Curiosity Guide #205
Flowing Air

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

Floating Paper

Investigation #2

Description

Change air pressure and watch what happens!

Materials

- 3 by 15-centimeter strip of paper

Procedure

1) Make a 90-degree fold in the paper, about 1 to 2 centimeters from one end.
2) Hold the strip of paper on that end.
3) Raise the paper in front of you. Blow under the paper strip.
4) What do you notice?
5) Now hold the strip in front of your chin. Blow over the top of the paper.
6) What do you notice?

My Results

Explanation

When air is still, it pushes equally in all directions. However, when fluids such as air move more quickly, the pressure decreases where that moving air is. Where the air is still, there is a higher pressure that pushes toward the lower-pressure area.

The idea that faster moving fluids create lower pressure is called Bernoulli's Principle. In this example, when you blew over the paper strip, you created a lower pressure above the strip than the pressure of the still air underneath. The high pressure under the strip caused the strip to lift up.

Something else to think about: Airflow can cause some pretty cool results! One of the best examples is the curve ball from a pitcher. When a pitcher throws a curve ball, he holds the ball with his pointer and index fingers near the stitches while his thumb is underneath. Just as he releases the ball, he twists his wrist! That spin causes high pressure on the top of the ball and low pressure under the ball. This makes the ball break away near the end of the throw. The ball moves over as much as 14 inches! Of course, this makes the ball really hard to hit. Without that flowing air, baseball would not be nearly as exciting. Keep experimenting!

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