

BIRTH OF THE BALLOON

A HomeschoolRadioShows Listening Guide
Written by Rose Clark

The program "Birth of the Balloon" is hosted by Dr. Phillips Thomas and was originally heard on Adventures in Research, a syndicated radio program broadcast in the early 1950s. The run-time of this radio show is 14:22 minutes.

Summary

In a France 1782, Joseph Montgolfier and his younger brother Jacques were watching clouds sail by. They noticed that some of the clouds were not moving but were merely suspended at a certain height. In their home, they experimented by filling a paper bag with smoke. The bag flew straight up to the ceiling. The brothers took the experiment a step further when they built a large fire in a field and floated a large paper bag into the sky attached to a piece of twine. They continued using larger and larger bags and floated them into the air, but the entire time they kept their experiments a secret.

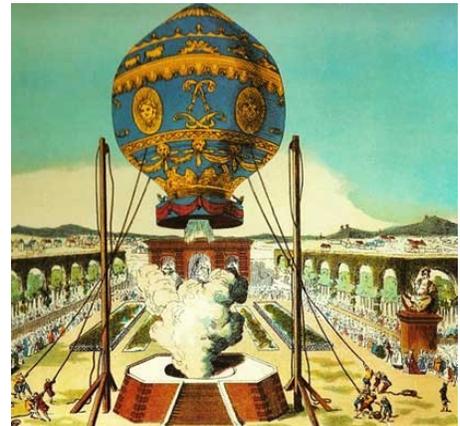


The brothers made plans to make an enormous bag and exhibit their experiment in the town square. Once they were ready they sent out invitations to everyone in the town. June 5th, 1783 they drew quite a crowd to the town square and answered questions about how the balloon worked. A balloon is what they called it and it meant "big bag." Their bag was made of paper and linen, they burned a large pile of straw to make smoke to fill the bag. The

smoke filled the bag and it expanded until it lifted off the ground. The crowd that was just moments ago skeptical of the experiment were amazed at what they saw. The balloon came back down ten minutes later and a mile and a half away. This experiment spurred a whirlwind of many other inventors to perfect the balloon construction.

Other scientists found that it was the hot air and not the smoke that made the balloon rise. Another balloon was made of silk and elastic gum which would be more durable and much lighter than the paper and linen. In 1783, Joseph Montgolfier presented his balloon to the King and Queen at Versailles. The balloon descended after rising 1,500 feet, for 8 minutes and traveled 2 miles.

In October 1783, Jean de Rozier was the first man to fly in a balloon. J.A.C. Charles flew in a balloon using hydrogen gas as a fuel in December 1783. He stayed aloft for two hours and traveled a distance of 2,000 feet. In January 1785, Jean Pierre Blanchard and Dr. J. Jeffries flew across the English Channel in a balloon. Dr. Jeffries saw a more important future for balloons beyond recreational use. He thought they would be a good instrument to study weather, air currents and other aspects of meteorological sciences. Further advances have since been made because of those two brothers were staring at clouds in the sky.



Links

History of balloons and airships

http://inventors.about.com/od/astartinventions/ss/airship_2.htm

Details of Montgolfiers' test flights

<http://www.space.com/16595-montgolfiers-first-balloon-flight.html>

Encyclopedia Britannica Montgolfier brothers

<http://www.britannica.com/EBchecked/topic/1404137/Joseph-Michel-and-Jacques-Etienne-Montgolfier>

How hot air balloons work

<http://www.spacefoundation.org/education/resources/kids-and-parents/activities-students-6-12/hot-air-balloon>

Discussion Questions

Hot air balloons now come in a wide variety of patterns and colors. What colors and patterns would you use on a balloon? Draw or describe.

What other elements could you harness to make a balloon or other type of craft fly?

If you discovered something really great who would you share your secret with first?

Describe how you might present a big idea to others? (ex: internet, town square, invite only important people or close friends)

Early balloon pioneers were unable to go very far. Could you get to the grocery store or library in under two miles?