Atomic Bomb

Timeline of Events

• Einstein and Szilard write letter to Pres. Roosevelt.
• The Manhattan Project is assembled.
• Dr. Robert Oppenheimer appointed to head the team.
• July 16, 1945 – Trinity Test
• July 26, 1945 – The USS Indianapolis delivers the bombs.
• Aug. 6, 1945 – Enola Gay drops an atomic bomb on Hiroshima.
• Aug. 9, 1945 – A 2nd Atomic bomb is dropped on Nagasaki.

The Manhattan Project

Albert Einstein and Leo Szilard wrote to Pres. Roosevelt about creating a nuclear weapon. Roosevelt approved the idea and assembled a group of scientists known as the Manhattan Project.
Albert Einstein

Einstein’s work, *The Theory of Relativity*, influenced scientists of the era. His famous equation, \( E=MC^2 \)

His theories taught that time and space were relative. Also, ideas about the energy created when atoms are split were key components to building an atomic bomb.

BUT, he was not on the Manhattan Project…
Dr. J. Robert Oppenheimer

California Professor Dr. J. Robert Oppenheimer “Oppy” was selected to lead a team of scientists in developing an atomic bomb.
Photo – Members of the Manhattan Project
Photo – The Trinity Test

This was the 1st successful testing of the atomic bomb on July 16, 1945.

http://www.youtube.com/watch?v=Ru2PWMGloB8&safety_mode=true&persist_safety_mode=1
President Truman’s Decision to Drop the Bomb

- Revenge for Pearl Harbor.
- Germany had already surrendered and people were ready to end the war and bring our men HOME!

President Harry Truman
President Truman’s Decision to Drop the Bomb

• *Island hopping* was costly and Truman believed an *invasion* of Japan would cost the USA 50,000 lives and the Japanese people, a million lives.
• It also showed the Soviets the USA was willing to use nuclear weapons.
These were the nicknames given to the atomic bombs that were to be dropped on Hiroshima and Nagasaki.
The USS Indianapolis

The bomb was delivered July 26. The ship was torpedoed July 30.

Of the 1,196 crew members, 300 went down with the ship, and 900 were dropped in the water for 4 days with no lifeboats, food, or water.
The USS Indianapolis

Vicious shark attacks claimed the lives of 600 men.

Only 319 men were pulled from the waters 4 days after the attack.
Aug. 6, 1945, Col. Paul Tibbets dropped an atomic bomb on the Japanese city of Hiroshima. The B-29 *Enola Gay*, was a bomber class plane named after his mother.
Photo – The Crew of the Enola Gay
Hiroshima

Aug. 6, 1945, the 1st atomic bomb was dropped on Hiroshima killing more than 80,000 people. Still, the Japanese refused to surrender.
Aug. 9, 1945, a 2\textsuperscript{nd} atomic bomb was dropped on the city of Nagasaki, instantly killing 40,000 people. Over the years, an additional 100,000 became casualties to the effects of this bomb.
Chart – Nagasaki Website

DAMAGE CAUSED BY THE ATOMIC BOMB EXPLOSION

Leveled Area...................6.7 million square meters
Damaged Houses:
Completely Burned ------11,574
Completely Destroyed-----1,326
Badly Damaged------------5,509
Total---------------------18,409
### Chart – Nagasaki Website

<table>
<thead>
<tr>
<th>Casualties</th>
<th></th>
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<tbody>
<tr>
<td>Killed</td>
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<tr>
<td>Injured</td>
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<tr>
<td>Total</td>
<td>148,793</td>
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(Large numbers of people died in the following years from the effects of radioactive poisoning.)
Photo – Effects of Radiation

Woman burned from radiation.

Images from Hiroshima.
The Japanese surrendered Sept. 2, 1945. They were forced to sign aboard the *USS Missouri*. Douglas Mac Arthur accepts the surrender.
The Effects of the Bomb

• This ended the war against the Japanese and brought World War II to a close.
• It ushered in the Nuclear Age.
The Effects of the Bomb

• The race for Nuclear Arms or weapons begins.
• It started the Cold War between the USA and the USSR.