

CHAPTER 3**HANDOUT**

Demonstrate Bernoulli's Principle

BLM 3-6

Goal • Complete Find Out Activity 3-E: Demonstrate Bernoulli's Principle.

Think About It

Bernoulli's Principle states that a liquid or gas creates less pressure as its speed increases. The following sample activities demonstrate Bernoulli's Principle.

What to Do

With your group, choose one of the following activities to complete your demonstration for Find Out Activity 3-E: Demonstrate Bernoulli's Principle. Check your choice with your teacher before beginning the activity. Your teacher may also assign you a different demonstration to complete.

Demonstrations

1. **Aerosol demonstration:** Place a straw in a glass of water. Hold the straw upright so the bottom of the straw is just above the bottom of the glass. Hold another straw perpendicular (at a right angle) to the first straw, so the end is resting on the edge of the first straw but not covering the opening. Blow air firmly through the second straw. Observe what happens.
2. **Ping-pong ball demonstration:** Tape thread or fishing line securely to two ping-pong balls and hang them from a table. The balls should hang about 2 cm apart. Using a straw, firmly blow air between the two balls. Observe what happens.
3. **Flying hair demonstration:** Position a person with long hair next to a fan. Turn the fan on high speed. Observe what happens to the person's hair. You can also do this activity with streamers or lengths of toilet paper.
4. **Paper tent demonstration:** Fold a piece of notebook paper in half width-wise (the short way), forming a tent. Place the tent on the table. Using a straw, firmly blow through one end of the tent. Observe what happens.
5. **Bubble demonstration:** Use a bubble blowing kit to blow bubbles. Wave your hand or a card over the bubbles. Observe what happens. Increase the speed at which you wave. Observe what happens. Try waving under the bubbles as well.

6. Pop can demonstration: Place about 20 straws on the table parallel to each other. There should be a slight space between each straw. Balance two empty aluminum pop cans on top of the straws. Using a straw, firmly blow air between the cans. Observe what happens. Then, have two people each take a straw and blow air along the outer sides of the cans. Observe what happens.
7. Book and paper demonstration: Place two books of the same height on a table. They should be a few centimetres apart. Place a piece of notebook paper over the gap between the two books. The edges of the paper should rest on the inside edges of the books. Place a straw under the paper, between the two books. Blow air firmly through the straw. Observe what happens to the paper.
8. Paper against your lip demonstration: Cut out a piece of lightweight paper that is about 5 cm wide and 12 cm long. Hold the paper so that one of the short edges is touching your lower lip. Blow across the top of the strip. Observe what happens.