

THE FIGHT AGAINST THE USAGE OF NUCLEAR WEAPONS

Led by Nuclear Weapons Awareness





Importance of Education and Outreach

- **What is the purpose of this exhibition?**
 - Provide an educational service to the public
 - Inform others of the destruction that these weapons create
 - Raising attention and introduce the dangers of nuclear weapons usage on society and the environment
- **What is the benefit of the exhibition?**
 - Reinforcing the truth of the effects of nuclear weapons
 - End the annihilation of countless cities, innocent lives and environment
 - Create a movement to abolish Nuclear Weapons



Exhibition process:

- **Nuclear Weapons Awareness presents...**
 - Development of nuclear weapons
 - History of Hiroshima and Nagasaki
 - Hiroshima and Nagasaki's influences the trade market before the bombing
 - Why the U.S chose Hiroshima/Nagasaki on August 6
 - Long and short-term effects of radiation exposure on people
 - Long and short-term effects of radiation on the environment
- **Survivors Memoirs**
- **Guest speakers (when guest speakers are available)**

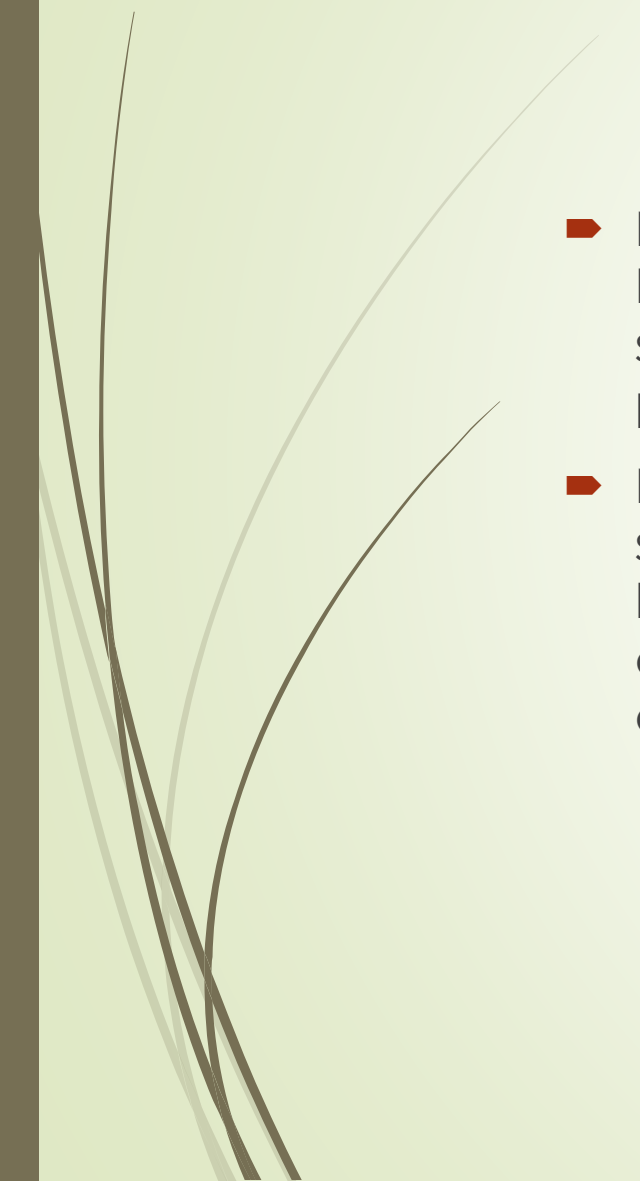



History of Hiroshima

- the City of Hiroshima was established in 1889. As the prefectural capital, Hiroshima City developed into an economic and political center in western Japan. In 1889, construction of the Ujina port was completed. Then, railroad construction reached Hiroshima, and streetcars began operations in the city in 1912—Hiroshima's transportation network has been developed.
- In addition, Hiroshima enjoyed its position as an industrial and educational center, with a booming spinning industry and the various educational institutions, such as the Hiroshima Higher Normal School. Hiroshima had become the core city of the Chugoku and Shikoku regions prior to World War II. At the same time as the above developments, Hiroshima also developed into a military city.



