

## Chapter 28 Lesson 2: Air Quality and Health

### Introduction:

Global warming is one of the most serious environmental problems in the world today. In this lesson, you learned about how air pollutants are known as greenhouse gases contribute to global warming. At the Environmental Protection Agency (EPA) Web site on climate change, you can learn more about how global warming works, its effects on the environment and human health, and what people and governments can do to help solve the problem.

### Links to Explore:

#### Climate Change: Basic Information

<http://epa.gov/climatechange/basicinfo.html>

### Directions:

- Read the EPA's fact sheet on climate change.
  - Then answer the following questions:
1. Explain the difference between the terms *climate change* and *global warming* and how the two are related.
  2. How much has the average surface temperature of the earth increased since 1900?
  3. If greenhouse gases continue to build up in the atmosphere, how much could the earth's average surface temperature rise by the end of this century?
  4. Which two activities account for three-quarters of all human-generated greenhouse gas emissions?
  5. List three effects of global climate change that scientists have already observed taking place.

### Answers

1. Climate change refers to any significant change in climate that lasts for an extended period of time. Global warming refers to an average increase in temperature near the earth's surface caused by increased greenhouse gas emissions from human activities. Global warming can contribute to changes in global climate patterns.
2. About 1.2 to 1.4°F
3. 2.5 to 10.4°F above 1990 levels
4. Power generation and transportation
5. Any three of the following:
  - Rise in sea level
  - Shrinking glaciers
  - Changes in the range and distribution of plants and animals
  - Trees blooming earlier
  - Longer growing seasons

- Ice on rivers and lakes freezing later and breaking up earlier
- Thawing of permafrost

**Additional Links to Explore:**

Use the links below to gather additional information on the activity topic. When appropriate, have students extend their research to include important concepts contained in these Web sites.

**Personal Emissions Calculator**

[http://epa.gov/climatechange/wycd/calculator/ind\\_calculator.html](http://epa.gov/climatechange/wycd/calculator/ind_calculator.html)

**Global Warming Facts and Our Future**

<http://www.koshland-science-museum.org/exhibitgcc/index.jsp>