



FIGURE 7.10.

The greenhouse effect. Carbon dioxide in the atmosphere acts in the same way as the glass of a greenhouse. It allows visible light rays from the Sun to pass through, but absorbs and reflects infrared (heat) rays back to the surface of the Earth.

inside of the car will become unbearably hot as the radiated heat rays are trapped within.

The oceans and lakes are currently serving as a sink for some of the excess carbon dioxide being produced. As the carbon dioxide level builds up in the atmosphere some of the excess gas enters the waters of the Earth. The plant life (plankton) in the water is thought to be important in this transfer process. About 50% of the excess carbon dioxide is removed from the atmosphere to be stored in solution in cold water or to combine with calcium to form the mineral calcium carbonate (CaCO_3). The remaining excess carbon dioxide continues to increase the carbon dioxide level in the atmosphere.

The long-range effect of this buildup may be to increase the Earth's temperature enough to melt the polar ice caps. This would result in the flooding of low-lying coastal cities and lands as the rise in sea level would be 300 feet or more. Virtually all major coastal cities and most of the state of Florida would be under water. At present there are too many variables to predict the increase in the Earth's temperature with certainty, but it is still a cause for concern.

It is thought that the temperature of the primordial atmosphere may have been warmed by the effects of carbon dioxide and other gases that created a magnified greenhouse effect. To prepare for animal life, the primordial atmosphere had to be purified of the more prevalent noxious gases that existed in those primeval times.