History of Nagasaki

- Nagasaki was Japan's second oldest port open to foreign trade (after Hirado). It was the only Japanese port permitted by the Tokugawa shogunate (military government) between 1639 and 1859 when all other ports were closed.
 - Nagasaki became a Centre for information on Western technology and science. When Nagasaki was fully reopened to the West in the 1850s, it became a major port for trade. It was a leading East Asian coaling station and served as the winter port of the Russian Asiatic fleet until 1903. In the early 20th century, the city became a major shipbuilding center.
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The development of the Nuclear Weapons

- Began in the United Kingdom in 1930's as a research project called Tube Alloy
- Canada supplied the United States with uranium for military purposes and contributed to producing and extracting plutonium
- The collaboration of top scientists from the United Kingdom, United States, and Canada's supplies initiated the Manhattan project to build a weapon using nuclear splitting
- Attain a win without American invasion and encourage Japanese to surrender in order to reduce U.S. casualties

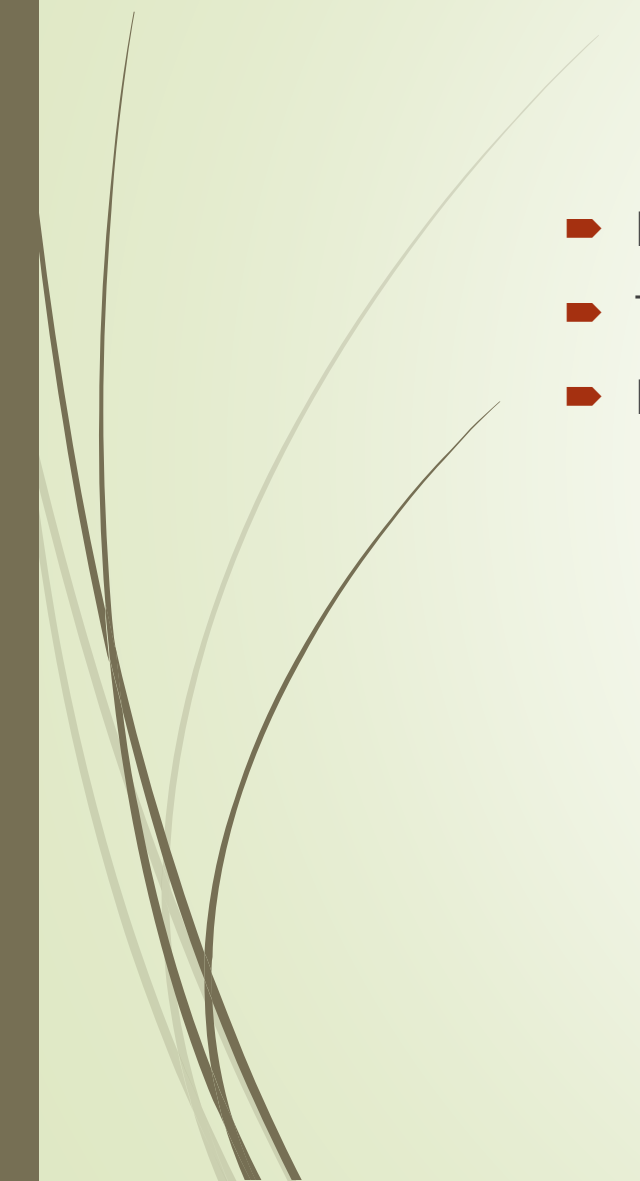


Manhattan Project Targets

- In May 1945, the Manhattan Project's Target Committee issued their recommendations. Based on three qualifications – “a large urban area of more than three miles in diameter...capable of being damaged effectively by the blast and... likely to be attacked by [August 1946]” – the committee identified their top four potential targets for the bombings: Kokura, Yokohama, Hiroshima, and Kyoto. Niigata, an increasingly important port city, was also offered as an option.
- Kokura was a city of great military importance because it had the largest factory in western Japan for the production of aircraft, missiles and other weapons. Yokohama was an urban area that had escaped attack so far and hosted important industrial activities, including aircraft manufacturing, docks and oil refineries.
- Hiroshima was also very important from a military perspective since it was home to the 2nd Army Headquarters, which were responsible for the defense of southern Japan. It was an important center of storage, communications, and assembly of soldiers. The city's landscape added to its appeal as a place to showcase the bombs destructive power – the nearby hills could increase damage from the atomic blast and the rivers running through it kept Hiroshima off the list of targets for firebombing.
- Kyoto was another ideal target: it had a population that amounted to 1,000,000 people, it was a major industrial center, and it was Japan's intellectual center and former capital. Ultimately U.S. Secretary of War Henry Stimson persuaded Truman to take Kyoto out of consideration as it was Japan's cultural center and a cherished city. Nagasaki, another important port, was chosen as its replacement.



