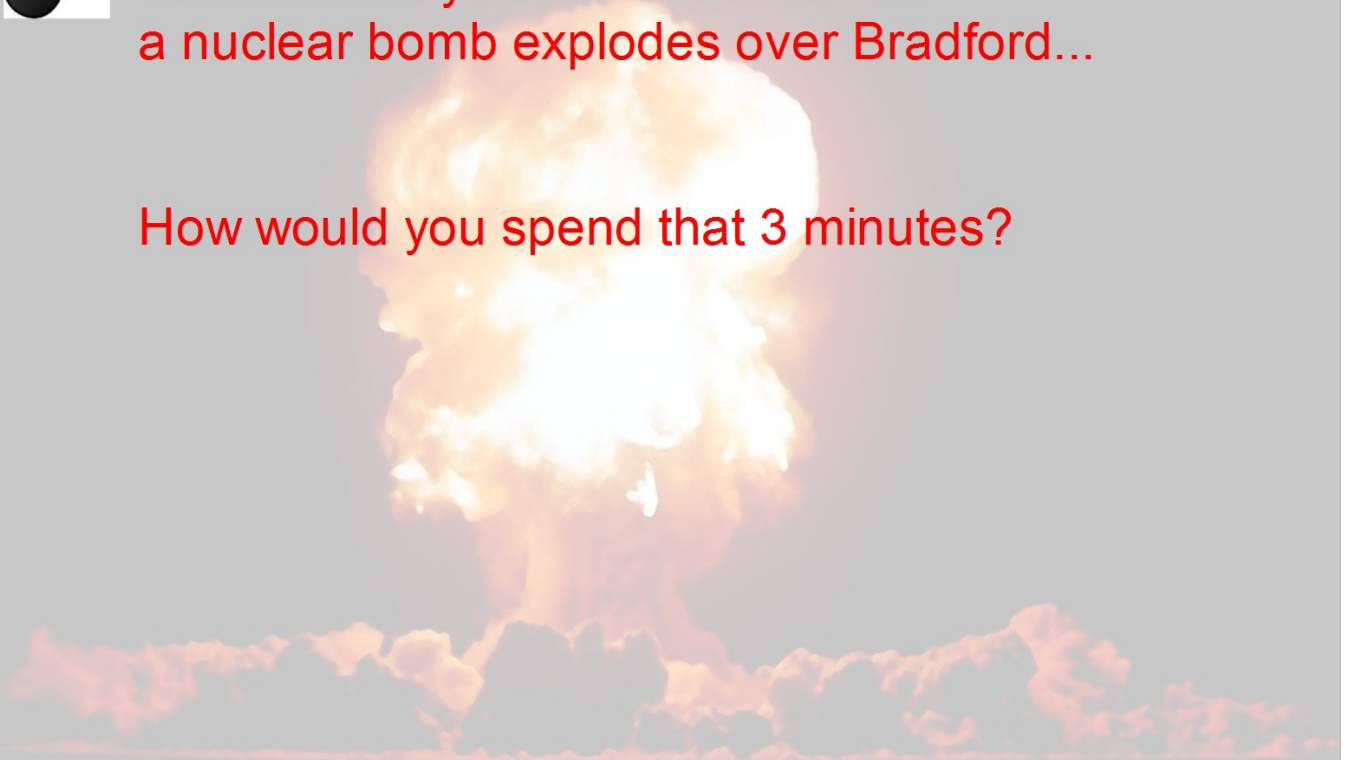




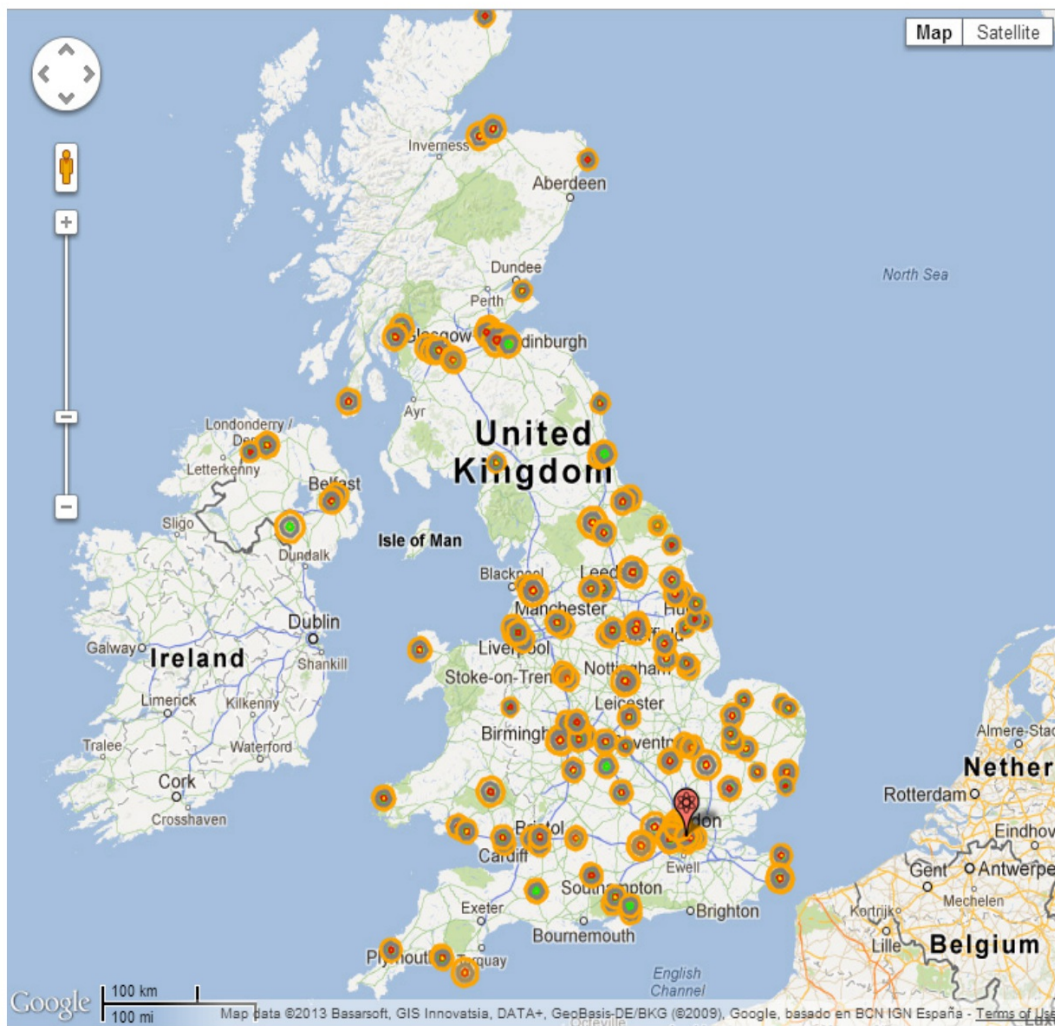
You hear the Air Raid Warning...  
You have maybe 3 minutes before  
a nuclear bomb explodes over Bradford...



How would you spend that 3 minutes?



Soviet  
Nuclear  
Target  
Map of  
the UK.



November 5th



3 Cold War Crises  
Lesson 2: Nuclear Arms  
Race.



Learning Gain - by the end of this lesson I will have a deeper understanding of the Nuclear Arms Race and its impact and influence on the Cold War and popular culture.



**Learning Steps:**



- Timeline of the Arms Race 1945 - present.
- Why did an Arms Race take place.
- What was the shadow of nuclear war's influence on the history
- of the time?



