

Name: _____ Class: _____

Letters from Wilbur Wright

By Wilbur Wright
1899 to 1903

The Wright Brothers, Orville (1871-1948) and Wilbur (1867-1912), were two American brothers, inventors, and aviation pioneers who are credited with inventing and building the world's first successful airplane. They made the first successful sustained flight on December 17, 1903. The brothers were self-taught engineers who experimented for years in the midst of skepticism and criticism from the engineering community. As you read, find evidence to answer this question: What made the Wright Brothers succeed?

Wilbur Wright to the Smithsonian Institution (May 30, 1899):

[1] *Dear Sirs:*

I have been interested in the problem of mechanical and human flights ever since as a boy I constructed a number of bats of various sizes after the story of Cayley's and Penaud's machines. My observations since have only convinced me more firmly that human flight is possible and practicable. It is only a question of knowledge and skill just as in all acrobatic feats. Birds are the most perfectly trained gymnasts in the world and are specially well fitted for their work, and it may be that man will never equal them, but no one who has watched a bird chasing an insect or another bird can doubt the feats are performed which require three or four times the effort required in ordinary flight. I believe that simply flight at least is possible to man that that the experiments and investigations of a large number of independent workers will result in the accumulation of information and knowledge and skill which will finally lead to accomplished flight.



"Wright 1901 Glider Landing" is in the public domain.

Wilbur Wright to His Father (September 3, 1900):

I have my machine nearly finished. It is not to have a motor and is not expected to fly any true sense of the word. My idea is merely to experiment and practice with a view to solving the problem of equilibrium. I have plans which I hope to find much in advance of the methods tried by previous experimenters. When once a machine is under proper control under all conditions, the motor problem will be quickly solved. A failure of motor will then simply mean a slow descent and safe landing instead of a disastrous fall.

In my experiments I do not expect to rise many feet from the ground, and in case I am upset there is nothing but soft sand to strike on. I do not intend to take dangerous chances, both because I have no wish to get hurt and because a fall would stop my experimenting, which I would not like at all. The man who wishes to keep at the problem long enough to really learn anything positively cannot take dangerous risks. Carelessness and overconfidence are usually more dangerous than deliberately accepted risks. I am constructing my machine to sustain about five times my weight and am testing every piece. I think there is no possible chance of its breaking while in the air. If it is broken it will be by awkward landing.

Wilbur Wright to His Father (October 4, 1903):

- [5] *We have increased our time and length of flight [with glider] to 43 seconds, which is 1 and two thirds over last year's record and about three times the best of any one else. We will soon have it up to more than a minute as we are now able to remain practically stationary when a suitable wind blows up a good slope. This is something former experimenters were entirely unable to accomplish.*

Wilbur Wright to His Family (December 14, 1903):

[Discussing his plan with an engine]

We gave machine first trial today with only partial success. The wind was only about 5 miles an hour, so we anticipated difficulty in getting speed enough on our short track (60 ft.) to lift. We took to the hill and after tossing for first whack, which I won, got ready for the start. The wind was a little to one side and the track was not exactly straight down hill, which caused the start to be more difficult than it would otherwise have been. However, the real trouble was an error in judgment in turning up too suddenly after leaving the track, and as the machine had barely enough speed enough for support already, this slowed it down so much that before I could correct the error, the machine began to come down, though turned up at a big angle.

Toward the end it began to speed up again, but I was too late, and it struck the ground while moving a little to one side, due to wind and a rather bad start. A few sticks in the front rudder were broken which will take a day or two to repair probably. It was a nice easy landing for the operator. The machinery all works in entirely satisfactory manner and seems reliable. The power is ample, and but for a trifling error due to lack of experience with the machine and this method of starting, the machine would undoubtedly have flown beautifully.

There is now no question of final success. The strength of the machine is all right, the trouble in the front rudder being easily remedied. We anticipate no further trouble in landings. Will probably have made another trial before you receive this unless weather is unfavorable.

- [10] Note: December 17, 1903, the Wright Brothers flew their machine for 59 seconds, covering 852 feet. This was considered the first successful sustained airplane flight in history. The brothers continued to improve their airplane designs and eventually incorporated the Wright Company in 1909.

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Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. What can you conclude about Wilbur Wright based on his 1988 letter to the Smithsonian? Support your answer with evidence from the text. [RI.1]

2. According to Wilbur Wright, how will mankind succeed in learning how to fly like a bird? Support your answer with evidence from the text. [RI.1]

3. Explain this line in your own words: "Carelessness and overconfidence are usually more dangerous than deliberately accepted risks." [RI.4]

4. What setbacks did the Wright Brothers face and how did they deal with them? [RI.2]
Support your answer with specific evidence from the text.

5. Describe Wilbur Wright's character, and explain how his character helped him succeed. Support your answer with specific evidence from the text. [RI.2]
