

Name \_\_\_\_\_

period \_\_\_\_\_

Date \_\_\_\_\_

Write your notes  
about what you are  
reading in this space.

## Science Shorts -8

### The Greenhouse Effect

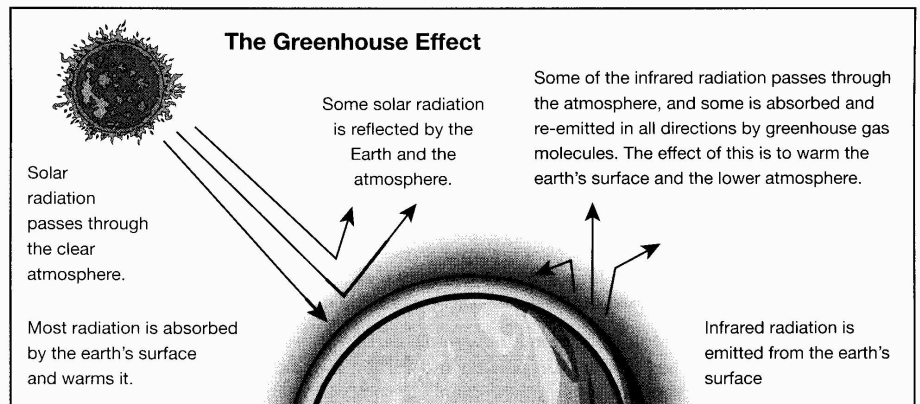
Carbon is stored in several places in the non-living world. It exists as carbon dioxide in the atmosphere and is dissolved in water. It can also be found in fossil fuel deposits and some rocks. Finally, there is carbon in the organic matter that makes up humus in the soil.

Carbon dioxide makes up only a small part of Earth's air. However, this gas has a huge effect on how warm the Earth's surface will be.

When the sun's light and heat energy strike the Earth, they warm the surface. Some of the sunlight energy bounces off the surface and the atmosphere. Carbon dioxide in the atmosphere traps some of the heat, much as the glass in a greenhouse does (the rest returns to space). This process is called the **greenhouse effect**. Carbon dioxide is therefore often called a **greenhouse gas**. Carbon dioxide in the atmosphere is important to living things. Without the trapping of heat, Earth would be a very cold place. But if too much carbon dioxide builds up in the atmosphere, the Earth's climate could get too warm.

In the last century, The Earth's average temperature has increased by almost 1°F, and scientists predict that the temperature will continue to climb. Scientists do not fully understand what could happen if average temperatures get higher. Coastal areas could flood from rising sea levels, and there could be lasting droughts in other places. But areas that are usually too cold to grow food may become warm enough to grow food crops. All living things on Earth would have to adapt if these dramatic changes did occur.

Many scientists are concerned that human activity is making permanent changes to the Earth's atmosphere and its climate. Humans may be adding more carbon to the air than plants can take out. The amount of carbon dioxide in the atmosphere is steadily increasing. As atmospheric carbon dioxide increases, more heat gets trapped and the Earth gets hotter. This carbon in the air could trap enough heat to permanently change Earth's climate. **Global warming** is the name many scientists give to this change. If the Earth gets too hot, then ice at the poles could melt and raise sea levels, while surface water on land could evaporate. Increased temperatures could change the amount of food that farmers produce and the amount of clean water available for drinking. Overall, increased temperatures would make it more difficult for life to exist on Earth.



## Words To Know

Word	Write a sentence from the reading that uses the word.	Word	Write a sentence from the reading that uses the word.
<b>GREENHOUSE GAS</b>		<b>SOLAR RADIATION</b>	
Draw a picture of the word.	Write your own sentence that uses the word.	Draw a picture of the word.	Write your own sentence that uses the word.
Word	Write a sentence from the reading that uses the word.	Word	Write a sentence from the reading that uses the word.
<b>INFRARED RADIATION</b>		<b>GLOBAL WARMING</b>	
Draw a picture of the word.	Write your own sentence that uses the word.	Draw a picture of the word.	Write your own sentence that uses the word.