AWESOME stories

CAN PEOPLE FLY?

0. CAN PEOPLE FLY? - Story Preface

1. CAN PEOPLE FLY?

2. HOW POWERED FLIGHT WORKS

3. THE FIRST FLIGHTS

4. AMERICANS FLY FOR FRANCE

5. THE LAFAYETTE ESCADRILLE

6. LAFAYETTE FLYING CORPS

7. LUFBERY, THE ACE

8. PICTURES OF WWI AVIATORS

Otto Lilienthal tried to solve the problem of human flight. Studying birds, he developed a glider (depicted in this 29 June 1895 “Mount Flight” image of Lilienthal at Lichterfeld). During a lecture, in November of 1894, he said: "...[Don’t] take my achievements for more than they are. Through the...pictures, where you can see me flying high above in the sky, one can get the impression that the problem is already solved. That is not at all the case...it will still take quite a lot of work to turn this simple gliding into a long-term human flight. The achievements so far are...nothing more than the first insecure steps of a child meant to imitate the walk of men.” Photo, attributed to R. Neuhauss, online via Otto-Lilienthal-Museum archives.

Before Wilbur and Orville Wright, no one but mythical characters flew. Flying machines that had been invented didn't work properly because they could not be controlled in flight.

Even the Wright brothers had a seven-year struggle. (This link takes you to a crash of their 1900 glider.) Things we take for granted today - how to use lift, thrust, weight and drag to fly - were uncommon concepts before the Wright brothers.

After the Wright brothers, the world changed. Darrel Collins, from Kitty Hawk National Historical Park, said it best:

> *Before the Wright Brothers, no one in aviation did anything fundamentally right. Since the Wright Brothers, no one has done anything fundamentally different.*

From watching birds fly, the Wright brothers knew a bird rolls right or left when it changes the angle where the wind meets its wings. The change in angle causes one wing to tilt up while the other wing simultaneously tilts down. No one had figured-out how to translate what a bird can do naturally into what a plane could do mechanically.

Wilbur and Orville owned a bike shop in Dayton, Ohio. It was the very things they knew, and did, as bike-shop owners which helped them to realize what no one before them had fully understood.

While helping a bike shop customer in 1899, Will discovered a major breakthrough: How to create, for a flying machine, a bird’s ability to execute a balanced, coordinated turn.

Puzzling how to make a piece of machinery work like a bird’s wing, Will fiddled with the packaging box of an inner tube he had just sold to his customer. When he squeezed opposite diagonal corners of the box, it twisted.

It occurred to Will that the top and bottom of the box were just like the wings of a biplane. If he used cables to draw the spars and struts of a biplane's wings together, he could do to flying machines what he had done to the box. And ... if it worked as he imagined ... he would warp the wings so one side tilted down while the other side tilted up. The side that was tilted down would give the biplane more lift, thereby enabling him to roll it right or left - imitating birds in flight.

Wilbur had come upon the first of many Wright discoveries. "Wing warping" (or, the aileron principle of flight) gave the Wright brothers a way to properly control one significant aspect of a biplane's movement.

Armed with their discovery, the brothers made gliders. In 1901 they took one to Kitty Hawk, North Carolina. They figured the wind along the seashore would help them get more lift as they launched their glider, while the sand would provide a soft-landing if they crashed. During their trials, they flew their gliders more than 700 times.

While their glider was impressive, as were their flights, they still had to solve the main problem. How would they create and control a heavier-than-air, engine-powered machine that could take off, fly and land safely? Just being able to tilt the wings, so the plane could properly roll, was not enough. The glider flights had not produced the kind of lift the brothers expected.

Wilbur was discouraged. He told Orville man would not fly for another thousand years.

He was off by 999.

