

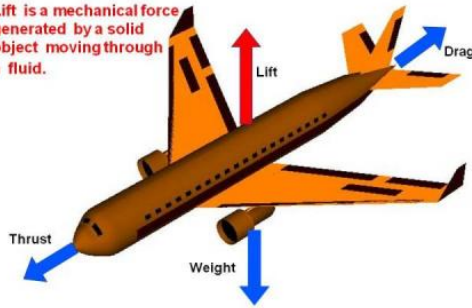
- 0. LIFT AND DRAG - Story Preface
- 1. WILBUR AND ORVILLE WRIGHT
- 2. AIRCRAFT CONTROL
- 3. LIFT AND DRAG**
- 4. KITTY HAWK
- 5. THE FIRST FLIGHT
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- 11. THE FIRST MAN & WOMAN IN SPACE
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National Aeronautics and Space Administration

What is Lift ?



Lift is a mechanical force generated by a solid object moving through a fluid.

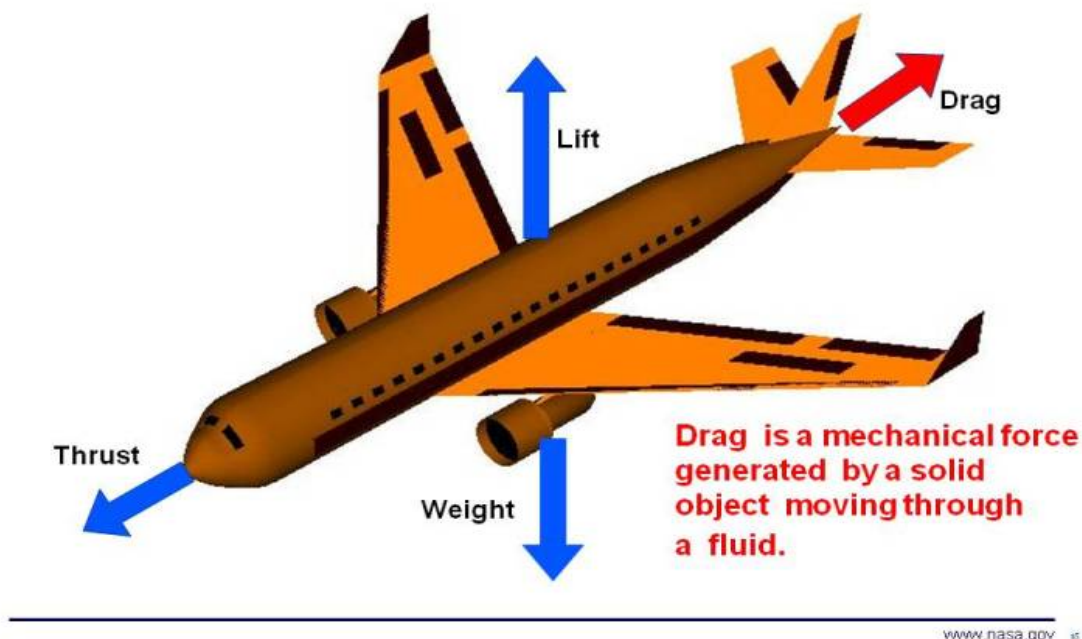


www.nasa.gov

For the next two years, Will and Orville used their bike shop as an invention center. Using a bike as their first testing device, they performed airfoil experiments.

Pedaling their contraption as fast as they could was exhausting, so the brothers invented a wind tunnel into which they placed two homemade devices - one to test lift and the other to test drag. The blower fan, which was driven by an overhead belt, created winds up to 35 miles per hour.

What is Drag ?



Writing down all their observations on strips of wallpaper, they ultimately compiled their findings into a notebook. Among other important conclusions, the brothers determined the commonly accepted coefficient of lift was too high. They also found a wing produced more lift if it had the shape of a parabola.

Using the data from all their experiments, the brothers built a reworked glider in 1902. It was the first aircraft that solved the fundamental problems of flight: lift and three-axis control (referred to as pitch, roll, and yaw).

