

# Clouds in a fizzy drink

*Learn about how clouds form*

## Equipment

- ◇ A large glass of freshly poured fizzy drink
- ◇ Salt



## Method

1. Although a fizzy drink is supersaturated with carbon dioxide all the gas does not escape when you open the can or bottle or pour the drink into a glass. If you look closely you can see bubbles can only form in places with imperfections on the glass or dirt.



2. Now add the salt to the drink.

3. Adding the salt increases the number of nucleation sites and allows more bubbles to form. This creates a cloud of carbon dioxide in the liquid drink

# How does this relate to the atmosphere?

Clouds can form where the temperature is low enough for water to condense at a rate faster than which it evaporates. In practice most raindrops or ice crystals form where there are small particles such as dust, soot or pollution to act as cloud condensation nuclei. These particles are usually approximately 0.0001 mm in diameter. It is this process which allows pollutants to become incorporated into clouds and be washed out of the atmosphere in the rain.



## Where can I find more information?

Find out more information about clouds

<http://www.metlink.org/weather-climate-resources-teachers/useful-links.html#clouds>

### Extension

You can also put some sultanas in the drink. As they fall through the drink, bubbles form on the sultanas, changing the balance of forces on the sultana. Eventually, the sultana rises. As it rises, the pressure falls and the bubbles grow. When the sultana reaches the surface, the bubbles pop and the whole cycle starts again.

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