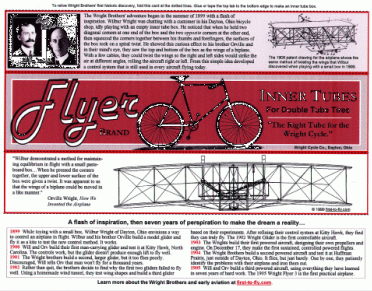
See Alignments to State and Common Core standards for this story online at:
http://www.awesomestories.com/asset/AcademicAlignment/CAN-PEOPLE-FLY-Fly-Boys

See Learning Tasks for this story online at:
http://www.awesomestories.com/asset/AcademicActivities/CAN-PEOPLE-FLY-Fly-Boys

Media Stream

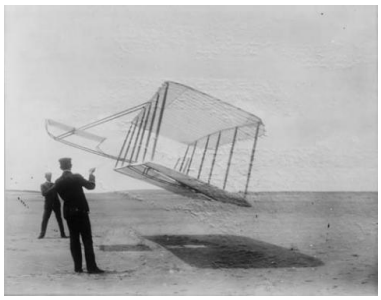
Wright Brothers 1900 Glider - Storm Damaged

Image online, courtesy the U.S. Library of Congress.
View this asset at:
http://www.awesomestories.com/asset/view/Wright-Brothers-1900-Glider-Storm-Damaged



Inner Tube Box

Image online, courtesy the wright-brothers.org website.
View this asset at: http://www.awesomestories.com/asset/view/Inner-Tube-Box



Launching the Glider

Image online, courtesy the U.S. Library of Congress.
View this asset at: http://www.awesomestories.com/asset/view/Launching-the-Glider0

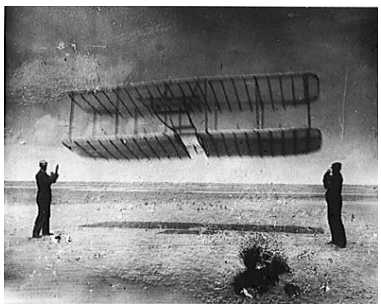
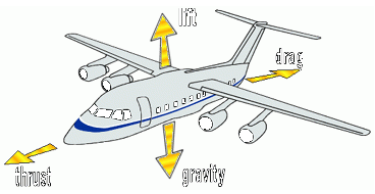


Photo of Wright Brother's Glider

Image online, courtesy kitty-hawk.com website.
View this asset at:
http://www.awesomestories.com/asset/view/Photo-of-Wright-Brother-s-Glider

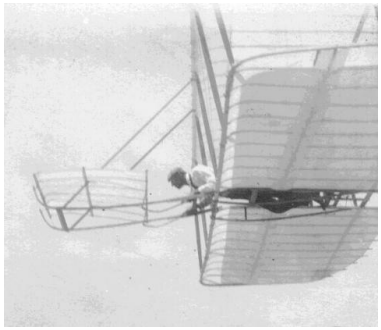


The Natural Forces that Act on an Airplane

Image online, courtesy the NASA website.
View this asset at:
http://www.awesomestories.com/asset/view/The-Natural-Forces-that-Act-on-an-Airplane

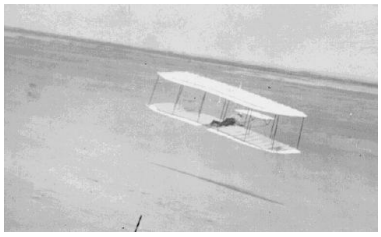
Wilbur Wright

Image online, courtesy the U.S. Library of Congress.
View this asset at: http://www.awesomestories.com/asset/view/Wilbur-Wright0



Wright Brothers - Flying Their Glider

Image online, courtesy wright-brothers.org website.
View this asset at:
http://www.awesomestories.com/asset/view/Wright-Brothers-Flying-Their-Glider



Wright Brothers and Their Glider

Image online, courtesy wright-brothers.org website.
View this asset at:
http://www.awesomestories.com/asset/view/Wright-Brothers-and-Their-Glider

CAN PEOPLE FLY?

View this asset at: http://www.awesomestories.com/asset/view/CAN-PEOPLE-FLY-