

WHAT'S ALL THE BUZZ ABOUT? VECTOR-BORNE DISEASES AND CLIMATE CHANGE

Step 1

What is a vector-borne disease? List some examples of vector-borne diseases.

2. Why didn't we test the mosquitoes before they bit people?

Step 2

How are vector-borne diseases transmitted? Provide examples.

3. List 3 assumptions that were made in this experiment.

Step 3

You will model how diseases are transmitted through vectors. Follow instructions provided by your teacher. After you have conducted the experiment, answer the questions that follow.

1. Why did the mosquitoes squirt out the contents of the syringe barrel, then suck it back up?

Step 4

You will model how climate change will affect the distribution and outbreak of vector-borne diseases. After you have conducted the experiment, answer the questions that follow.

1. How does weather affect vector-borne diseases?

2. How could climate change affect vector-borne disease distribution and outbreaks?

3. How could climate change alter the distribution of mosquitoes in particular?

RESOURCES

Environmental Health Perspectives. News by Topic page, <http://ehponline.org/article/browsenews.action>. Choose Climate Change.

A human health perspective on climate change, <http://www.niehs.nih.gov/health/docs/climatereport2010.pdf>

CIA, The World Factbook, Gross Domestic Product information, By country, <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2004rank.html>

Energy Information Administration, U.S. Department of Energy, Summary of the report on the impact of the Kyoto Protocol on the U.S. energy markets & economic analysis, <http://www.eia.doe.gov/oiaf/kyoto/kyotobrf.html>

Energy Information Administration, U.S. Department of Energy, International Energy Annual 2006 World Carbon Dioxide Emissions from Use of Fossil Fuels, <http://www.eia.doe.gov/emeu/iea/carbon.html>.

Global Warming: Early Warning Signs, clickable map of weather records and extremes across the world, <http://www.climatehotmap.org/>

International Energy Agency, CO₂ emissions from fuel consumption, <http://www.iea.org/co2highlights/CO2highlights.pdf>

Kyoto Protocol: What Should We Do? <http://dx.doi.org/10.1289/ehp.scied007>

U.S. Environmental Protection Agency, Climate Change, <http://www.epa.gov/climatechange/>

Union of Concerned Scientists, Global Warming, http://www.ucsusa.org/global_warming/.

UN Framework Convention on Climate Change, <http://unfccc.int/2860.php>.