

KEY: How Does the Greenhouse Effect Work?

Sample Data – measurements in degrees Fahrenheit

Time	Covered	Uncovered
Start – 0 minutes	75.0 °	75.4 °
15 minutes	108.1 °	101.5 °
30 minutes	120.0 °	111.5 °
45 minutes	122.8 °	114.6 °
Final -60 minutes	124.2 °	116.1 °

	Covered	Uncovered
Final temperature 60 minutes	124.2 °	116.1 °
Start temperature 0 minutes	75.0 °	75.4 °
Change in Temperature	49.2 °	40.7 °

Answer the questions.

1. Compare the temperature at the beginning of the experiment and after 60 minutes.

In the beginning of the experiment, the temperatures were almost exactly the same. At the end of the experiment, the covers container was 8.5°F (sample data) warmer.

2. Explain why do you think this happened?

The plastic wrap allowed the light and heat into the container. The soil and air absorbed the heat but the plastic wrap did not let it out. In the uncovered cup, the heat could enter and leave.

3. Explain how the plastic wrap acts like the atmosphere of the Earth?

Just like the plastic wrap trapping the heat in the cup, the atmosphere traps heat from the sun and allows some of it to escape back to space, especially at night.

4. Predict what would happen if you did this experiment again with a double sheet of plastic wrap?

I predict with two sheets of plastic wrap; the temperature would raise up more. Discuss how This could be compared to the Earth's increasing amount of greenhouse gases.

Connection to the book, *Global Warming*: Have students compare the global temperature increases on page 5 with the global carbon dioxide emission on page 11. Have them explain a connection.