## *Manhattan Project*

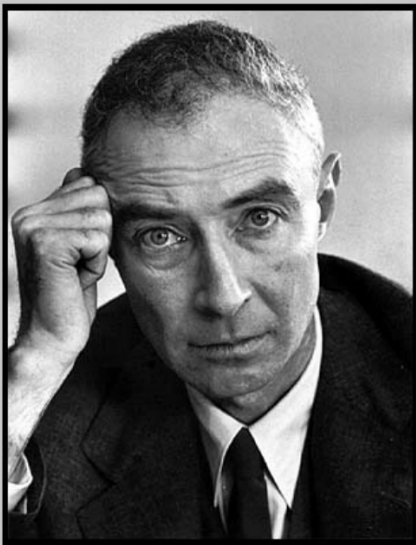
1943 USA and UK worried about German attempts to build an atomic bomb begin developing their own. This was called the Manhattan Project.

16th July 1945 successful test of the first bomb in New Mexico



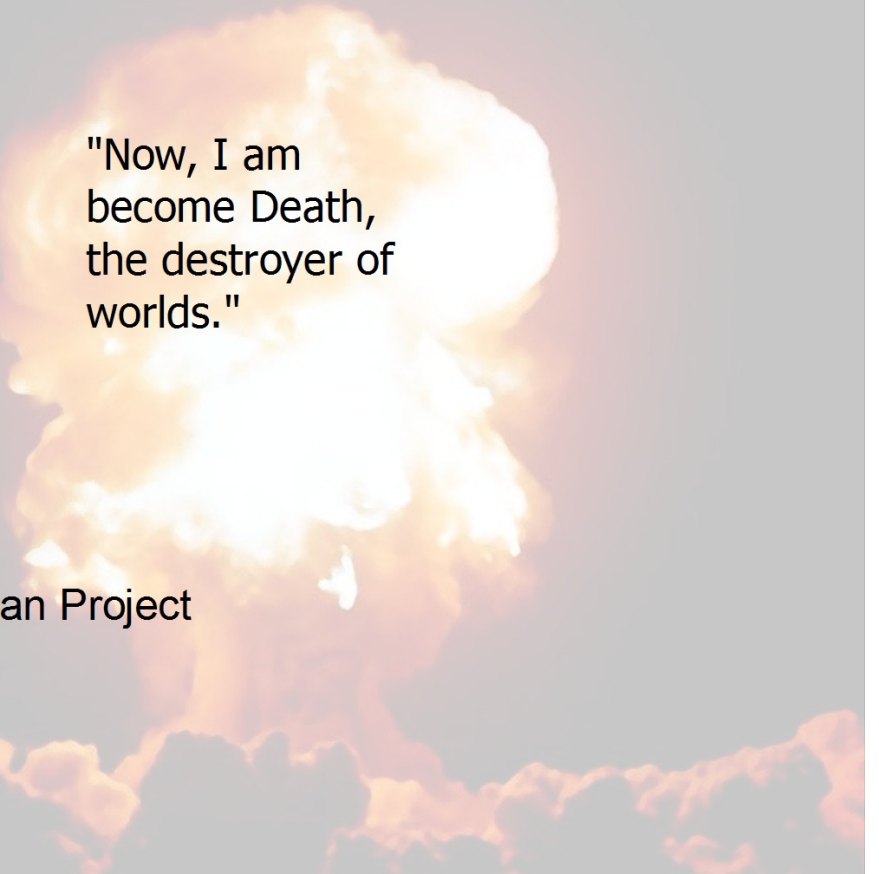
Trinity Test





"Now, I am  
become Death,  
the destroyer of  
worlds."

Robert Oppenheimer  
Lead Scientist on Manhattan Project





### First and Second Uses of the Atomic Bomb in War Time:

Little Boy was the codename of the atomic bomb which was dropped on Hiroshima, on August 6, 1945 by the 12-man crew of the B-29 Superfortress Enola Gay, piloted by Colonel Paul Tibbets of the United States Army Air Forces. It was the first atomic bomb ever used as a weapon and was dropped three days before the "Fat Man" bomb was used against Nagasaki.



**Main**



Aug. 29, 1949: First Soviet Atomic Test Stuns West



The Soviet Union explodes its first nuclear weapon at its testing range on the Kazakhstan steppe. Many historians consider the test the beginning of the nuclear arms race.

