Curiosity Guide #205
Flowing Air

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

Stubborn Cards

Investigation #3

Description

Challenge your friend in this demonstration of air pressure.

Materials

- 4 by 6-inch notecards, 2 per person

Procedure

1) Fold the first card in half.
2) Lay the card on the table so the peak of the card is facing up.
3) On both ends of the second card, fold a 90 degree crease. Make the creases about 1 centimeter from each end.
4) Stand the second card on the short-crease legs. It will look like a little table.
5) Challenge your friend to blow under each card and knock each one off the table.
6) What do you notice?

My Results

Explanation

When air is still, it pushes equally in all directions. However, when air moves more quickly, the result is that the pressure goes down where the 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 your friend blows under the notecards, your friend creates lower pressure underneath. You can see the pressure of moving air molecules as they blow away still-air molecules and create a lower pressure underneath. The higher pressure on top pushes down the cards and flexes them toward the space where there is lower air pressure, toward the table.

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