



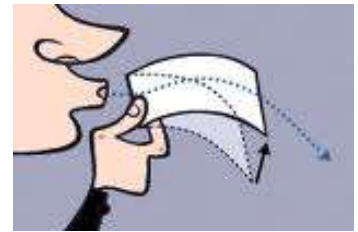
Bernoulli's Principle

Leading questions:

- What do you think people mean when they talk about pressure?
- What do you think would happen when the pressure pushing up on an object is greater than the pressure pushing down?

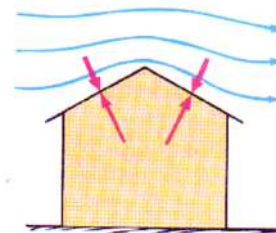
What to do:

1. Hold a piece of paper with an edge against your chin and blow over the paper.
2. What do you see?
3. What do you think causes the paper to do that?
4. Now, predict what you think might happen if you blow a stream of air between two golf balls hanging on strings. Why?
5. Give it a try. Blow a gentle stream of air between the two golf balls.
6. What do you think causes them to do that?



Summary:

- Daniel Bernoulli, a Swiss scientist in the 1700s discovered that the pressure resulting by a moving fluid (like air) is related to its speed. What do you think he concluded?
- The roofs of houses sometimes blow off when the wind blows over them at high speeds. Can you use Bernoulli's Principle to explain why that happens?





Bernoulli's Principle

(Guide)

Leading questions:

- What do you think people mean when they talk about pressure?

Explain: Air pressure is the result of a force caused pushing against an object.

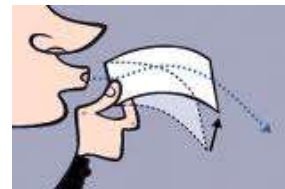
- What do you think would happen when the pressure pushing up on an object is greater than the pressure pushing down?

Ask: Students to demonstrate or explain how they know.

Explain: The object would move in the direction away from the greater pressure.

What to do:

- Hold a piece of paper with an edge against your chin and blow over the paper.
- What do you see?
- What do you think causes the paper to do that?



Ask: Why do you think the paper rises up when you blow across it?

Explain: The reason is because the pressure above the paper is less than the pressure from below.

- Now, predict what you think might happen if you blow a stream of air between two golf balls hanging on strings. Why?

Ask: Students to explain their prediction and explain their reasoning.

- Give it a try. Blow a gentle stream of air between the two golf balls.

Ask: What did you see?

- What do you think causes them to do that?

Ask: Why caused the golf balls to come together?

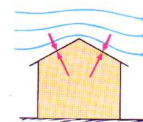
Explain: It is because the pressure of the air between them is less than the pressure of the air surrounding them. The ordinary air on the outside of the wooden balls, simply atmospheric pressure, pushes the balls together.

Summary:

- Daniel Bernoulli, a Swiss scientist in the 1700s discovered that the pressure resulting by a moving fluid (like air) is related to its speed. What do you think he concluded?

Explain: The faster the speed of a fluid, the lower its pressure.

- The roofs of houses sometimes blow off when the wind blows over them at high speeds. Can you use Bernoulli's Principle to explain why that happens?



Explain: The pressure inside the house is greater than the pressure outside.