

## Self-Check: The Greenhouse Effect and Global Warming

**Directions:** Write an answer to each of the questions below.

### Questions

1. Explain how Earth's temperature is affected by the amount of greenhouse gases in the atmosphere.
2. Explain the connection between fossil fuel burning and the rising of global sea levels.
3. How are computer models used to research global warming?
4. Under what conditions is the greenhouse effect beneficial? When is it not beneficial?

### Answers

1. Greenhouse gases trap heat; they keep infrared radiation from leaving Earth, thus keeping Earth warm. The more greenhouse gases in the atmosphere, the more this trapping of heat takes place and the warmer Earth gets.
2. Fossil fuel burning contributes greenhouse gases to the atmosphere, namely carbon dioxide. This leads to an enhanced greenhouse effect, which causes global warming. As Earth warms, ice caps and glaciers melt, causing rises in sea level.
3. Climate is very complex and is hard to predict, but with computer models we can make assumptions about what future climates will be like. By studying past climate data and inputting information of future fossil fuel use, we can make predictions about future global warming.
4. The greenhouse effect is natural and it keeps Earth from getting too cold. However an enhanced greenhouse effect, caused by an increase of greenhouse gases by human activity, can lead to too much warming.