

THE COLOURS OF CARBON DIOXIDE

Laia Pellejà, Fernando Gomollón-Bel, Catalan Institute of Chemical Research (ICIQ)

Intro

The amount of carbon dioxide in the atmosphere has increased exponentially. CO₂ is one of the main causes of climate change. For example, CO₂ can be blamed for acidifying oceans, because when it dissolves in water it becomes carbonic acid (like in soft drinks).

Objectives

- Find out how CO₂ acidifies the water when it is dissolved.

Materials

- Water
- Glasses
- pH indicator (for natural substances, such as cabbage)
- Reeds
- Dry gel (optional)
- Heating plate and pot (optional)

Steps to follow

1. BOIL a leaf of cabbage in water for 10 minutes to prepare the pH indicator (if you are using a universal indicator, skip this step).
2. POUR about 100m of water into the glass and add some drops of the indicator.
3. BLOW through the reeds into the glass and observe.
4. TAKE several samples and observe how large quantities of CO₂ acidify the water more.
5. The indicators take on an orange or red colour. You can compare the amounts of CO₂ with other daily emissions (cars, factories, etc.).

Form

GPS / DD/MM/YYYY / sample (low, medium, high CO₂) / acidity level (provide colour tone)