

Albert Einstein

Target Age: Elementary
Time Period: 20th Century
Featured County: Mercer
NJ 350th Theme: Innovation

NJ Common Core Standards:

Social Studies: 6.1.4.C.12, 6.3.8.D.1

Social Studies Skills: Critical Thinking, Presentational

Skills

Language Arts Literacy: 3.1 Reading, 3.2 Writing



Alan Richards photographer. From the Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

ESSENTIAL QUESTION: What impact would the innovations of Albert Einstein have on New Jersey and the rest of the world?

BACKGROUND:

The name Einstein is synonymous with genius. Anyone striving to achieve excellence in their pursuits looks to this influential figure as a source of motivation and inspiration. Albert Einstein is one of the most important figures of the twentieth century. Born in Germany and overcoming initial failures, Einstein excelled in his schooling, especially in the fields of math and science. After graduating from the Zurich Polytechnic University in 1900, Einstein would become one of the most celebrated scientists of his day. Einstein built upon Newton's ideas and applied them to modern dilemmas, which resulted in numerous publications and the development of theories concerning modern physics. Einstein would reach the pinnacle of his career by winning the Nobel Prize in Physics in 1921.

Already established as one of the world's greatest scientists, Albert Einstein was invited to deliver speeches and make appearances throughout the world, including the United States, Middle East, and Japan. Then, in 1933, after the rise of Hitler and the Nazi party, Einstein found himself to be a man without a home. While visiting New York City, Einstein decided to remain in the United States and renounced his German citizenship due to the anti-Semitic policies that were being implemented by Germany. Ultimately, Einstein decided to settle in Princeton, New Jersey where he was one of the inaugural members of the Institute for Advanced Study.

For the next twenty years while living and working in Princeton, Einstein continued to pursue the same scientific endeavors. His pursuit of a unified field theory, however, proved unsuccessful and he often found himself outside the cutting edge of research. Perhaps his most influential action during this period came in 1939, when he urged President Franklin D. Roosevelt to pursue development of an atomic

bomb. Although a pacifist, Einstein feared Nazi Germany would succeed in creating such a weapon first. Although it could be argued that his greatest accomplishments occurred elsewhere, by making New Jersey his home Albert Einstein strengthened the connection between the state and its legacy of innovation.

ACTIVITY:

Lower Elementary Levels: Using the biographies of Albert Einstein listed below or any other age appropriate source, each student will create a "Baseball Card" of Albert Einstein, focusing on his accomplishments and innovations. On the front of the "Card," each student will provide basic information and a drawing of Albert Einstein. On the back of the "Card," each student will provide descriptions of three accomplishments and innovations of Albert Einstein. Additionally, each student will describe why they feel that each is very important. Ask the students to emphasize Albert Einstein's importance to and impact on New Jersey while at Princeton University and living in New Jersey.

http://www.biography.com/assets/pdf/study_guides/bio4kids/Bio4KidsEinstein.pdf http://gardenofpraise.com/ibdeinst.htm http://www.nobelprize.org/nobel_prizes/physics/laureates/1921/einstein-bio.html

<u>Upper Elementary Levels</u>: In the summer of 1939, just weeks before Europe would explode into another World War, Albert Einstein wrote a letter to President Franklin D. Roosevelt warning him of research being conducted into the development of an atomic bomb by the Nazi regime. Initial warnings and letters by European scientists were discounted by the administration, and it was the reputation and prestige of Albert Einstein that finally drew the attention of Roosevelt to this emerging threat. This letter is considered the beginning of America's entrance into the nuclear arms race. Eventually four letters were written from Einstein to Roosevelt, and their personal meetings would lead to the initiation of the Manhattan Project and the development of the first atomic bomb.

Either as a class, in small groups or individually, have the students read Einstein's first letter to Roosevelt and consider the following questions:

- Why would Roosevelt listen to Einstein after other attempts did not gain his attention?
- Why would Einstein not want to see Germany obtain this new technology and information?
- As a pacifist, how difficult might it have been for Einstein to write this letter?
- What commitment is Einstein truly asking the United States to take on?
- What items did Einstein correctly predict and what was he inaccurate about?

http://hypertextbook.com/eworld/einstein.shtml

FOLLOW-UP:

The Ten Great Life Lesson of Albert Einstein Poster Project.. http://www.virtuesforlife.com/10-great-life-lessons-from-albert-einstein/

Divide the class into ten different groups with about two to three students in each group. Review and discuss The Ten Great Life Lessons of Albert Einstein found at the website listed above. Each group will create a poster with the life lesson as the title, a drawing illustrating the life lesson, and a description how the life lesson applies to them and their classmates. This may be completed in school or at home, and consider the grade and level of students when establishing expectations for completion.

WANT TO LEARN MORE?

Places You Can Visit

"Einstein at Home" Exhibition Historical Society of Princeton Bainbridge House 158 Nassau Street Princeton, NJ

Additional Teaching Resources

Albert Einstein Lesson provided by The Walking Classroom Institute http://www.learnnc.org/lp/editions/walking-classroom/7626

Albert Einstein: Man of the Century from Crayola <a href="http://www.crayola.com/lesson-plans/man-of-the-century-lesson-plans/

For More Information

Albert Einstein Archives Online http://www.alberteinstein.info/

Albert Einstein Links for Learning http://www.globalpathmarkers.com/einstein links.html

CREDIT INFORMATION:

In Classroom Activity:

Pg. 1: Albert Einstein in his office. Alan Richards photographer. From the Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

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