#PerkinsPerfectAtHome

Ping-Pong Magic

1. MAKE AN OBSERVATION ASK A QUESTION

Can you make a Ping-Pong ball float in the air?

A difference in air pressure provides lift, for airplanes- or ping-pong balls!

2. PREPARE AND RESEARCH

Gather:
A cone shaped paper cup (or a triangle of construction paper rolled and taped into a cone)
Tape
A bent-end drinking straw
A ping-pong ball
Scissors

3. CONDUCT THE EXPERIMENT

Cut the tip from the paper cup or cone.

Tape the open tip of the cone securely to the bent end of the straw.

Place the ping-pong ball in the cup.

Blow into the long end of the straw.

4. ANALYZE

Observe what happens when you blow into the straw.

How hard do you have to blow to lift the ping-pong ball? What happens when you stop blowing?

5. REVISE HYPOTHESIS IF NECESSARY

Does the force of your breath change the height of the ball?

Shorten the straw. Does this change your results?

Discuss with others.

6. MAKE CONCLUSIONS

Air is made of molecules. When air speeds up the molecules are less concentrated, so air pressure is lower. This is called the Bernoulli Principle.
Aircraft designers use the Bernoulli Principle to design airplane wings, with higher air pressure below the wing, and lower air pressure above.
When you blow into the straw fast moving low pressure air surrounds the ball and lifts it out of the cup!