

Lesson Plan: Nuclear Weapons and Nuclear Proliferation

Opening Quick-Write Prompt

Are you concerned about the threat of nuclear war? Why or why not? If not, what issues are you more concerned about?

A quick write allows students to write down their thoughts before discussing the opening question in order to increase participation and make the discussion more accessible to English Language Learners.



Objective

- Students will analyze the history of nuclear proliferation and efforts to control the spread of nuclear weapons, including scientific data on why nuclear weapons are so destructive.
- Students will evaluate Deterrence Theory and write responses about whether or not nuclear weapons increase or decrease global security.

Essential Question and Lesson Context

Why do some countries have nuclear weapons and others don't? What scientific processes give nuclear weapons their destructive power? Do nuclear weapons make the world more or less secure?

Nuclear weapons have been in the news in recent months in a way they haven't since the Cold War. North Korea has been testing a missile that could reach the continental United States. Both Trump and Russian president Vladimir Putin have signaled a renewed interest in increasing their respective nuclear arsenals, despite both countries having ratified the 1968 Nuclear Non-Proliferation Treaty. The landmark treaty, known as NPT, requires nuclear states to reduce their stockpile of nuclear weapons over time. In the 1970s and 1980s, the arms race between the former Soviet Union and the United States kept nukes in the news. Now that they're back, it's time for a refresher. This lesson will describe the history of nuclear proliferation as well as the science behind what makes nuclear weapons so deadly.

Key Vocabulary

Find vocabulary for this topic in the **Glossary** in the More Resources dropdown menu. Pre-teach key vocabulary before students do the activity, especially if you have English Language Learners. After going over the simple definition, consider providing a visual aid or having students draw one. See more strategies for [pre-teaching vocabulary](#).

Investigate

- Discuss the quick-write prompt as a class to gauge what issues students are most concerned about and how they feel about the threat of nuclear war.
- Ask: How have nuclear weapons or nuclear threats been in the news recently? How did previous generations view the threat of nuclear war? Call on a few students to share answers, then explain how nuclear war was viewed when you were a student, if relevant.
- Explain that today all countries have the technical capability to make nuclear weapons, but only nine countries have them. Ask students to name as many of the nine as they can.
- Have students watch the Above the Noise episode as a class to learn more about why some countries have nuclear weapons and others don't.
 - **Stop the video at 2:11 and ask:** What happens in a fission bomb? What about a fusion bomb? Which is more destructive?
 - **Stop at 2:55:** Describe the ways nuclear weapons are destructive.
 - **Stop at 3:53:** Why did only five countries have nuclear weapons in the 1950s?
 - **Stop at 4:32:** What happened to bring about the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1968? What did this treaty say? Who signed it?
 - **Stop at 4:56:** How did the NPT affect the spread and number of nuclear weapons in the world?
 - **Stop at 5:45:** How does Nuclear Deterrence Theory work?
 - **At the end of the video** (content ends at 6:54): How has Deterrence Theory been effective, according to supporters? What do critics of the theory worry about?
- **Check for understanding after the video:** Why haven't nuclear weapons spread to every country in the world? What kept nuclear proliferation in check? (Answer: The NPT)
- Individually or in small groups, ask students to explore the resources in the article, which gives more information about the NPT. There are four timelines, a video overview and a quick reference list. (*Note: The overview video features a few disturbing images of victims of the Hiroshima nuclear attack and Cold War-era clips of nuclear explosions.*)

- After students explore the article and resources, discuss what students discovered about the historical roots of nuclear proliferation and the non-proliferation efforts of the late 1960s. Ask: *Why do you think there was such a strong international effort to contain the spread of nuclear weapons?* Students should provide specific examples from the resources.
- **Transition to the Make & Share:** Tell students they will share their response to the question: **Do nuclear weapons make the world more or less secure?** in the Go Above the Noise section on KQED Learn.
 - Are you doing this for the first time? Ask your students to analyze what makes an excellent Go Above the Noise response. Find example Go Above the Noise responses, sentence frames and a rubric for assessing responses in KQED Learn's [Teacher Resources](#).
 - Please refer to our [Code of Conduct](#) as well as your own school's behavioral expectations before asking students to post a response or comment on another response.

Make & Share

- Students click on the “Join Conversation” button to respond to the Go Above the Noise question: **Do nuclear weapons make the world more or less secure?**
- Responses should be supported by evidence from the Above the Noise episode, the article, or other research on the topic (can be found in the Source List under the More Resources tab below the video and article).
 - **Encourage students to comment on other responses after posting their own.** Remind them to use evidence to support their claims and respectful language when replying to others.

Assessment/Reflection

- Students reflect on what they have learned through a class discussion or in writing:
 - What is your biggest takeaway from the video and article?
 - What was it like to post your responses publically and reply to other posts? What did you learn from other students? What do you hope they learned from you? What will you do the next time you post a comment in response in Go Above the Noise?

[Circle chats](#), small-group discussions and [think-pair-share](#) provide a safer space for students to practice speaking and listening, and also boost participation during whole-class discussions.

Extension/Homework

Write/speak locally: Students turn their response to this issue into a letter, short speech or presentation, then research ways to make their voice heard in their community. (Example: Speaking during the public comment section of a city council meeting, posting in an online forum, etc.) For a list of how to contact local officials in your area, check out [KQED Learning's Local Election Toolkit](#).

Common Core Standards and NGSS

CCSS.ELA-Literacy.CCR.A.R.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
CCSS.ELA-Literacy.CCR.A.R.7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
CCSS.ELA-Literacy.W.1	Write arguments to support claims with clear reasons and relevant evidence.
D2.His.1.9-12	Evaluate how historical events and developments were shaped by unique circumstances of time and place as well as broader historical contexts.
NGSS.SEP.7	Engaging in argument from evidence
NGSS.SEP.8	Obtaining, evaluating and communicating information
NGSS.DCI.PS1.C	Nuclear Processes