



We Change Earth's Climate
<http://beyondweather.ehe.osu.edu>

Life in the Greenhouse by Jessica Fries-Gaither

Have you ever been in a **greenhouse**? It's a building in which people grow plants, even in cold weather. Greenhouse roofs and walls are made of glass or plastic. These **transparent** materials let a lot of sunlight shine into the building. Inside, plants, soil, air, and other materials **absorb** the light and heat up. They give off heat. The heat is trapped inside the greenhouse by the roof and walls. The trapped heat makes the greenhouse very warm, even if it's cold outside!

Did you know that Earth is like a greenhouse? The Sun's light shines on Earth, just as it does on a greenhouse. The Earth's land, air and water absorb the light and heat up. They give off heat. The gases in Earth's atmosphere trap the heat, as the greenhouse's roof and walls do. So the Earth's atmosphere keeps the planet warm.

This is called the **greenhouse effect**. Without it, Earth would be too cold. Plants, animals, and people wouldn't be able to survive.

Want to see the greenhouse effect for yourself? Try this experiment! You'll need two identical glass jars, two cups of water, a clear plastic bag, two thermometers, and tape. You'll also need a lamp if you can't put the jars in the sun.

First, take the glass jars and fill them each with one cup of water.

Flesch-Kincaid RL = 3.4



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Next, place a thermometer into each jar. Put the plastic bag over one of the jars, and use tape to seal it. Take the temperature of the water in each jar.

Put both jars in the sun (or under a lamp) and leave them there for an hour.

How do you think the temperature will change in each jar?

After an hour, record the temperature of the water in each jar. Which one got hotter? Why?

The water in the jar covered by the plastic bag gets hotter. This is because the heat is trapped inside the bag. This is like Earth's atmosphere trapping heat and keeping Earth warm.

Because the other jar wasn't covered up, the heat could escape. The temperature didn't get as hot. This is what Earth would be like if it didn't have an atmosphere.

The greenhouse effect is important for life on Earth. It makes our Earth just right for us!

Glossary

absorb: to take in

greenhouse: a building in which people grow plants all year long

greenhouse effect: warming of the Earth when heat is trapped by Earth's atmosphere

transparent: able to be seen through

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