Hiroshima and Nagasaki Continued

- ▶ Leaflets flooded the skies warning Japan citizens of coming destruction
 - ▶ The fight to keep their emperor and conduct their own war trials
 - ▶ Did not want to be occupied by U.S. forces
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Hiroshima/Nagasaki on August 6

- On August 6, 1945, the United States dropped an atomic bomb on the city of Hiroshima. The bomb was known as “Little Boy”, a uranium gun-type bomb that exploded with about thirteen kilotons of force. At the time of the bombing, Hiroshima was home to 350,000 civilians.
- 140,000 people are believed to have died from the bomb in the four-month period following the explosion. The U.S. Department of Energy has estimated that after five years there were perhaps 200,000 or more fatalities as a result of the bombing
- Three days after the United States dropped an atomic bomb on Hiroshima, a second atomic bomb was dropped on Nagasaki on August 9 – a 21-kiloton plutonium device known as “Fat Man.”
- On the day of the bombing, an estimated 263,000 were in Nagasaki, including 240,000 Japanese residents, 9,000 Japanese soldiers, and 400 prisoners of war. Prior to August 9, Nagasaki had been the target of small-scale bombing by the United States.
- Though the damage from these bombings was relatively small, it created considerable concern in Nagasaki and many people were evacuated to rural areas for safety, thus reducing the population in the city at the time of the nuclear attack. It is estimated that 75,000 people died by the end of 1954.



Damage Created

- Damage from Fire

The intense heat ray fires to wooden building and buildings.

Fire hot enough to melt glass raged over a wide area for many hours.

- Damage from Heat

About 0.2 seconds after detonation, the fireball reached a surface temperature of 7,700°C

- Damage from Blast

When the atomic bomb exploded, the air around it expanded rapidly, sending forth an intense shockwave. Even at 500 meters from hypocenter, the pressure of the blast was approximately 11 ton/m². Within a radius of 2 km from the hypocenter, practically every wooden house was collapsed.

- Damage from Radiation

Radiation is odorless and invisible but penetrate deep into the body, damaging cells and causing serious injury to internal organs, including blood-forming tissues in bone marrow. The immediate damage can continue for decades.