Known as "First Lightning" to the Russians and "Joe-1" (a cheeky reference to Joseph Stalin) to the Americans, the weapon had roughly the equivalent in yield to the atomic bomb the United States had dropped on Nagasaki four years earlier.

## First Hydrogen Bomb Test 1952:



Ivy Mike was the first H Bomb test, it was exploded at 7.15 am local time on November 1st 1952. The mushroom cloud was 8 miles across and 27 miles high. The canopy was 100 miles wide. Radioactive mud fell out of the sky followed by heavy rain. 80 million tons of earth was vaporised.





## Largest H-Bomb Test



On March 1, 1954 the United States tested an H-bomb design on Bikini Atoll that unexpectedly turned out to be the largest U.S. nuclear test ever exploded. By missing an important fusion reaction, the Los Alamos scientists had grossly underestimated the size of the explosion. They thought it would yield the equivalent of 5 million tons of TNT, but, in fact, "Bravo" yielded 15 megatons -- making it more than a thousand times bigger than the bomb dropped on Hiroshima.

## Soviets develop Domesday Bomb



Tested in 1961

The Tsar Bomba's yield of 50 megatons is equivalent to 1,400 times the combined power of the two nuclear explosives used in World War II, Little Boy and Fat Man, 10 times the combined power of all the explosives used in WWII, or one quarter of the estimated yield of the 1883 eruption of Krakatoa

## October 1962 - Cuban Missile Crisis

The world is on the brink of atomic war.  
War averted but speed of weapon construction  
increases.





1972 - USSR matches USA in the number of nuclear weapons it has.

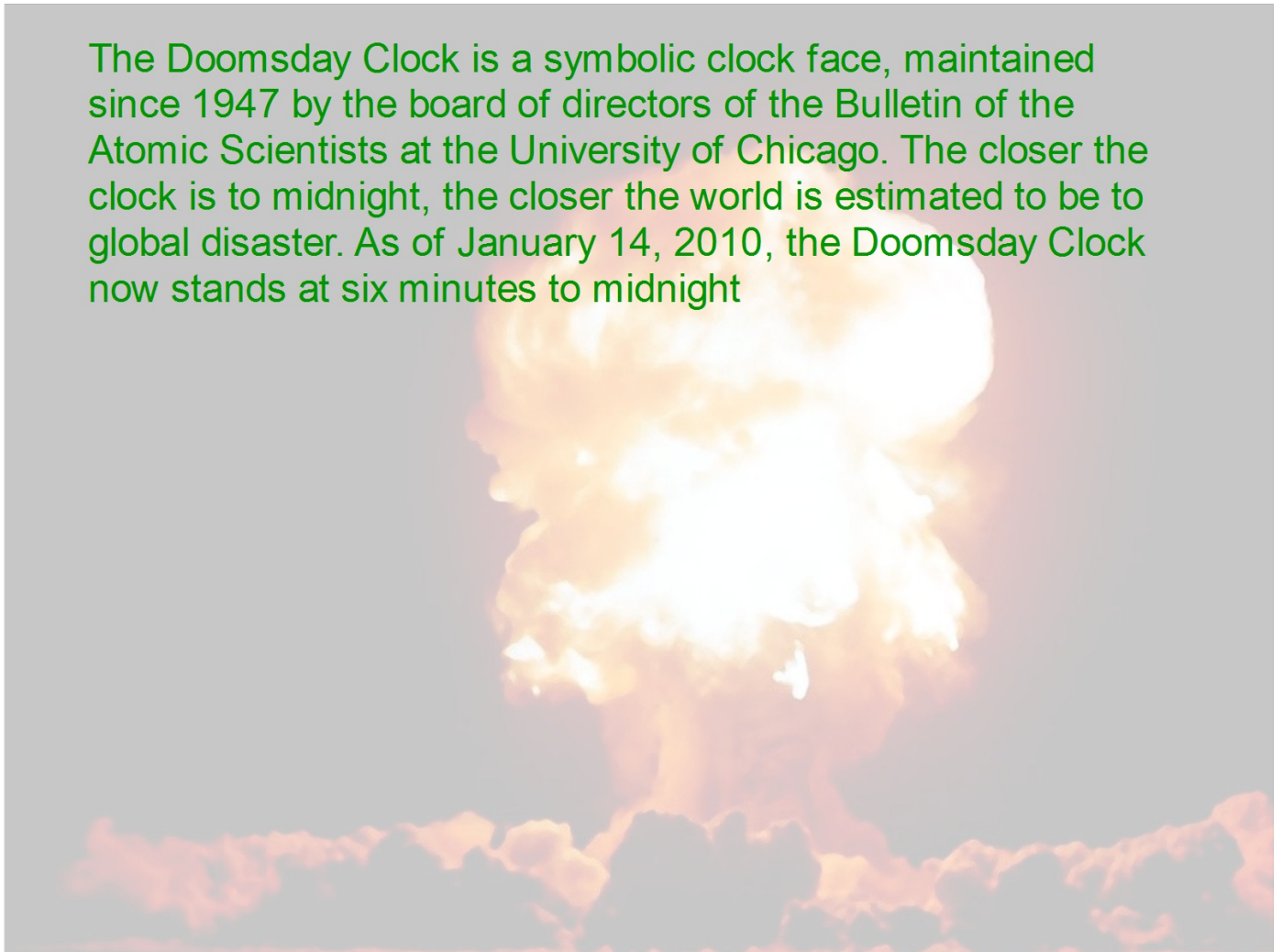
1972/4 - Pakistan and India develop their own bombs.

