

Nuclear weapons



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BACKGROUND

A discovery by nuclear physicists in a laboratory in Berlin, Germany, in 1938 made the first atomic bomb possible, after Otto Hahn, Lise Meitner and Fritz Strassman discovered nuclear fission.

Atomic bombs get their energy from fission reactions. Thermonuclear weapons, or hydrogen bombs, rely on a combination of nuclear fission and nuclear fusion. Nuclear fusion is another type of reaction in which two lighter atoms combine to release energy.

Scientists at Los Alamos had developed two distinct types of atomic bombs by 1945—a uranium-based design called “the Little Boy” and a plutonium-based weapon called “the Fat Man.” (Uranium and plutonium are both radioactive elements.)

designed to release energy in an explosive manner as a result of nuclear fission, nuclear fusion, or a combination of the two processes. Fission weapons are commonly referred to as atomic bombs. Fusion weapons are also referred to as thermonuclear bombs or, more commonly, hydrogen bombs; they are usually defined as nuclear weapons in which at least a portion of the energy is released by nuclear fusion.

Nuclear weapons produce enormous explosive energy. Their significance may best be appreciated by the coining of the words *kiloton* (1,000 tons) and *megaton* (1,000,000 tons) to describe their blast energy in equivalent weights of the conventional chemical explosive TNT. For example, the atomic bomb dropped on Hiroshima, Japan, in 1945, containing only about 64 kg (140 pounds) of highly enriched uranium, released energy equaling about 15 kilotons of chemical explosive.

CONTEXT

Device designed to release energy in an explosive manner as a result of nuclear fission, nuclear fusion, or a combination of the two processes. Fission weapons are commonly referred to as atomic bombs. Fusion weapons are also referred to as thermonuclear bombs or, more commonly, hydrogen bombs; they are usually defined as nuclear weapons in which at least a portion of the energy is released by nuclear fusion.

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The first nuclear weapons were bombs delivered by aircraft. Later, warheads were developed for strategic ballistic missiles, which have become by far the most important nuclear weapons. Smaller tactical nuclear weapons have also been

developed, including ones for artillery projectiles, land mines, anti submarine depth charges, torpedoes, and shorter-range ballistic and cruise missiles.

Possible Questions

1. What have been some nuclear attacks in recent years?
2. What are nuclear weapons made of?
3. Who invented nuclear weapons?
4. Which country is the largest producer of nuclear weapons?
5. How can your delegation prevent nuclear disasters?

Bibliography

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