STUDENT REPRODUCIBLE 1

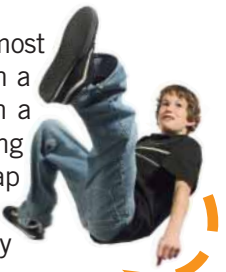
NAME: _____

Climate Change

Part 1: What Is Climate Change?

The earth is getting warmer. Over the past 100 years Earth's temperature rose by about 1°F. Scientists predict that Earth will continue to warm by about 2–6°F over the next 100 years. That may not sound like much, but think about this: During the last Ice Age, Earth was only 9°F cooler than it is today, and large sheets of ice called glaciers covered large parts of North America! The warming of Earth's climate is called global warming.

What Causes Climate Change?



Scientists are not sure of what causes climate change. Earth could be warming on its own, however, most scientists believe that human activity is speeding up the climate change. Earth warms itself through a process called the greenhouse effect. When sunlight enters Earth's atmosphere, it passes through a layer of greenhouse gases. Greenhouse gases occur naturally, but humans also create them by burning fossil fuels. When sunlight hits Earth's surface it bounces back toward the sky. The greenhouse gases trap some of the sunlight on Earth and allow the rest to go back into space, making Earth's temperature warm. The process works much in the same way as a greenhouse, hence its name. If there are too many greenhouse gases in the atmosphere, too much sunlight may be trapped, making Earth warmer.

What Are the Effects of Climate Change?

Scientists cannot predict exactly what will happen as Earth's temperature rises. They believe a rapid climate change could upset the balance of the ecosystem, causing some land and marine life to become extinct. As temperatures rise, the world's glaciers will melt into the ocean, causing sea levels to rise between several inches to three feet during the next 100 years. Higher sea levels could cause flooding of coastal lands. Warmer ocean water could cause increased storm activity on the coasts while areas away from the coasts may experience droughts. These are just a few of the possible effects of global warming.

How do you contribute to greenhouse gases?

Humans burn fossil fuels for energy. Fossil fuels, such as coal, oil, or natural gas, are formed in the earth from plant or animal remains. You create greenhouse gases every time you:

- Watch TV
- Turn on the lights
- Play video games
- Use a microwave oven
- Use a hair dryer
- Ride in a car

Part 2: Answer the following questions. Use the back of this sheet for additional space.

1. **What is the greenhouse effect?**

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2. **How do greenhouse gases keep Earth warm?**

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3. **How might humans affect Earth's temperature?**

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4. **What are some possible effects of climate change?**

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