1980s - USSR spending 15-17% of its GDP on the military. USA under President Reagan begins to develop SDI or "Star Wars".

USSR will not be able to match this - seen by the USSR as an attempt to beat MAD.

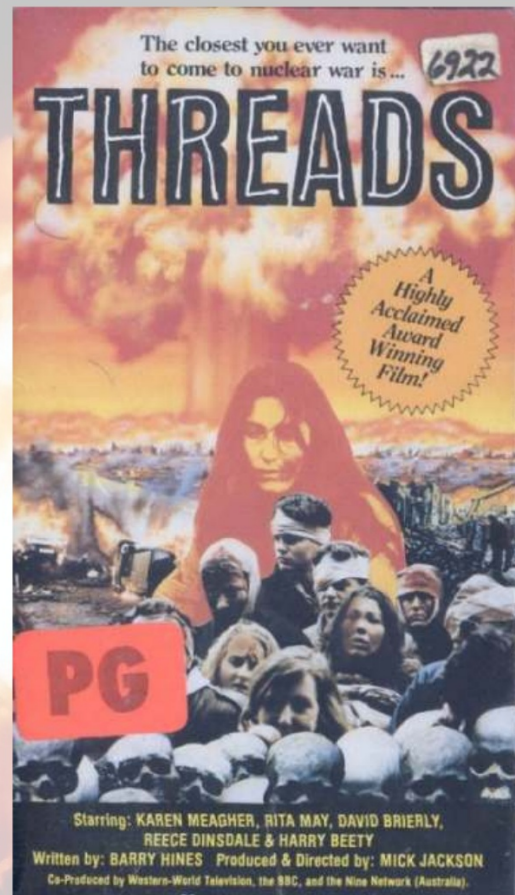
Mutually Assured Destruction - tensions now at all time high.

The Doomsday Clock is a symbolic clock face, maintained since 1947 by the board of directors of the Bulletin of the Atomic Scientists at the University of Chicago. The closer the clock is to midnight, the closer the world is estimated to be to global disaster. As of January 14, 2010, the Doomsday Clock now stands at six minutes to midnight





Threads is a 1984 BBC television play depicting the effects of a nuclear war on the United Kingdom and its aftermath. Written by Barry Hines and directed by Mick Jackson, *Threads* was filmed in late 1983 and early 1984. The premise of *Threads* was to hypothesise the effects of a nuclear war on the United Kingdom after an exchange between the Soviet Union and the United States escalates to include the UK.



Homework



Plenary



Did nuclear weapons keep the peace  
during the Cold War?

