

Explaining climate change to children is not easy. So we've come up with three fun experiments that can help you do just that!

In the video we show you three experiments which, in a simple and fun way, explain the effects of climate change to children.



EXPERIMENT 1: THE GREENHOUSE EFFECT

With this experiment we will discover one of the causes of climate change

What you need

- Two jars or vases
- Two thermometers
- Something to cover one of the vases (we used some aluminum foil)
- A light source (you could also use the sun)

STEPS

- Put the thermometers in the vases (one per vase) and cover only one vase.
- Leave the vases to rest under the light source (in the sun or under a lamp, as in our case).
- Check every hour for any changes in temperature.

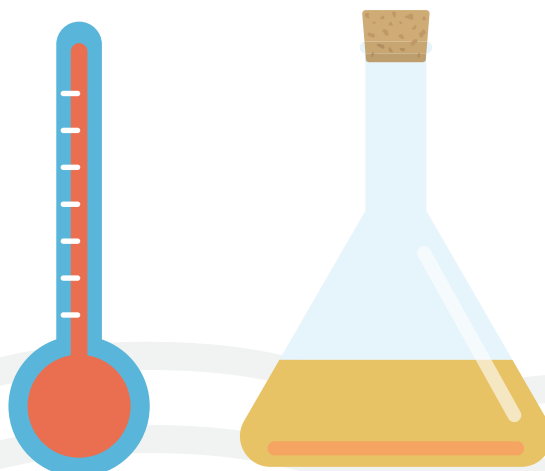
WHY DOES THIS HAPPEN?

The covered pot is a very simplified representation of the greenhouse effect. The air is warmed by the light source, however, unlike the uncovered pot, this warm air is trapped. As a result, it keeps getting hotter!

This can help to understand the phenomenon of the greenhouse effect on Earth and how man-made greenhouse gases lead to global warming.

Greenhouse gases prevent the sun's radiation from escaping into the atmosphere, causing the earth to warm up. Human activities contribute to the increase in greenhouse gases, through, for example, the burning of fossil fuels for energy and transport.

Carry out this experiment to explain to children how some human behaviors contribute to global warming.



EXPERIMENT 2: MELTING ICE

With this experiment we will discover one of the consequences of climate change

What you need

- A transparent container
- An object (a mug works just fine)
- Water
- Ice

STEPS

- Place the item in the container and then pour the water.
- Put ice on top of the object and write the water level in the container on a piece of paper.

Just wait for the ice to melt and examine how the water level has changed! (Is the water level higher? Is the object now underwater?)

WHY DOES THIS HAPPEN?

Melting ice helps to understand the phenomenon of the melting of terrestrial glaciers in the Arctic. The experiment shows you the impact it can have on sea level and neighboring coastal communities! When you explain this to the children, you can connect this experiment to the one on greenhouse gases and warming. The warmer the earth gets, the more ice melts and more land will tend to disappear!

EXPERIMENT 3: THE ACIDIFICATION OF THE OCEANS

With this experiment we will discover one of the consequences of climate change

What you need

- A glass of water
- A straw
- A PH-meter

STEPS

- Measure the pH of the water and write down the value;
- With the straw, blow into the glass of water while keeping the PH-meter immersed.

Observe the value marked by the PH-meter. (does it stay constant? If it changes, how does it change?)

WHY DOES THIS HAPPEN?

The carbon dioxide produced by our breathing dissolves in water and reacts to form carbonic acid which lowers the pH of the water, making it more acidic. This is what happens in the seas and oceans around the world that absorb CO₂ from the atmosphere. Ocean acidification is a very serious consequence of the increase of CO₂ in the atmosphere and causes the thinning up to the dissolution of the exoskeletons of many marine invertebrates, and of the plankton at the base of the food chain.

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