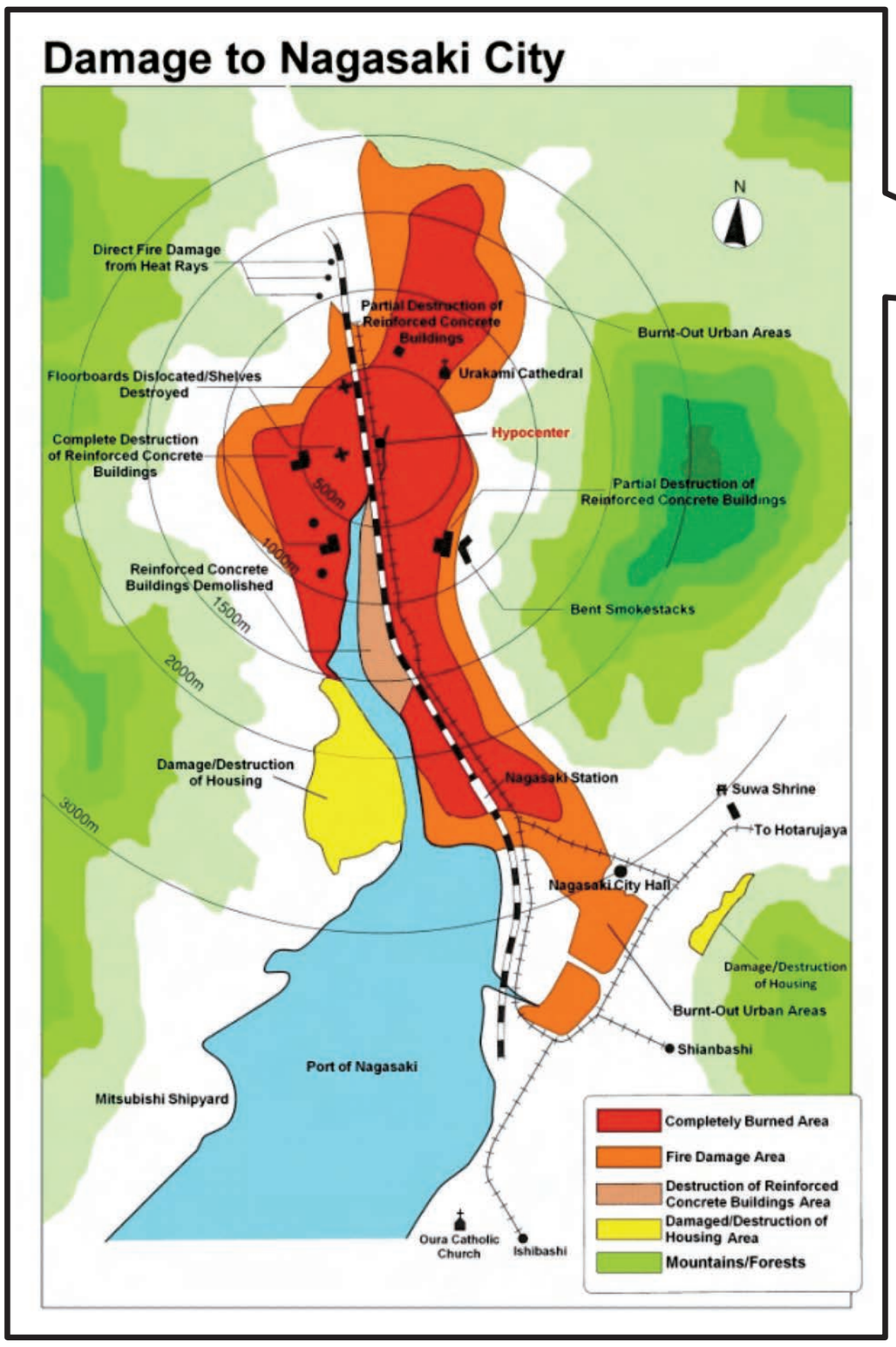
Damage to Hiroshima & Nagasaki

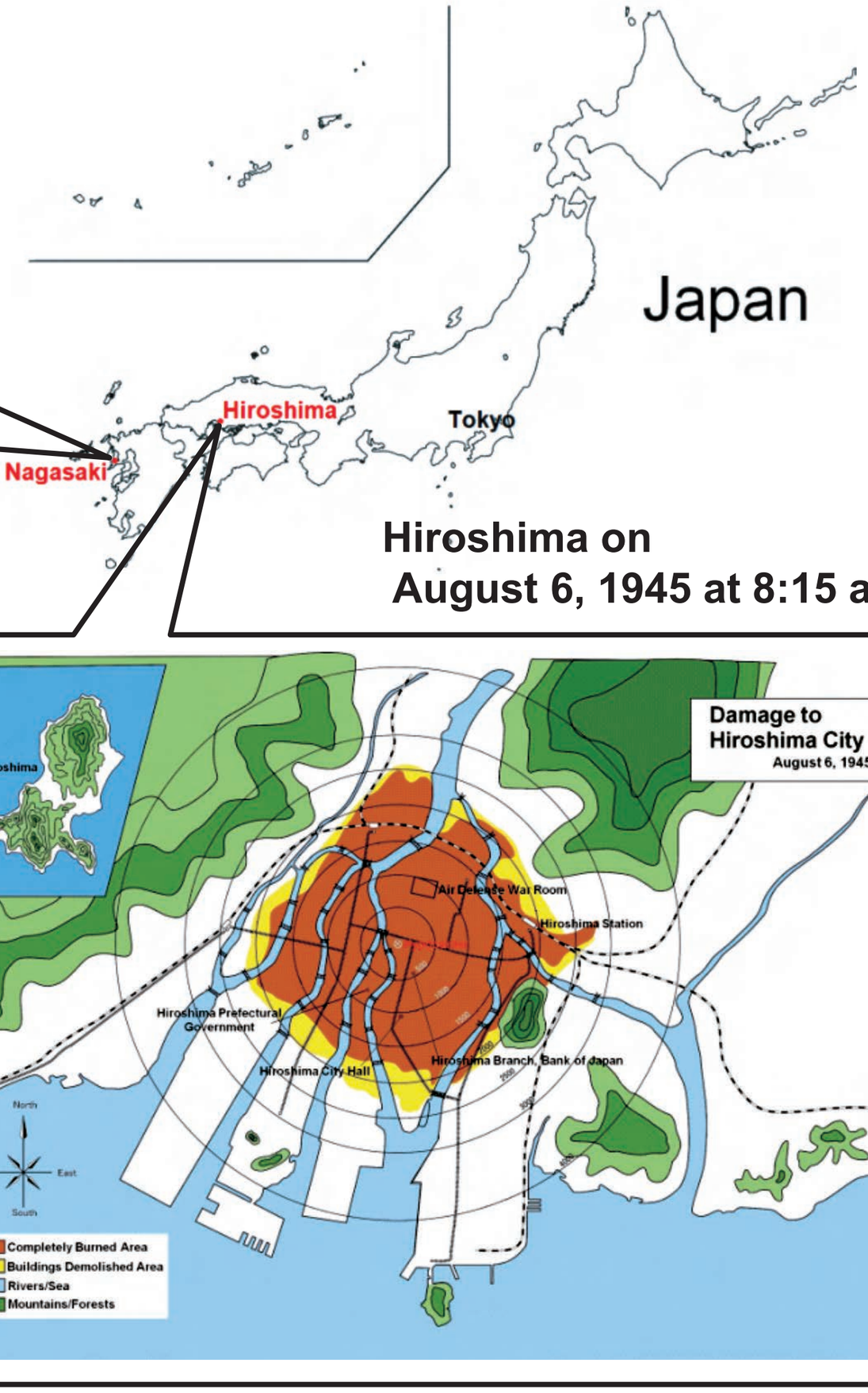
On August 6, 1945 at 8:15 am the world's first atomic bombing occurred in Hiroshima. Three days later on August 9, at 11:02 am, a second bomb was dropped on Nagasaki.
As a result of these explosions, over 210,000 lives were lost and over 150,000 people were injured.

Comparing the Hiroshima and Nagasaki Bombings

	Nagasaki	Hiroshima
Time of Explosion	11:02 a.m., August 9, 1945 (Thursday)	8:15 a.m., August 6, 1945 (Monday)
Type of Material	Plutonium-239	Uranium-235
Name of Atomic Bomb	Fat Man	Little Boy
Explosive Force	21kt of TNT	16kt of TNT
Weight Length Diameter	4.5 tons 3.25 m 1.52 m	4.0 tons 3.0 m 0.7 m
Bomber	B29 Bockscar	B29 Enola Gay
Point of Explosion	Dropped from 9,600m ↓ Exploded 500m above Matsuyama-machi	Dropped from 9,600m ↓ Exploded 600m above Shima Hospital
Population at Time of Bombing	Approx. 240,000	Approx. 350,000
Estimated Death Toll	73,884	140,000 (±10,000)
Number of Injured	74,909	79,130
Number of Victims	148,793	219,130 (±10,000)
Ratio of Victims to Population	Approx. 62%	Approx. 63%
Number of Houses Afflicted	18,409	76,327
Number of Completely Burned Houses	11,574	47,969
Number of Partially Destroyed Houses	6,835	21,925
Total Area Consumed by Fire	6.7sqkm	13.2sqkm

Nagasaki on August 9, 1945 at 11:02 a.m.

