



COULD OUR PLANET OVERHEAT?



How Earth Heats Up

Have you ever wondered why gardeners use greenhouses? The windows let sunshine through and trap the heat inside. The added warmth helps plants and flowers grow.

Earth stays warm in a similar way. It's called the greenhouse effect. Gases in Earth's atmosphere act like greenhouse windows. They let solar radiation in and trap some of the heat inside. This keeps our planet warm enough for all life.

But over the past 100 years, the greenhouse effect has contributed to a dangerous problem.

Greenhouse gases, including carbon dioxide, have increased. Human activities such as burning fossil fuels (mainly coal, oil, and gas) release carbon dioxide into the air. This heats up our planet at an alarming rate.

We can all help reduce pollution from greenhouse gases. Planting trees, riding bikes instead of cars, and recycling are some steps you can take. Learning more about the environment can help you find more ways to make a difference. Check out the activity below to see the greenhouse effect in action.

- 1 Fill both jars with equal amounts of cold water.



- 2 Put two ice cubes in each jar. Place the thermometer inside each jar for about one minute. Record temperatures.
Jar #1 _____ Jar #2 _____



Explore the Greenhouse Effect

You'll need: Two empty glass jars of same size • water • four ice cubes • plastic bag with a zipper top (large enough to hold jar) • bulb or lab thermometer • pencil

- 3 Are temperatures about the same? _____

- 4 Seal one jar inside bag.



- 5 Set both jars outside in a sunny spot for two hours. Make sure they are on the same surface.



- 6 When time is up, use the thermometer to test the water temperature in both jars. What do you find?

Jar #1 _____ Jar #2 _____



How it Works

Sunlight has high energy when it enters the bag. Once the sunlight is absorbed by the glass and water, much of the energy they radiate is invisible to the human eye.

The bag does not let this radiation pass. It's trapped in the bag—similar to how greenhouse gases trap the sun's heat. This raises the temperature more than in the other jar.