Flying Strip

The autumn wind rips down the street, leaves seem to fly into the air. Although these discarded plant parts lack wings and engines, they seem to have little difficulty in becoming airborne. Why? What makes leaves so special? Is it their shape, or is something else at work?

Materials
strip of paper 2 inches (5 cm) wide by 11 inches (28 cm) long

To Do
Make a fold near the end of the strip of paper. While holding this folded edge, the rest of the strip should fall freely. Now blow at the bottom of the strip. What happens to it?
Hold the strip right beneath your bottom lip. Make a prediction. How will the strip behave if you blow now? Blow outward with a long, steady stream of air. What happens to the strip?

The Science
When you blew at the bottom of the strip, the paper went up. That seemed logical. The force of your stream of air "pushed" against the bottom of the paper, causing it to rise from its hanging position.
However, when you blew across the top surface of the paper, it also went up. This odd property is described by a scientific effect called Bernoulli’s Principle. This principle states that as air (or any fluid) moves, it creates a region of low pressure. Low-pressure air has less "pushing force” than air of higher pressure. Therefore, when you blew across the upper surface of the strip, you created a region of low pressure. At the same time, air that was beneath the strip kept up its normal pressure. Since the normal pressure was now greater than the reduced pressure up top, it pushed the strip upward.