



CO₂ Capture

Creating and capturing CO₂ from Biofuels



Name: _____



You will need

- 10oz hot water (heat in a microwave to between 120°-130°F (48°-54°C))
- 20oz plastic water bottle
- 1 tablespoon dry yeast
- 4 tablespoons of corn syrup
- 9inch balloon
- Funnel



WARNING: Safety first! Please wear safety glasses to protect your eyes while shaking the bottle. For younger groups this experiment may be better as a teacher-led demonstration.



What to do

To Make Ethanol:

1. Heat water in a microwave to 120° - 130°F (48°-54°C).
2. Using a funnel, add one tablespoon of dry yeast, four tablespoons of corn syrup, and 10oz of hot water into a 20oz plastic water bottle.
3. Cover the top of the bottle with a balloon.
4. The balloon should begin to fill..
5. Stir the bottle contents by shaking it from side to side and see if you can make the balloon grow bigger.



Questions

What is making the balloon grow? Do you know the name and chemical formula for the gas that is filling the balloon? Write down your prediction here...



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What's happening?

In this experiment the yeast mixed with the corn syrup to make a new substance called ethanol – a substance that can be used as a replacement for gasoline.

When the yeast and corn syrup mix to make ethanol, they also make carbon dioxide (CO₂). CO₂ is the gas that is filling up and being captured in the balloon. CO₂ is a greenhouse gas which has been shown to be contributing to climate change.