Can you balance a ball over a hairdrier?

Learn about the Bernoulli Effect!

Equipment

- A hairdrier
- A ping pong ball or other light plastic ball
- A tube just wider than the ball

Method

1. Switch the hairdrier on with the air flowing upwards. Can you balance the ball in the airflow? Try moving the hairdrier around and tilting it.

2. Now hold the tubs vertically over the ball – what happens?

As you move the hairdrier around, air flows faster on one side of the ball than on the other. The faster the air flow, the lower the pressure (Bernoulli's principle) and the ball moves towards the lower pressure, keeping it above the hairdrier. When you place the tube over the ball, the air is funnelled through the tube, it flows faster and creates lower pressure in the tube. The ball is rapidly sucked up the tube.

So how does this relate to the atmosphere?

Rain and hail will be suspended by the updraft inside a thunderstorm until the weight of the hail and water can no longer be supported. Usually, the stronger the updraft in a thunderstorm, the more intense the storm and the larger the size of hail that can be produced.

Where can I find out more information?

http://www.srh.noaa.gov/jetstream/tstorms/ll_updrafts.htm