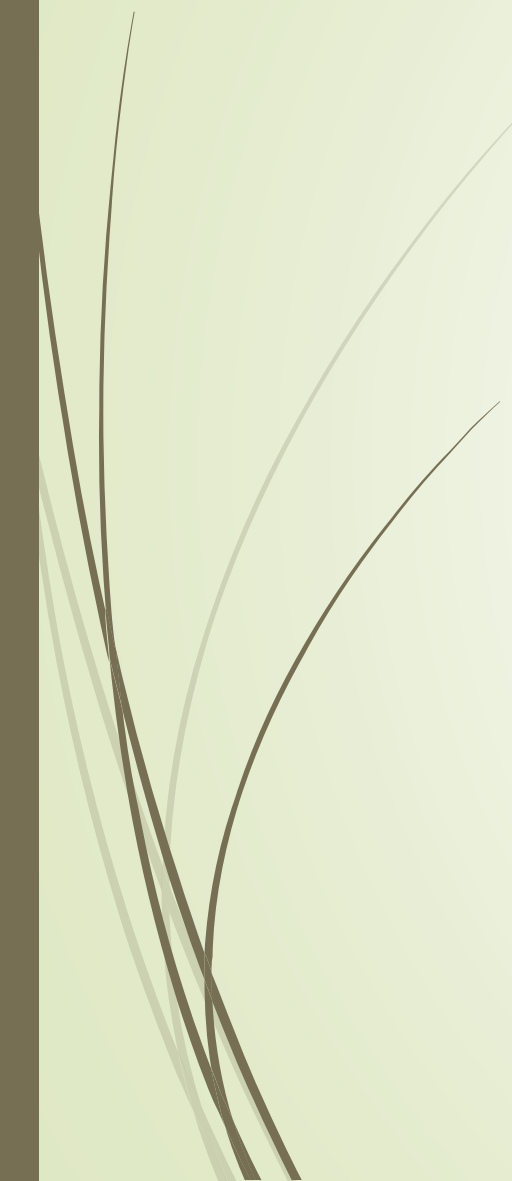


Short-term and Long-term effects of radiation exposure on people

- Fatal Cancers
- Purpura "Purple spots of Death" – Bleeding beneath the skin.
- Malignant Tumors
- Benign Tumors
- Fatal Cancers
- Prenatal Exposure
- Atomic Bomb Microcephaly-condition causing abnormal brain growth in new borns and infants
- Intellectual Disabilities
- Hyperthyroidism
- Development and Growth Disorders
- Atomic Bomb Cataracts




Short-term and Long-term effects of radiation on the environment

- ▶ Deplete Ozon Layer
 - ▶ Raise Global Temperature
 - ▶ Fallout was dispersed over land and sea leaving large areas contaminated
 - ▶ Altered DNA in the Genes of Plants and animals the web of life.
 - ▶ Survivors began suffering from thyroid, breast, lung and other cancers at an alarming rate from livestock and vegetation.
 - ▶ Depletion of the Ozone Layer.
 - ▶ Rise in Global Temperature.
 - ▶ 5-6 years of infected Livestock.
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Atomic Bomb VS Hydrogen Bomb


- Hydrogen bombs and atomic bombs are both nuclear weapons that can cause mass destruction.
 - Most US nuclear weapons today were made in the 1950s and 1960s and are H-bombs.
 - H-bombs are more powerful, flexible, and cleaner than a-bombs but they're also more complex to make.
 - While atomic bomb blasts are measured in kilotons — 1 kt is equivalent to the explosive force of 1,000 tons of TNT — hydrogen bombs are often measured in megatons. One Mt is equivalent to 1,000,000 tons of TNT.
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Nuclear Weapons Today

- At present there are 9 countries in the world that possess nuclear weapons. They are Russia United State China France United Kingdom Pakistan India Israel North Korea
- Together, these states have 12,700 nuclear warheads, of which 9,400 are in active military stockpiles. While this is a significant decline from the approximately 70,000 warheads owned by the nuclear-armed states during the Cold War, nuclear arsenals are expected to grow over the coming decade and today's forces are vastly more capable.
- Who has the most nuclear weapons?
- Russia has the most confirmed nuclear weapons, with 5,997 nuclear warheads. The United States follows behind with 5,428 nuclear weapons, hosted in the US and 5 other nations: Turkey, Italy, Belgium, Germany and the Netherlands. Total nuclear warheads owned by these 2 countries alone counts for 90% of nuclear weapons in the world.
- Total number of warheads for North Korea and Israel is unconfirmed. However, it has been estimated that North Korea has enough fissile material to develop between 40-50 individual weapons, whilst Israel has material for up to 200, with an estimated 90 existing warheads.
- What does these countries having nuclear weapons mean?
- A single nuclear warhead could kill hundreds of thousands of people, with lasting and devastating humanitarian and environmental consequences. Detonating just 1 nuclear weapon alone over New York would cause an estimated 583,160 fatalities.
- Combined, Russia, the United States, the United Kingdom, France, China, India, Pakistan, Israel and North Korea possess an estimated total of roughly 13,000 nuclear weapons, most of which are many times more powerful than the nuclear weapon dropped on Hiroshima. Thirty-two other states are also part of the problem, with 5 nations hosting nuclear weapons, and a further 27 endorsing their use.

Survivors Testimony

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- ▣ Miyoko Matsubara's story.
 - ▣ Shoso Kawamoto's story.
 - ▣ Sumiteru Taguchi's story.

