

Make a cloud in a jar

Find out how clouds are formed with this simple science experiment

Suitable for Cubs and Scouts

You will need

- a glass jar with a lid
- about 75ml hot water (always supervise young people appropriately when handling hot water)
- ice cubes
- hairspray

Instructions

- 1** Pour the hot (but not boiling) water into the jar, then carefully swirl it around a bit to warm up the sides of the jar. The jar might get hot, so hold it near the top and take care.
- 2** Turn the lid upside down and carefully place it on the top of the jar. Place several ice cubes onto the lid and leave to rest for about 20 seconds.
- 3** Take off the lid, quickly spray a bit of hairspray into the jar, and then replace the lid on the jar with the ice still on top.
- 4** Watch as a cloud forms inside the jar. Once it has built up, remove the lid and the cloud will escape from the jar and into the air.
- 5** Using the information provided, explain the science behind the experiment (found on this page) so that everyone knows why and how the cloud formed.

How it works

When you add warm water to a jar, some of it turns to water vapour. This vapour rises to the top of the jar. When it comes into contact with the cold air, created by the ice cubes, the water vapour condenses as it cools down. A cloud will form if the water vapour has something to condense onto. In real rain clouds, water vapour may condense onto dust particles, air pollution or pollen. Here, the water vapour condensed onto the hairspray and a cloud was formed.

Time needed
20 minutes

Badge



RAF partners the Staged Air Activities Badge

Partner



Outcomes

This activity will highlight roles within the RAF that don't focus directly on aviation or flying, such as meteorology. The young people will make a cloud in a jar to explore and demonstrate how clouds form. They will also explore how weather can affect aeroplane flights.

More information

For more badge resources and activities go to scouts.org.uk/supporters/raf.

Life in the RAF

Find out more about the wide range of duties and roles in the RAF here: raf.mod.uk/recruitment/life-in-the-raf.