

# BERNOULLI FLIER

Make a simple flier out of cups.

## Experiment 1: Bernoulli Flier

In this experiment we see how we can use Bernoulli's principle to make a flier.

### Materials

- Two light plastic, paper, or Styrofoam cups
- Tape
- Rubber bands

### Procedure

- Put the two cups together at their small ends.
- Tape the cups together.
- Loop a few rubber bands together to make a strand that can circle the cups a few times.
- Wrap the rubber band strand around the middle of the two cups tightly.
- Holding the band and cups, throw the cups while flicking the rubber band to send the cups flying forward and spinning as quickly as possible.
- The cups will glide gently. (The faster it spins, the farther it will glide.)

## **Explanation**

The spinning cups create faster moving air above the cup than below. As we explained in our previous experiments about Bernoulli's Principle, faster moving air creates lower pressure. The higher pressure under the cup pushes it up, lifting the cup.

The case of a spinning object curving (like a curve ball in baseball) is known as the Magnus Effect. This is a special example of Bernoulli's Principle.

## **Win Prizes!**

Send us pictures or videos of your experiment! Submissions will be entered into a raffle for prizes!