

All About Daniel Bernoulli

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Daniel Bernoulli
1700 - 1782

Earth is surrounded by air. It is called the atmosphere. This air pushes on objects. We call this air pressure, or the weight of the air. When there is more air, the air pressure is higher. When there is less air, the air pressure is lower. Back in the 1700s, a mathematician named Daniel Bernoulli (burr-NEW-lee) made an interesting discovery about moving air and air pressure. This fun activity will help you understand Bernoulli's discovery.

What You Need

index card, any size
straw

Doing the Activity

1. Fold the index card as shown in the picture. Place the card on a table, desk, or any flat surface.
2. Here is the challenge. Blow the card over! That's right. Simply blow it over. Just make sure the card is completely on the table. Blow easy. Blow hard. Can you blow it over?
3. Try using a straw. Blow under the card and try to flip the card over.



What Do You Observe?

Blow under the card. Have a partner observe what happens to the top of the card. Is it bending toward the table? Blow harder. Is the top bending even more? The only thing you are doing is moving the air under the card.

Bernoulli's Discovery

When the card is on the table, the air pressure surrounding the card is equal. Bernoulli discovered that when the air moves, the air pressure is less where the air is moving. So when you blow under the card and move the air, the air pressure is less under the card and greater on top of the card. The greater pressure on top of the card causes the card to bend toward the table. So you can't blow the card over. The harder you try the faster the air moves under the card and the more the air pressure is lowered under the card.

On the Internet

At this web site you can learn how to make a paper airplane. You will also learn why Bernoulli's Principle can be used to explain how an airplane flies.

www.fatlion.com

Click on "Kid Science" and then "Paper Airplanes."