

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 Baghavad 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.

Decision A: Whether to Build an Atomic Bomb

In August 1939 President Franklin Delano Roosevelt received a letter from Albert Einstein, a brilliant and well-known physicist. In the letter, Einstein alerted Roosevelt that Germany might be building an atomic bomb. The following is an excerpt from Einstein's letter:

In the course of the last four months it has been made probable—through the work of Joliet in France as well as Fermi and Szilard in America—that it may be possible to set up a nuclear chain reaction in a large mass of uranium [one of the minerals essential to the construction of an atomic bomb], by which large amounts of power and large quantities of a new radium-like element would be generated. Now it appears almost certain that this could be achieved in the immediate future.

This new phenomenon would also lead to the construction of bombs, and it is conceivable—though much less certain—that extremely powerful bombs of a new type may thus be constructed. A single bomb of this type, carried by boat and exploded in a port, might very well destroy the whole port together with some of the surrounding territory. However, such bombs might very well prove to be too heavy for transportation by air.

I understand Germany has actually stopped the sale of uranium from Czechoslovakian mines which she has taken over.

When Einstein wrote this letter to Roosevelt, the United States was not yet at war with Germany. However, the president took immediate interest in the scientific developments described in the letter. The bomb would not only be the most powerful weapon on earth, it would transform warfare by making it possible to kill more people with less effort.

In the 18 months following Einstein's letter, members of the Roosevelt administration debated what action should be taken to counter the German threat. Some officials wondered how serious the threat really was. In addition, not all scientists agreed with Einstein. In fact, two Nobel Prize-winning nuclear physicists, Enrico Fermi and Niels Bohr, believed that the construction of an atomic bomb was a practical improbability.

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.

- A. Ignore scientific developments and do not build an atomic bomb; concentrate U.S. efforts on building conventional weapons, such as faster planes and more powerful tanks.
- B. Vigorously pursue the construction of an atomic bomb because the United States is in a race against the Germans.
- C. Postpone the development of an atomic bomb and send spies into Germany to determine the accuracy of Einstein's letter.
- D. Do not develop the bomb. Instead, monitor the construction of new German weapon facilities and then send American bombers to destroy them.
- E. Denounce the development of atomic bombs as immoral. Only evil could come from their development.

Decision B: Whether to Drop an Atomic Bomb

Vice President Harry S. Truman became president after Roosevelt unexpectedly died in April 1945. While attending an Allied conference in Potsdam, Germany, three months later, Truman received a telegram stating that the test of the atomic bomb had been successful. By this time in the war, Germany had been utterly defeated. However, Japan had vowed to fight on, despite the Allies' demand at Potsdam for an unconditional surrender. The Japanese felt that an unconditional surrender would jeopardize the position of their emperor, whom they considered divine (Godlike). In addition, the Japanese viewed surrender as dishonorable. They fought with fanatic resistance and believed it was more honorable to commit suicide than to surrender to enemy forces. In this vein, Japanese *kamikaze* pilots strapped themselves into planes loaded with explosives and crashed them into American naval vessels. They managed to destroy 53 ships and damage 158 others.

Despite these desperate attacks, the Japanese were close to defeat by July 1945. Three factors were working against them. First, Allied bombing runs over the Japanese home islands were killing tens of thousands of civilians and military personnel. Second, an Allied naval blockade made it impossible for Japan to import the goods necessary to continue fighting and prevented one million Japanese troops in China from returning to their homeland. Third, the massive Soviet Red Army was poised to enter the war and assist the United States.

The United States had hoped to end the Pacific War by invading the home islands of Japan. However, in the face of Japanese fanaticism, Truman was deeply concerned that such an invasion would cost tens of thousands of American lives. In light of this concern, some of Truman's advisors recommended that he end the war quickly by dropping a bomb without warning on a large Japanese city. The undersecretary of the navy, Ralph Bard, disagreed and told Truman that dropping the bomb without a specific warning would jeopardize "the position of the United States as a great humanitarian nation." A group of scientists from the bomb project suggested that the United States drop the bomb in a remote, unpopulated location to show the bomb's power and convince Japan to surrender.

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.

- A. Without warning, drop an atomic bomb on a Japanese city as soon as possible.
- B. Drop the bomb on an unpopulated area to demonstrate its destructive capabilities.
- C. Warn the Japanese that the United States possesses atomic weapons and is willing to use them if they don't surrender in a specified time. If they don't surrender, then drop the bomb.
- D. Reject the use of atomic weapons, and continue the naval blockade and conventional bombing. If the measures do not produce a Japanese surrender, invade Japan.
- E. Reject the use of atomic weapons and negotiate an end to World War II, allowing the Japanese to surrender with their emperor as a part of the postwar government.

Decision C: Whether Truman Made the Right Decision

Immediately following the dropping of the two atomic bombs on Japan, the majority of Americans felt the right decision had been made. Surveys conducted by *Fortune* magazine in the fall of 1945 revealed that over 50 percent of Americans believed that the United States “should have used the two bombs on cities just as we did.” Another 22.7 percent felt the United States “should have quickly used many more [bombs] before Japan had the chance to surrender.” American soldiers also supported Truman’s decision. One young soldier stated: “When the bombs were dropped and news began to circulate that [the invasion of Japan] would not take place after all, that we would not be obliged to run up the beaches near Tokyo assault-firing while being mortared and shelled...we cried with relief and joy. We were going to live. We were going to grow up to adulthood after all.”

Many officials in the top ranks of the military and government supported Truman’s decision to drop the atomic bombs. However, others expressed doubts. Admiral William D. Leahy stated: “It is my opinion that the use of this barbarous weapon at Hiroshima and Nagasaki was of no material assistance in our war against Japan. The Japanese were already defeated and ready to surrender because of the effective sea blockade and the successful bombing with conventional weapons.... My own feeling was that being the first to use [the atomic bomb], we adopted an ethical standard common to the barbarians of the Dark Ages.” Dwight D. Eisenhower, a general with enormous prestige, expressed the hope that the United States would never have to use such a weapon against an enemy again because he disliked seeing the country “initiate the use of anything so horrible and destructive.”

Some historians have severely criticized Truman’s decision. They argue that the Japanese were already defeated in August 1945, and that the atomic bombs were used primarily as a warning to the Soviet Union. Although they were allies during World War II, the United States and the Soviet Union had very different visions for the postwar world. The Soviets wanted to maintain control over Eastern Europe. The United States wanted the Soviets to provide independence to eastern European countries. Historians critical of Truman’s decision argue that he authorized the use of the atomic bombs mainly to scare the Soviets out of Eastern Europe and to keep them from gaining more territory in Asia. To these historians, the citizens of Hiroshima and Nagasaki were sacrificed in a high-stakes poker game between two superpowers. They also argue that the postwar nuclear arms race can be traced back to the fear and mistrust created by Truman’s decision. Other historians counter that the military pressures Truman was under at the end of World War II played a much more important role in his decision than the threat of Soviet aggression.

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.

- A. Truman did not make the right decision when he authorized the use of atomic weapons
- B. Truman made the right decision when he authorized the use of atomic weapons.