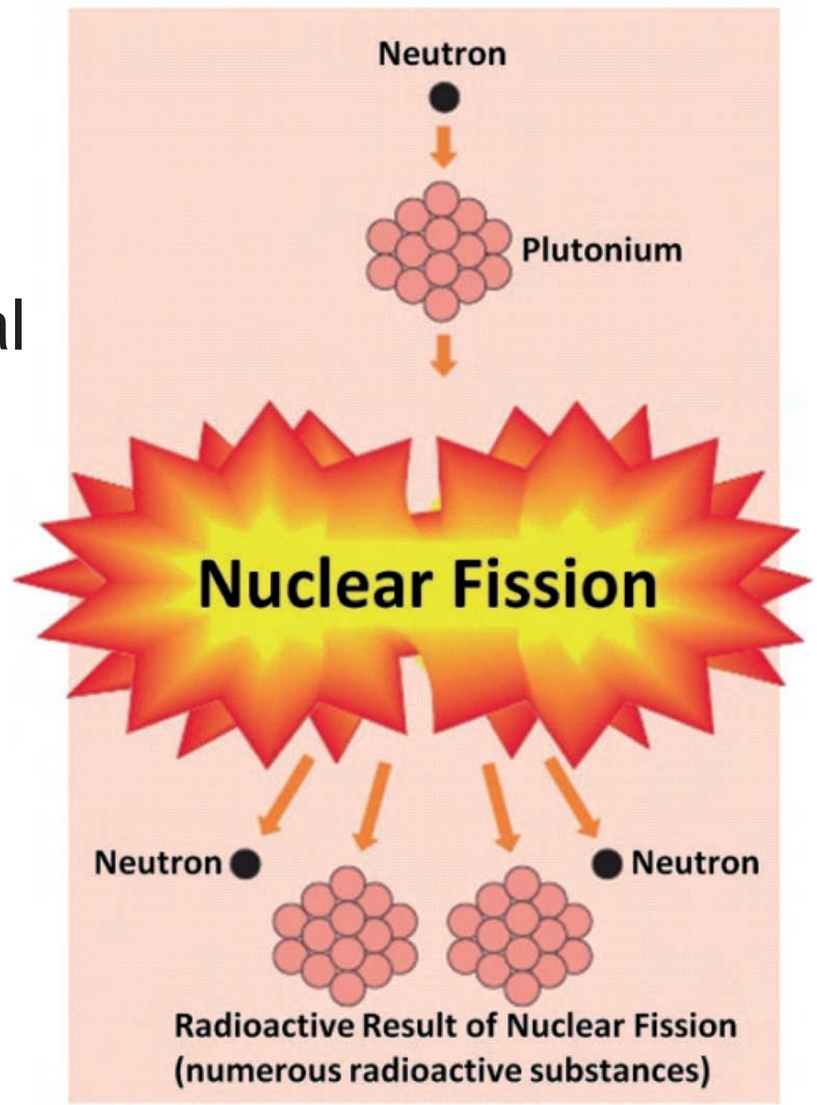




Hiroshima on August 6, 1945 at 8:15 a.m.

What are Atomic Bombs?

When an element (a substance that cannot be broken down into simpler substances by chemical means) such as uranium or plutonium collides with neutrons, its nucleus divides into two in a process called nuclear fission, releasing energy. Although only a small amount of energy is released at first, neutrons are emitted causing nuclear chain reactions and creating a huge amount of energy followed by heat rays, a blast wave, and radiation. Atomic bombs harness this using and use it as a weapon.

