

		
	<p>CHANGING FOR CLIMATE CHANGES</p>	

Experiment 2: The greenhouse effect.

1. INTRODUCTION

In recent years, more and more CO₂ has been emitted (industry, heating, transport, ...). Those emissions have consequences on the climate.

2. ORIENTATION

How does carbon dioxide affect the earth's temperature?

3. PREPARATION

3.1. Materials:

- 2 glass containers with lids
- 2 thermometers (accuracy 0.1 °C)
- 1 lamp with incandescent bulb (more than 100 W)
- Bicarbonate
- Water
- vinegar

3.2. Method:

- place a thermometer next to each glass.
- put water in the first and bicarbonate and vinegar in the second and place them under a bowl.
- The second atmosphere must be enclosed as quickly as possible in order to contain the CO₂ produced by the reaction.
- Then place the lamp, i.e. our Sun, over the two bowls in order to heat them up.
- After a few minutes, read the value indicated by the thermometers and find a reason for what happened.

4. RESULTS

Observations:

Two systems are created for comparison: one that reproduces the current condition of the atmosphere, consisting of 'normal' air, and one that hypothesises the state of the future atmosphere with increased levels of CO₂. How does the temperature change in each of them?

The experiment shows two glass containers, one with water and the other with vinegar and bicarbonate. Carbon dioxide is produced in a container with a solution of vinegar and bicarbonate. after tightly closing and briefly heating the containers with a lamp, we can observe temperature differences between the two solutions. the container with the vinegar and bicarbonate solution is slightly warmer than the container with water. the temperature in the container No. 2 was higher because of the formation of carbon dioxide in it.

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5. REFLECTION

Can you make the connection between this experiment and the effect of greenhouse gases on the atmosphere?

greenhouse gases which were produced by the reaction of vinegar and bicarbonate in container no. 2 resulted in an increase in temperature in the container. Greenhouse gases in the Earth's atmosphere work in the same way. an increase in greenhouse gases in the atmosphere ALWAYS results in an increase in temperature (if there are no other phenomena affecting the energy balance of our planet)

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6. e-book

Take several pictures during the experiment. You can also film it.