

## Teacher's Guide



In **Slide 2.2A** we see physicist Albert Einstein answering questions.

**Critical-Thinking Question A:** You are an advisor to President Roosevelt. Which of the following do you advise the president to do? Be prepared to defend your answer.

- In 1939 Franklin Roosevelt decided to support research leading to the development of an atomic bomb. Scientists' progress was slow at first, but in the summer of 1941, British scientists reported that an atomic bomb could be developed in two years. Their announcement convinced Roosevelt and his advisors to commit fully to the development of the new weapon. The Manhattan Project—the code name for the atomic bomb project—involved the efforts of over 100,000 Americans, most of whom did not know what they were working on due to the strict secrecy surrounding the project. The U.S. government set up large facilities in Hanford, Washington; Oak Ridge, Tennessee; and Alamogordo, New Mexico and invested over two billion dollars in the Manhattan Project. For almost three years, the largest team of scientists the world had ever seen worked feverishly to produce an atomic bomb. Both Enrico Fermi and Niels Bohr, the two scientists who had doubted that a bomb could be built for use in World War II, played an important role in the ultimate success of the project. Although no formal decisions were made, President Roosevelt and Prime Minister Winston Churchill assumed that any atomic weapon the scientists developed would be used to hasten the end of the war.
- On July 16, 1945, scientists tested the “gadget” in a desert near Alamogordo, New Mexico. Before dawn, they set off the first atomic bomb in history. When the bomb exploded, it caused a fireball that was so bright a blind girl traveling in a car miles away saw the flash. After the blast, a mushroom-shaped cloud rose eight miles into the desert sky. The force of the explosion was so strong that scientists 7 miles from the test site were knocked backward, and it shattered windows in buildings 125 miles away. The blast left a 1,200-foot-wide crater in the earth. In short, the test was a success.

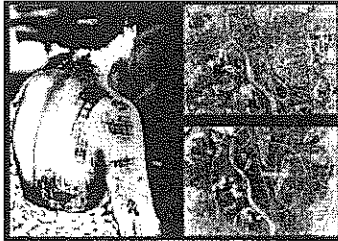


In **Slide 2.2B** we see Harry S. Truman being sworn in as president after Franklin Roosevelt's death on April 12, 1945.

**Critical-Thinking Question B:** You are a close advisor to President Truman. Which of the following do you advise the president to do? Be prepared to defend your answer.

- On August 6, 1945, an American B-29 plane, the Enola Gay, dropped an atomic bomb on Hiroshima, a medium-size Japanese city. The five-ton weapon, nicknamed “Little Boy,” exploded with tremendous force 1,900 feet above the city. Looking down from the plane, American airmen viewed a scene of destruction and death. One soldier said, “Good God, could anyone live through that down there?” The blast killed approximately 100,000 people; some died instantly and others died several months later as a result of their injuries. On August 9, a second atomic bomb flattened the city of Nagasaki, resulting in 70,000 deaths. On the same day, Soviet forces crossed into Manchuria and pushed the Japanese army back. Japan surrendered five days later. The terms of the surrender allowed the emperor to remain as a symbolic figurehead of the Japanese government.
- The effects of the atomic bomb on Hiroshima and Nagasaki were truly horrific. The temperature at the center of the blasts was 100 million degrees. People located at the center were instantly vaporized; the remains of their bodies left only shadows on pavements and building walls. People located further away from the center received deadly burns. One survivor described it this way: “The appearance of the people was...well, they all had skin blackened by burns.... They had no hair because their hair was burned, and at a glance you couldn’t tell whether you were looking at them from the front or in back.... Their skin—not only on their hands, but on their faces and bodies too—hung down.” Another young boy described what he saw: “Everything in sight which can be called a building was crushed to the ground and sending out flames. People who were so badly burned that the skin of their bodies was peeling off in red strips were raising shrieking cries that sounded as though the victims would die the next minute. The street was so covered with dead people and burned people stretched out and groaning, and the fallen houses and things, that we couldn’t get through.” People died weeks and even months later from radiation poisoning. The victims lost their hair, threw up blood, and grew increasingly weak until they died. The bombing was indiscriminate—schoolchildren, the elderly in hospital beds, mothers and babies, and even 12 captured U.S. navy pilots were all killed in the blasts.

- President Truman was returning from the Potsdam conference aboard the battleship *Augusta* when he received the news of the destruction at Hiroshima. He exclaimed, “This is the greatest thing in history!” When the moral implications of the bombings were raised by the press, Truman defended his decision: “We have used it against those who attacked without warning at Pearl Harbor, against those who have abandoned the pretense of obeying international laws of warfare. We have used it to shorten the agony of war, in order to save the lives of thousands and thousands of young Americans.”



In **Slide 2.2C** we see three images. On the left we see a victim of the atomic bomb in Hiroshima. On her back is the design of the kimono she had been wearing at the time of the attack. On the right we see aerial views of Hiroshima before and after the atomic bomb was dropped just after 8:00 A.M. on August 6, 1945.

**Critical-Thinking Question C:** Truman’s decision to use atomic weapons against Japan is one of the most controversial in history. In retrospect, do you think Truman made the right decision in authorizing the use of atomic weapons? Be prepared to defend your answer.

- Historians and members of the public continue to debate Truman’s decision to drop the atomic bomb. Truman himself defended the decision to his death, as did Secretary of War Henry Stimson and the general in charge of the Manhattan Project, Leslie Groves. Many of the scientists who had worked on the development of the bomb had misgivings. After the successful test of the atomic bomb at Alamogordo, New Mexico, the scientist in charge of the Manhattan Project, J. Robert Oppenheimer, quoted scripture from the *Baghavat Gita*, “I am become death, the destroyer of worlds.” After World War II, Oppenheimer became active in the failed effort to place atomic weapons research and facilities under the control of the United Nations. Albert Einstein, who had started it all with his letter to Roosevelt, regretted ever having sent the letter. That Einstein, a pacifist, would provide the impetus for the development of atomic weapons is one of history’s greatest ironies.
- By 1990 the United States and the Soviet Union had 70,000 nuclear weapons in their collective nuclear arsenals. At least seven countries had nuclear capabilities, and others were working to develop such a capability. The continued threat of nuclear arms continued to fuel the debate over their initial use.