

# Condensation

## Overview

The water cycle is a continuous path that all water follows as it moves around Earth in different states.

This experiment demonstrates condensation - water vapour cools in the sky and forms water droplets. As water vapour rises higher in the atmosphere, it begins to cool back down. When it is cool enough, the water vapor condenses and returns to liquid water. These water droplets eventually gather to form clouds. Clouds are simply masses of water droplets in the atmosphere.

## Materials

Two heat proof cups

Hot water

Ice cubes

**Please be careful when handling hot water and ensure the cups are capable of holding liquids at this temperature**



## Method



1. Fill a cup approximately two-thirds full of hot water



2. Take another cup, flip it upside down, and place it on top of the cup with hot water



3. Ensure the seal is tight to keep the warm air in



4. Place an ice cube on top of the upside down cup

The inside air temperature becomes colder causing the moisture in the cups to condense, at the top of the upside down cup and form water droplets. Simulating what happens in the atmosphere as warm, moist air rises and meets colder temperatures condenses and forms liquid water droplets.

## Why

Molecules in water vapor are far apart from one another. As more water vapour collects in clouds, they can become saturated with water vapor. When clouds are saturated with water vapor, the density, or closeness, of the molecules increases and the cloud can not hold it anymore. Water vapor condenses and forms precipitation that falls to the Earth as rain, sleet, hail, or snow.

## My personal research about **condensation**