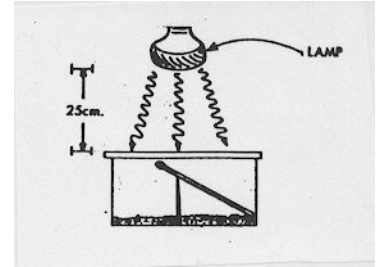


# What is the Greenhouse Effect?

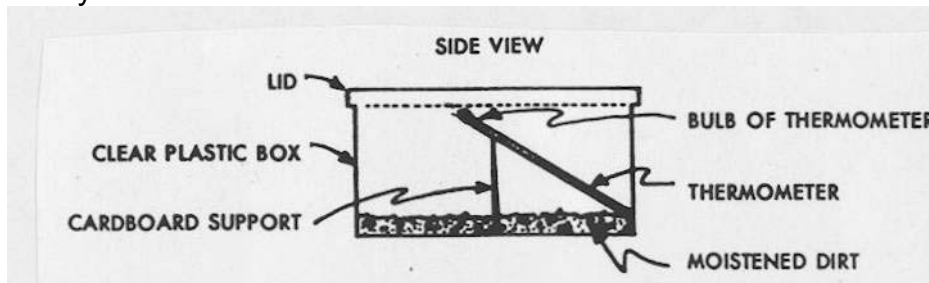
## Materials needed:

- One standard laboratory thermometer (-10°C to 110°C)
- One clear plastic shoe box with cover
- Outdoor reflector flood lamp, and mounting stand if sunlight is not available
- Soil and water
- Cardboard support for the thermometer



## Method

1. Place about 2 cm of soil in the bottom of the clear plastic box. Thoroughly moisten the soil with water.
2. Cut out a piece of cardboard to divide the box in half. The cardboard should not quite reach the top of the box.
3. Lean the thermometer against the cardboard support with the bulb end up.
4. Put the box and lamp in a part of the room where the effects of the direct sunlight, heating, and cooling systems, and drafts will be reduced.
5. Put the lamp directly over the thermometer bulb at a distance of about 25 cm.



6. Record the thermometer reading at the start of the project as 0 minutes on the data table.
7. Turn on the light.
8. Record in your data table the temperature every minute for a total of 15 minutes.
9. Repeat steps 6-8 with the lid on the box.

## After the Experiment:

1. Prepare a line graph of data you collected. Put temperature on the vertical axis and time on the horizontal axis. Use a dashed line for the uncovered box and a solid line for the covered box.
2. Which box gained temperature more rapidly? Which gained more heat?
3. What was the difference in temperature between the uncovered and covered box at 5 minutes, 10 minutes, 15 minutes?
4. Write a paragraph describing the "greenhouse effect" you observed. Be certain to include data from your experiment in the paragraph.

