World in 80 Days*, they want the authors to choose exciting destinations while using adventuresome modes of transportation. Like a modern-day Magellan, you must circumnavigate the globe, but complete the journey in 80 days. The editors will make their choice based upon a multimedia presentation highlighting some of the places you would visit and the modes of travel you would use. They will be looking for a realistic estimate of time taken for travel between destinations and time left for exploring the sites. The magazine will pay for the expenses of the trip up front; payment for the article upon publication.

Your team is a group of aspiring freelance writers seeking publication credits.

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

1. The theme or purpose of your journey, e.g., historical, cultural, etc.
2. Why you selected the destinations.
3. What means of travel you would use for parts of your trip.
4. Why you chose the means of travel.
5. How the mode of travel would affect the overall experience?
6. Why you think your journey would appeal to readers of the magazine.
7. Why your journey would be an adventure.
8. Possible danger you might encounter.
9. Any special gear you might need.

### ***Possible Sources***

Travel Agencies, Internet websites.

iExplore Adventure Travel <http://www.iexplore.com/>

National Geographic Adventure <http://www.nationalgeographic.com/adventure/>

KE Adventure Travel <http://www.keadventure.com/>

About Adventure Travel <http://adventuretravel.about.com/>

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## Einstein vs. Frankenstein

### **Scenario:**

The Academy of Better Movie Science is offering a grant award to fund the best proposal for a remake of movie showing or based on bad scientific principles. The remake must promote good science, yet still be entertaining. The proposal requires a multimedia presentation to the Academy. The award will be granted to the company that is best able to demonstrate how movies present bad science and how the movie could be enhanced by using good science.

Your team is a group of aspiring young movie-makers.

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

10. Identify the movie or movies.
11. Provide a brief synopsis of the movie.
12. Identify instances of bad science.
13. What is the correct science?
14. How would you change the scene or theme to correct the problem?
15. What new science or technology would have to be developed to make the movie plausible?

### ***Possible Sources***

Libraries and Internet websites

Ideas for Engaging Science Movies: [Museum of Science, Boston](#)

Bad Astronomy <http://www.badastronomy.com/bad/movies/>

Science News Online <http://www.sciencenews.org/articles/20041016/bob10.asp>

Insultingly Stupid Movie Physics <http://www.intuitor.com/moviephysics/>

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