

# A BEGINNER'S GUIDE TO NUCLEAR WEAPONS



PRINTABLE GUIDE · A CLOSER LOOK AT NUCLEAR WAR

*Nuclear war can feel both impossible and too terrifying to imagine. But the truth is, we know quite a lot about how it is likely to start and what it would look like. When many more people understand these harsh and terrifying realities, we will be able to make true change – by building the will and support needed to change dangerous policies and eventually achieve a world free of nuclear weapons.*

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## CAN NUCLEAR WAR REALLY HAPPEN?

Yes. Rising tensions around the world and a growing tendency towards provocative rhetoric contribute to unrest. When you add in outdated nuclear policies, fallible human beings, and technology that allow for false alarms and prioritize hasty decisions, it greatly increases the risk that a conflict could become nuclear. Learn about the factors that make nuclear war an unnerving possibility with Back from the Brink's factsheet "[Can Nuclear War Really Happen?](#)".

## HAVE WE COME CLOSE TO NUCLEAR WAR BEFORE?

Yes. False alarms with nuclear weapons have been disturbingly common, and it is largely luck that averted catastrophe. A fact sheet from the Union of Concerned Scientists, "[Close Calls with Nuclear Weapons](#)" details these past incidents and explores their causes, from technical malfunctions to human error.

## WHAT HAPPENS IF A COUNTRY USES JUST ONE "SMALL" NUCLEAR WEAPON?

The United States and Russia both have tactical nuclear weapons, which produce smaller explosions compared to other nuclear weapons. But tactical nuclear weapons are still far deadlier than any conventional weapon and can even be several times more powerful than the bombs dropped on Hiroshima and Nagasaki. Despite this, military strategists often consider tactical nuclear weapons to be more "usable," wagering that their smaller explosions are less likely to provoke nuclear retaliation. Unfortunately, researchers have found this assumption to be dubious. "[Plan A](#)" a simulation from Princeton University is based on current nuclear weapons policy and shows what happens after a country launches one tactical nuclear weapon.

## WOULD THE U.S. BE ABLE TO STOP AN INCOMING MISSILE?

Not necessarily. Although missile defense systems, developed by the U.S. and Israel, can successfully stop some missiles, they are not guaranteed to succeed or stop a large-scale attack. Adversaries launching missiles can deploy a number of tactics that can trick and evade attempts at interception. In the event of a large-scale missile attack, there is no existing defense system that can effectively stop the barrage. A New York Times article, "[How Missile Defense Works \(and Why It Fails\)](#)"<sup>4</sup> explains the challenge with helpful graphics.



*This F15-E fighter plane is carrying a tactical nuclear weapon as part of a test in 2021. Photo by 1st Lt. Jonathan Carkhuff. The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement.*

## WHAT WOULD HAPPEN IF A COUNTRY LAUNCHED A NUCLEAR BOMB AGAINST A MAJOR CITY?

A nuclear weapon can quickly destroy an entire city and kill millions of people. Almost instantaneously, the explosion would create a fireball vaporizing everything in the few square miles around the blast, depending on the size of the bomb. A few more miles out, winds blowing up to 600 miles an hour and heat up to 800 degrees Fahrenheit would destroy buildings, melt cars, and ignite everything flammable. The firestorm would not only cause serious burns, but also suffocation, by consuming all the oxygen. Over the following months, radiation sickness and radioactive contamination would continue to claim victims. A video from Back from the Brink titled [“What would happen if a country launched a nuclear bomb against a major city?”](#)<sup>5</sup> further describes these impacts. You can also learn more by reading Back from the Brink’s fact sheet [“Would Nuclear War Between the U.S. and Russia End Human Civilization?”](#)<sup>6</sup>

## CAN YOU SURVIVE A NUCLEAR EXPLOSION?

If anyone was still alive after a nuclear bomb was used on their city, they would probably be very seriously injured and burned. But it would be nearly impossible to receive help, since any health, transportation, communication, and firefighting infrastructure in the blast zone would

have been destroyed. In the event that there are first responders still alive, they would not only be overwhelmed by the number of casualties, but also be risking their own lives by exposing themselves to high levels of radiation. [“No adequate response capacity”](#) an article from ICAN, explains these challenges and more.

## WHAT HAPPENED AFTER THE BOMBINGS OF HIROSHIMA AND NAGASAKI?

The story of Hiroshima and Nagasaki continues long after their bombings at the end of World War II. While the casualties in the immediate aftermath are horrific on their own, initial estimates ultimately failed to capture the full scale of devastation. Science historian Alex Wellerstein explains ongoing research on the impact of the bombings in an article titled [“Counting the dead at Hiroshima and Nagasaki”](#)<sup>8</sup>.

## WHAT HAPPENS AFTER A NUCLEAR WAR?

Climatic effects from nuclear weapons explosions can cause mass starvation, ecological collapse, and threaten the future of humanity itself. [“What Happens AFTER Nuclear War?”](#)<sup>9</sup> is a chilling video from the YouTube channel Kurzgesagt that describes what this posited future, known as nuclear winter, may look like. For a detailed dive into how nuclear war would play out, read [“Nuclear War: A Scenario”](#)<sup>10</sup> by Annie Jacobsen.

# Links

## A CLOSE LOOK AT NUCLEAR WAR

1. [https://preventnuclearwar.org/wp-content/uploads/2025/07/Fact-Sheet\\_Can-Nuclear-War-Really-Happen.pdf](https://preventnuclearwar.org/wp-content/uploads/2025/07/Fact-Sheet_Can-Nuclear-War-Really-Happen.pdf)
2. <https://www.ucs.org/sites/default/files/attach/2015/04/Close%20Calls%20with%20Nuclear%20Weapons.pdf>
3. <https://sgs.princeton.edu/the-lab/plan-a>
4. [https://www.nytimes.com/interactive/2024/11/02/world/middleeast/missile-defense-israel-iran.html?unlocked\\_article\\_code=1.Rk8.ixOa.obqDcdtwat81&smid=url-share](https://www.nytimes.com/interactive/2024/11/02/world/middleeast/missile-defense-israel-iran.html?unlocked_article_code=1.Rk8.ixOa.obqDcdtwat81&smid=url-share)
5. <https://www.youtube.com/watch?v=8iPbIINYxAQ>
6. [https://preventnuclearwar.org/wp-content/uploads/2025/08/Fact-Sheet\\_Would-US-Russia-Nuclear-War-End-Civilization.pdf](https://preventnuclearwar.org/wp-content/uploads/2025/08/Fact-Sheet_Would-US-Russia-Nuclear-War-End-Civilization.pdf)
7. [https://www.icanw.org/no\\_humanitarian\\_response](https://www.icanw.org/no_humanitarian_response)
8. <https://thebulletin.org/2020/08/counting-the-dead-at-hiroshima-and-nagasaki/>
9. [https://www.youtube.com/watch?v=LrIRuqr\\_Ozg](https://www.youtube.com/watch?v=LrIRuqr_Ozg)
10. <https://www.penguinrandomhouse.com/books/748264/nuclear-war-by-annie-jacobsen/>



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[www.preventnuclearwar.org](http://www.preventnuclearwar.org)

Back from the Brink is a national grassroots campaign of committed individuals, organizations, and elected officials advocating for common-sense policies to prevent nuclear war and abolish nuclear weapons from the planet.

This publication was made possible in part by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the author.