

# GREENHOUSE EFFECT

(Level: primary school to high school)

SUBJECT: CONSEQUENCES OF CLIMATE CHANGE  
EXPERIMENTS TO DO IN CLASS

## 1. THE QUESTION

**Valérie:** “What is the greenhouse effect?”

## 2. MATERIALS

- 1 transparent bowl
- 1 thermometer
- 2 glasses
- Water

## 3. EXPERIMENT

1. Fill both glasses with the same quantity of water
2. Put both glasses outside in the sun and cover one of the glasses with the bowl.
3. After 30-60 minutes, measure the water temperature of each glass.

→ Which glass has warmer water?

## 4. GOING FURTHER

The transparent bowl acts like a greenhouse, letting light radiation pass through and retaining heat. Different atmospheric gasses play the same role: they not only protect us, but they help retain the sun's heat. Without these gasses, the temperature on earth would be  $-18^{\circ}\text{C}$ ! But in the last few years, atmospheric greenhouse gasses have increased, and are perturbing the climate. It is important to know which gasses have greenhouse effects and determine their sources in order to better react to this increase.

*This experiment was designed by the association Planète Sciences.*