Is Nuclear Power the Answer?

Videos:

"3 Reasons Why Nuclear Energy Is Terrible! 2/3"

https://www.youtube.com/watch?v=HEYbgyL5n1g (4:09 minutes)

"The Nuclear Option"

https://www.youtube.com/watch?v=n7VCea8LIec (7:39 minutes)

Guide:

The questions below will help students achieve a better understanding of the arguments made on either side of a contentious topic. Because these questions often touch upon statements made briefly in the videos, we recommend reading the questions before watching each video.

Students are encouraged to take notes during the videos, and it may be helpful for students to break into groups, each taking responsibility for only a few questions, before coming together for discussion.

Analysis Questions:

- 1. What are the opposing ideas in these two videos?
- 2. Why is nuclear power once again the topic of conversation and political debate?
- 3. Which country gets the most electricity from nuclear plants? What percent of their electricity comes from nuclear power?
- 4. What is the relationship between a country's carbon footprint and the greenhouse gases it emits and its nuclear power use?
- 5. In "3 Reasons Why Nuclear Energy Is Terrible!" the narrator says that more nuclear power plants could lead to more countries developing nuclear weapons. How? Should we be concerned? Can the United States prevent other countries from building nuclear power plants? If so, how? Should the U.S. attempt to prevent other countries from building nuclear power plants? Why/Why not?
- 6. John Stossel discussed the movie *The China Syndrome*, saying it spread fear of nuclear power. Have you seen a Godzilla movie? Did you know that was about nuclear war? Have you seen any video that influence your views on nuclear power? Do you think some movies are meant to scare us or are they all just meant to entertain?
- 7. Are people influenced by movies? Have you ever been? Can you recall the details? Do you think the movie influencing you was intentional?
- 8. Reprocessing of spent nuclear fuel includes the extraction of plutonium. According to the anti-nuclear video, what are the two purposes for plutonium? Should we be concerned about that? Why/Why not?

- 9. Although nuclear power does create radioactive waste, John Stossel says "batteries are environmentally nasty," yet he doesn't explain how. Do you know what makes batteries an environmental problem? How would that information help you compare the two sides?
- 10. John Stossel says that nuclear power is safer than natural gas, oil, and coal. Although he doesn't provide details, what do you know about pollution and other environmental effects of using natural gas, oil, and coal?
- 11. We learned that China is putting a nuclear reactor on the grid every two to three months. Why would they do this if it's unsafe? Why not just build more natural gas, oil, and coal-powered plants to produce electricity?
- 12. The Kurzgesagt video explains that nuclear accidents can release dangerous radioactivity into the environment and cites several such cases, such as Chernobyl and Fukushima. John Stossel counters that no Chernobyl-like plant will be built again and Joshua Goldstein, in the Stossel video, said that radiation leaks from Fukushima were at safe levels and what harmed people was the panic—the *fear* of radioactivity. What would you need to know about Chernobyl to help you decide which argument about safety is stronger?
- 13. Joshua Goldstein says that nuclear waste is "literally a small problem" because it doesn't take up much space. What is the counter argument in the Kurzgesagt video?
- 14. Why might the number of deaths from nuclear accidents be highly disputed? What would the two sides gain by exaggerating or downplaying that number?
- 15. Bjorn Lomborg says, in the Stossel video, that "we kill many, many more people by using a lot of fossil fuels." How might that be true?
- 16. If we only allowed power that didn't come with any environmental or safety concerns, we'd have no electricity or heat. So how do we determine what is the acceptable level?
- 17. The Kurzgesagt video asks if nuclear power is worth periodic nuclear accidents. If nuclear power helps the environment in other ways, for example by reducing carbon emissions, would this be worth it? Why/Why not? Do the risks of nuclear power outweigh the benefits? What additional information might help you decide?
- 18. What would you like to know about wind and solar power and batteries that might affect your view of this debate?
- 19. Did you have an opinion of nuclear power before watching these videos? If so, what was it? Has your opinion changed? If so, how? What did you learn from either video that affect your views of the debate over which source of power is best?
- 20. What else would you like to learn about the sources of electricity?