



Curiosity Guide #205

Flowing Air

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

Airfoil Wing

Investigation #6

Description

Make an airfoil wing to learn more about how Bernoulli's Principle helps airplanes to fly.

Materials

- Paper
- Centimeter ruler
- Pencil
- Scissors
- Clear tape

Procedure

- 1) Measure and cut out a paper rectangle that is 5 centimeters by 15 centimeters.
- 2) To make the wing, carefully keep half of the paper flat on the table. Bend over the top half in a curved fashion.
- 3) Secure the edge with clear tape.
- 4) Slide a pencil through the wing so that the wing hangs with the pointed seam going down.
- 5) When you blow across the top of the airfoil, the wing will lift up.

My Results

Explanation

Bernoulli's Principle is one of the elements that contribute to an airplane being able to fly. Wings are designed so that the top of the wing has a curve, while the underside is flatter. As the air splits to go on either side of the wing, the air that goes over the top travels faster than the air going underneath the wing. According to Bernoulli's Principle, when a fluid moves faster, its pressure goes down. The pressure under the wing is higher than the pressure above the wing, which causes the lift necessary to move the wing upward. Airplane wings have flaps that can extend or shorten the length of the curve of the wing to make lift off and landing more efficient.

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