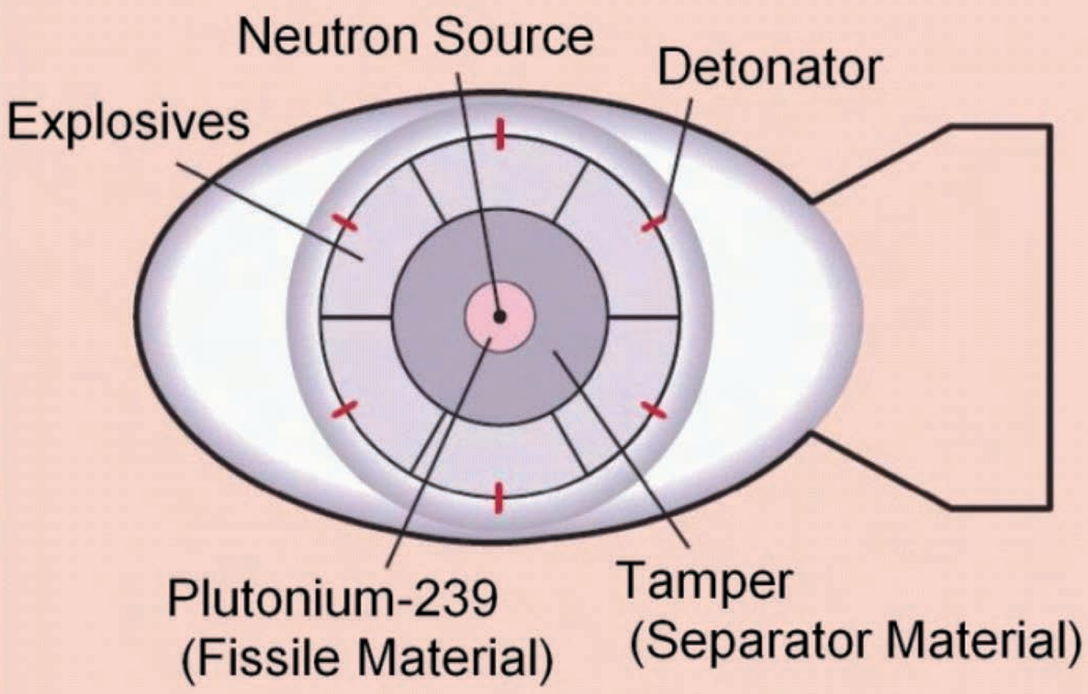


Principle of Nuclear Fission

Atomic Bombs of Hiroshima and Nagasaki

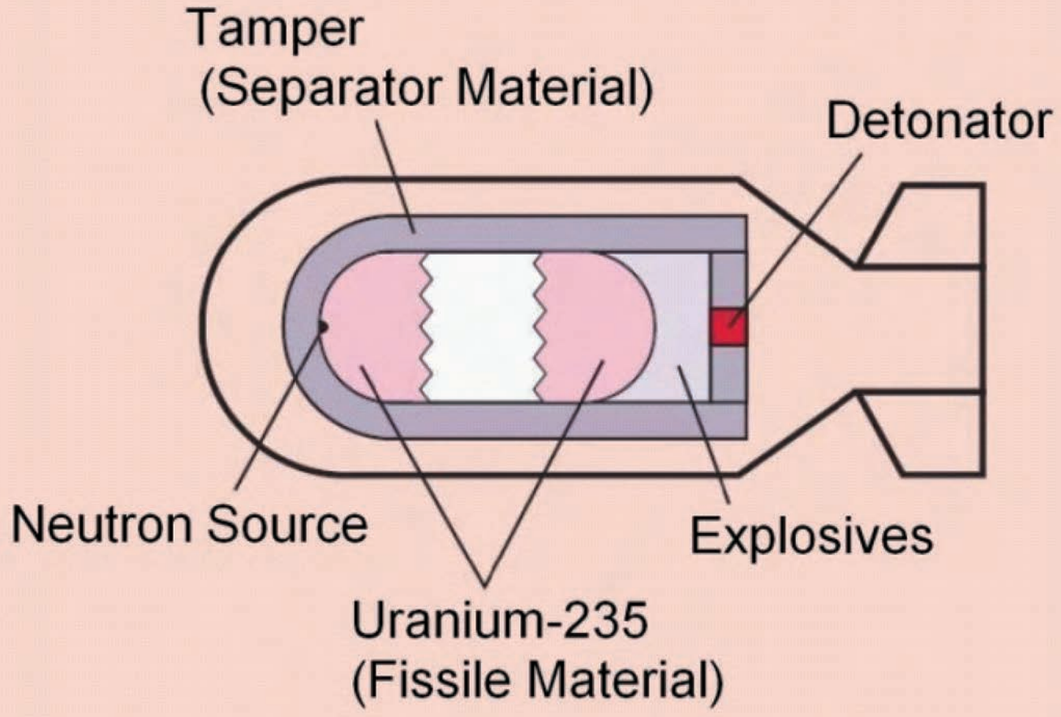
A certain amount (critical amount) of fissile material is required in order to detonate an atomic bomb. The atomic bomb dropped on Hiroshima was a gun-type fission weapon with two subcritical fissionable materials (Uranium-235), each less than a critical mass, placed on each side of the metal cylinder. Explosives were used to unite the two sides, causing a nuclear reaction.
The atomic bomb dropped on Nagasaki, however, was an implosion-type weapon with a plutonimum-239 core. High explosives, fired simultaneously, produced powerful inward pressure on the core resulting in a supercritical condition and a nuclear reaction.

Fatman Atomic Bomb (Nagasaki)



Length: 3.25m Diameter: 1.52m Weight: 4.5 tons
Explosive Power: Equiv. to 21kt of TNT
Commonly known as the "Fat Man"

Little Boy Atomic Bomb (Hiroshima)



Length: 3m Diameter: 0.7m Weight: 4 tons
Explosive Power: Equiv. to 16kt of TNT
Commonly known as the "Little Boy"