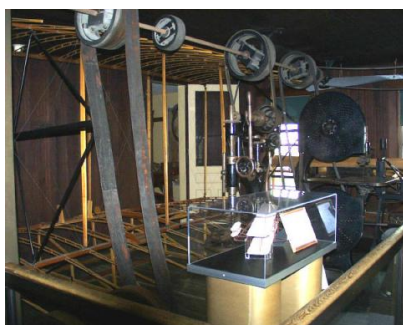
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<http://www.awesomestories.com/asset/AcademicAlignment/LIFT-AND-DRAG-History-of-Flight>

See Learning Tasks for this story online at:

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Media Stream

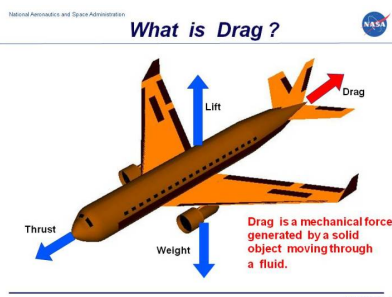


Wright Brother's Bike Shop

Image online, courtesy wright-brothers.org website.

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What is Drag

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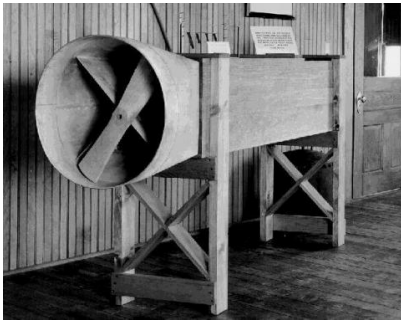


Cycle Used to Test Air Foils

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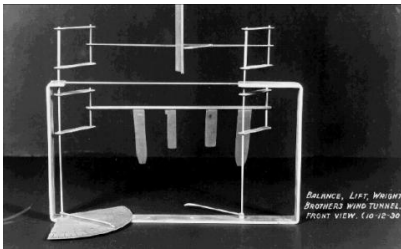


Wright Brother's Wind Tunnel

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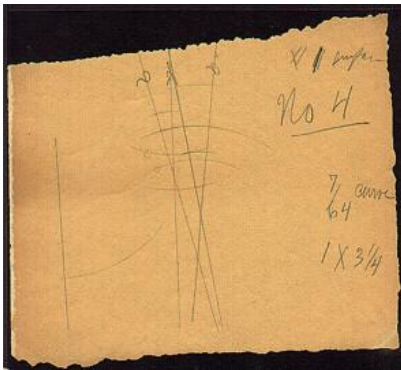


Wright Brother's Machine - Lift Testing

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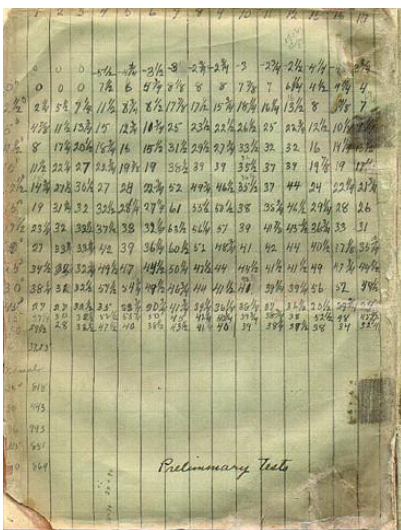


Wright Brother's Original Notes

Image online, courtesy the U.S. Library of Congress.

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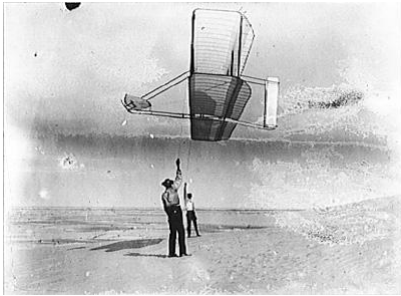


Wright Brother's Notes and Findings

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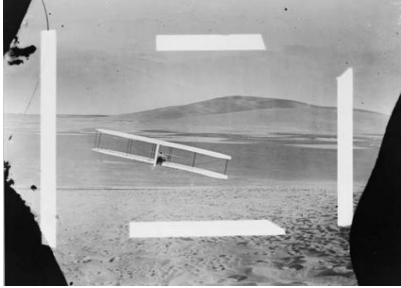


Wright Brother's Reworked Glider

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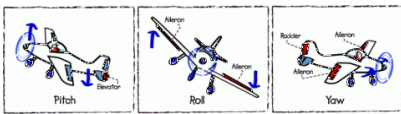


First Aircraft with Control Features

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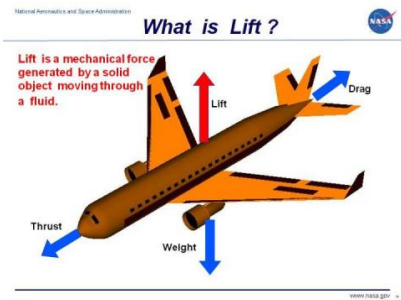


Three-Axis of Aircraft Control

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LIFT AND DRAG

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