



THRUST

Here's a quick demonstration to help you discover how aerodynamic forces work.

- 1) Thread a sturdy plastic straw onto a length of string.
- 2) Blow up a balloon but do not tie it off. Secure it with a peg and tape the balloon to the straw.
- 3) Tape or tie one end of the string to a solid object. Hold the other end so that the string is taut. Move the straw and inflated balloon to one end of the string.
- 4) Remove the peg and let the balloon go. Can the balloon travel all the way to the other end of the string? Time how long it takes and measure the distance it travels. Experiment with balloons of different shapes and sizes. Does lowering or elevating one end of the string change your results?
- 5) Record your results.

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*Sir Isaac Newton described thrust in his Third Law of Motion in 1687.*

*George Caley, the designer of the first glider to carry a human, was the first scientist to describe the forces of weight, drag, lift and thrust in relation to flight in the 1790s.*

- 6) Describe how thrust works in your balloon experiments.

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