



## Curiosity Guide #205

### Flowing Air

Accompanies Curious Crew, Season 2, Episode 5 (#205)

#### Air Tube

Investigation #8

#### Description

Wow your friend with how quickly you can get air into a long plastic-bag tube!

#### Materials

- Long, skinny plastic bag. A Diaper Genie refill works well.

#### Procedure

- 1) Show a friend the plastic air tube. Challenge him or her to guess how many breaths it would take to blow the bag up.
- 2) Your friend can start to blow it up. Filling part of the bag will enable you to estimate about how many breaths it would take to fill the Air Tube.
- 3) Then demonstrate how you can inflate the bag with a single breath.
- 4) Have your friend hold the sealed end of the bag at one end. You hold the open end about ten inches away from your face.
- 5) Take one deep breath and blow into the bag.
- 6) Quickly twist the top of the tube and seal in the captured air.

## My Results

### Explanation

When you blow into the bag, you create a stream of fast moving air, which lowers the air pressure compared to the surrounding air. The surrounding air, with its higher pressure, moves into the low-pressure stream of air from your mouth and flows into the bag as well.

**Something else to think about:** Firefighters have thought of a clever way to quickly get smoke out of a burning building. On the side of the building that is not on fire, they place large fans near a very small opening and close as many other windows and doors as possible. Sending in a stream of fast moving air pulls in even more clean outside air and pushes the smoke out of an opening on the burning side of the building. It's amazing that such a small opening moves air so much more quickly!

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