

**What is a
Cloud?**

A cloud is a large area of **water drops** or **ice crystals** floating in the sky. This water starts as invisible water vapor (a gas) and is condensed into water droplets (a liquid) when it is cooled down high in the sky.

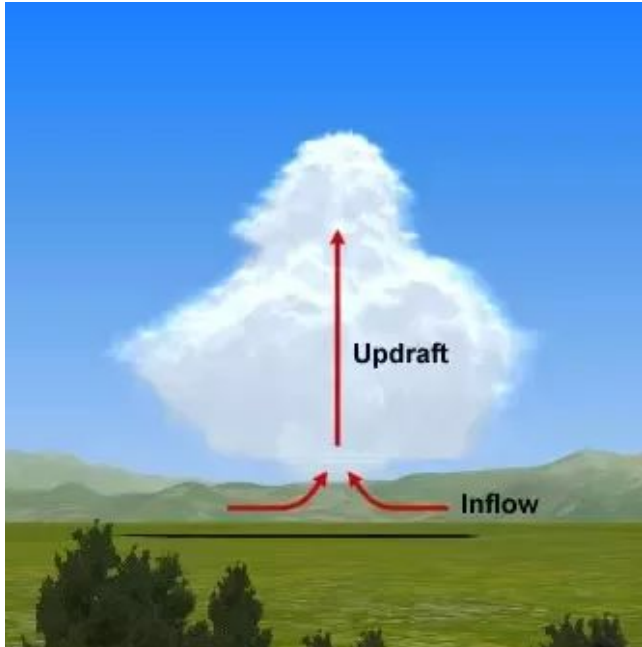


Steam rising from a pot of hot water is very similar to the formation of a cloud. Hot water vapor rises quickly off of the water's surface. As the vapor cools in the air, it condenses into small water droplets that are pushed up from the rising hot air below.



**If clouds are liquid water
drops in the sky, why don't
they fall down to earth?**

Clouds form when warm, moist air rises up into the cold atmosphere. As the water vapor cools, it forms into water drops. The rising air responsible for its formation keeps the cloud floating in the air. The air below the cloud is pushing upwards, thus the cloud floats on top of the denser air underneath.



The water vapor in an average cloud is actually very heavy. On a cloudy day, there are millions of pounds of water floating above your head. That's the equivalent to the weight of 100's of elephants.

It is useful to think of clouds as a **transformation process** instead of an unchanging object. Clouds are the process of air currents blowing, hot air meeting cold air, water vapor condensing, water droplets freezing, all while moving and changing shape and size across the sky.



Cloud Actively Forming



Cloud Actively Dissipating

**Can you touch a cloud?
If you did touch a cloud,
what would it be like?**

If you have ever experienced a **foggy day**, you have been inside of a cloud. Fog is a cloud that has formed at the ground level. The wetness you feel on a foggy day is the suspended water droplets.



Fog Cloud From Inside



Fog Cloud From Outside

Raindrops fall to Earth when clouds become saturated, or filled, with water droplets. Water droplets bump into each other as they gather in a cloud. When a small water droplet bumps into another, they combine. When the water droplet becomes too heavy to continue floating around in the cloud, it falls to the ground as a raindrop.

