Look What Just Blew In

Description:
A simple experiment with a piece of paper shows an interesting aspect of how air pressure works.

Equipment needed:
Paper (Standard letter-size paper will work fine, though heavier paper stock like resume paper or construction paper will work better.)

What to Do
Fold the piece of paper in half. Then place it on the very edge of a table, so that the paper “tunnel” points off the edge of the table:
Next, stick your face down near the opening to the paper tunnel. Blow a steady stream of air through the tunnel. Try to aim so you’re blowing down by the table surface, in the center of the paper (indicated by the blue arrow).

The paper will bend down towards the table! If the paper is stiff, it’ll bounce back up when you stop blowing. If the paper is flimsy (like regular printer or writing paper), then it’ll flatten down to touch the table surface, and will stay there.

What’s happening here?
When you blow air through the paper tunnel, you’re changing the air pressure inside the tunnel. The air pressure between the inside and outside of the tunnel was previously the same. But when you blow air, the air pressure inside the tunnel drops – it’s now lower than the outside air pressure. The outside pressure pushes down on the paper (as indicated by the red arrows), and the paper flattens.