



Does Greenhouse Rock?

You're on a Quest!

Explore the natural phenomenon of the greenhouse effect. Just by looking at daily rising temperatures, changing climate conditions, and the changes in our ecosystems, we are finding out more about the warming of our planet Earth.

Investigate with your family!

- We are finding that the earth's atmospheric levels of carbon dioxide (CO₂) have increased dramatically over the years, making it harder for this heat to escape. Why do scientists consider carbon dioxide a greenhouse gas? How does the Earth's heat get trapped?
- Why so much carbon dioxide? Talk with family, neighbors, friends, and community members about what they do to conserve energy with their cars, their homes, and their businesses?

Materials needed:

- 2 seed trays
- Soil to fill seed trays
- Flower seeds of several varieties
- Water
- Plastic food wrap
- 2 thermometers
- Large rubber band
- Wooden skewers or ice-cream sticks
- Pencil and notebook for record keeping

Here is a list of helpful Web sites on global warming and the greenhouse effect:

- United States Environmental Protection Agency** <http://www.epa.gov/globalwarming/kids/index.html>
- Union of Concerned Scientists** <http://www.climatehotmap.org/>
- Center for the Study of Carbon Dioxide and Global Change** <http://www.co2science.org/>

Conduct this simple experiment with your family to illustrate how the greenhouse effect works. It's best to conduct this experiment in the early fall or in the spring.

Procedure

1. Fill the seed trays with soil. Plant a variety of seeds in each tray. Water the soil after planting; be certain that the soil is moist.
2. Place a thermometer in each tray.
3. Cover one tray with plastic wrap, and secure it with the large rubber band.
4. Place both trays in an outside location. Shelter them from rain, but expose the trays to the sun.
5. As the seedlings grow taller, insert the skewers/ice-cream sticks so that they are upright in the corners of the wrapped tray. This will help to keep the plastic from touching the plants. Then replace the plastic wrap.

Record the temperatures of both trays as well as any of your weekly observations.

Week 1 _____	Week 2 _____
_____	_____
Week 3 _____	Week 4 _____
_____	_____

Conclusion

What do you notice about the closed environment (the plastic-wrapped tray)?

What do you notice about the open environment (the unwrapped tray)?

Electronic Quest!

Take a global change quiz to check your understanding! Ask your family and friends to complete the Environmental News Network quiz on global warming:

http://www.enn.com/enn-news-archive/2001/03/03302001/globalwarming_42749.asp

When everyone has had a chance to take the on-line quiz, ask if any of the answers have been surprising. Record everybody's score. Compile the data. What do you find?



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