Material Witness



■ Tricycle

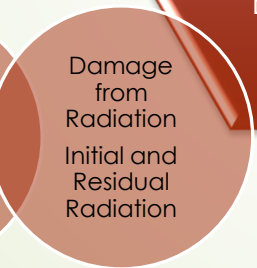
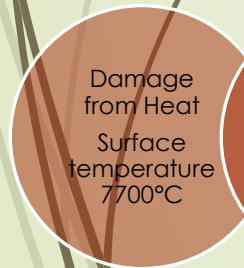
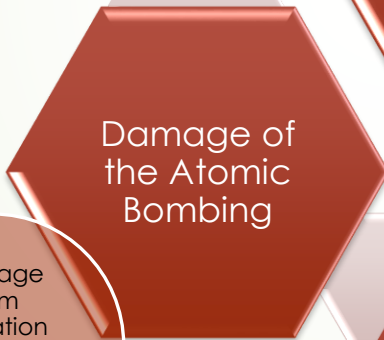
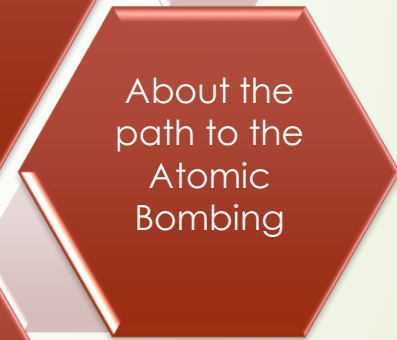
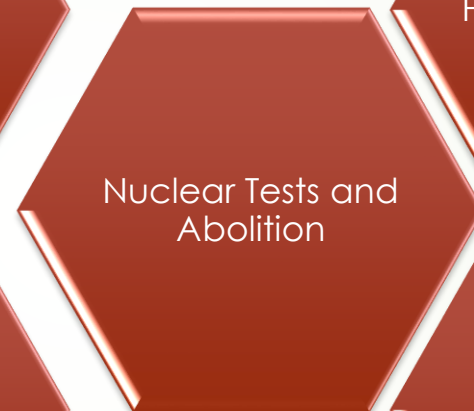
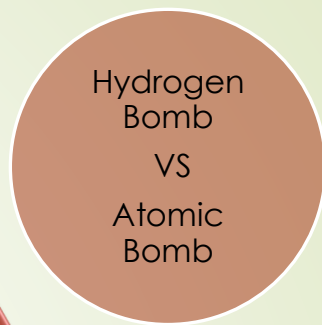
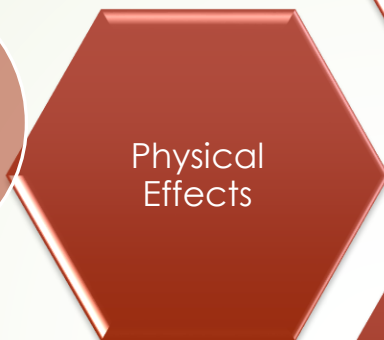
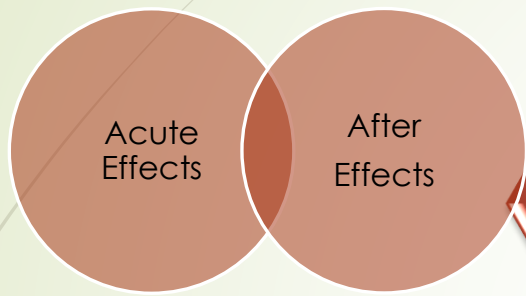
Shinichi Tetsutani (then three years and 11-month-old) experienced the bombing as he rode his tricycle in front of his house and died later that evening.

■ Mother's Rosary

Misaki Ide's mother went to work at a relative's house near Urakami Cathedral, 600 meters from hypocenter. She went search for her mother and found her dead at Urakami Cathedral.


■ Lunch Box

Shigeru Orimen (then, 13 years old) He left his house for work carrying the lunch box his mother made for him. He experienced the bombing at his building demolition site. Mother went search for him and found him dead on the ground, clutching the lunch box under his stomach. The uneaten lunch box was burned black.





Scheduling Information

- Schedule must be made one month in advance
 - Our exhibitions are held Monday through Friday
 - Your facility must provide a room or area with a minimum size of five hundred square feet
 - Schedule online or contact us via email
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CITATIONS/REFERNCES

- “Canada's historical role in developing the nuclear weapons” *Canadian Nuclear Safety Commission*. February 3, 2014.
- ICAN “Possession of Nuclear Weapons information”

Contact Us



Left Photo taken by Koji Ogasawara at Hiroshima Peace Memorial Park Event



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