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and exploded in a



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Background of the Atomic Bomb It was during the Second World War that the United States became a world power, thanks in a large part to its monopoly on atomic weapons. The atomic bomb is a weapon with great explosive power that results from the sudden release of energy upon the splitting, or fission of the nuclei of such heavy elements as plutonium or uranium. This new destructive force wrecked havoc on two Japanese cities and caused the end of World War II.

It also saved thousands of American lives because a ground invasion of Japan was no longer necessary. The decision to create the bombs was that of United States President Franklin D. Roosevelt under a secret military project that was called The Manhattan Project. The Beginnings of the Manhattan Project In 1939, after German dictator Adolf Hitler invaded Poland, German scientists shocked the scientific world when they announced that they had split uranium atoms by man-made means for the first time. Upon hearing this news, a nuclear physicist, Leo Szilard, was convinced that a chain reaction of this process could be used as a weapon to release an awesome burst of power. Szilard knew that this knowledge was now in the wrong hands of the enemy Germans. On a July day in 1939 Szilard and his associate, Edward Teller, drove to the Long Island home of Albert Einstein to alert him of their findings. Einstein used his political influence by immediately writing a letter to President Roosevelt explaining the consequences of the Germans creating an atomic bomb.

His letter read, " I believe, therefore, that it is my duty to bring to your attention that it may become possible to set up a nuclear chain reaction in a large mass of uranium by which vast amounts of power and large quantities

of new-like elements would be generated. A single bomb of this type, carried by a boat and exploded in a port, might very well destroy the whole port, together with some of the surrounding territory." Two months passed before Roosevelt finally read the letter.

He ordered a committee of scientists and military officers to meet Szilard and Teller to determine whether America was capable of building a nuclear bomb. In 1940, Szilard and Teller were granted a mere \$6, 000 to begin experiments in nuclear fission. The duo enlisted the help of the winner of the Nobel Prize for Physics in 1938, Enrico Fermi. Since much of the United States early nuclear research been conducted at New York's Columbia University, the federal government assigned the Manhattan District of the Army Corps of Engineers to construct the primary research and production facilities for the project. Hence the " Manhattan Project" became the code name for the atomic-bomb development program. Success under the StandIn early 1942, the Manhattan Project moved its headquarters to Chicago.

There the scientists set up a laboratory under the stands of the University of Chicago football stadium. It was there that the turning point of the project occurred; the first nuclear chain reaction was created. On December 2, 1942, to conduct the test, the three brilliant men built a graphite nuclear reactor the size of a house. By the pulling of a rod attached to the reactor the experiment began. The meter on the counting machine ascended to the highest point and stayed there. " Gentlemen, the pile has gone critical," Fermi announced, signaling that it was a success. Fermi then ordered the

control rod to be pushed back before the reactor exploded and perhaps taking a large part of Chicago with it.

The chain reaction was the evidence that proved that an atom bomb could be made. Most of the scientists were overjoyed, but Szilard said to Fermi, “This is a black day for mankind.” Confidence in the projectThe success in Chicago prompted Roosevelt to give top priority to the creation of a nuclear bomb. The focus of the project shifted from research to the actual production of the bomb. More than \$2, 000, 000, 000 was now being pumped into the project.

The Manhattan Project’s team was allowed to employ the country’s brightest mathematicians and its most highly trained technical people. Twelve Nobel Prize winners were also enlisted in the undertaking. Highly skilled men and