

Nuclear Energy: Is Fission the Future?



Vocabulary for Students

- **Alternative energy:** An energy source that does not use fossil fuels.
- **Atom:** The smallest particle of an element.
- **Emissions:** The release of something, like pollution from a car's tailpipe.
- **Greenhouse gases¹:** Gases in Earth's atmosphere that absorb infrared radiation and trap heat. Some greenhouse gases are naturally occurring compounds (like water vapor, carbon dioxide, methane, and nitrous oxide), while others are human-made (like gases used for aerosols).
- **Neutron:** A particle located in the nucleus of an atom that is neutrally-charged.
- **Nuclear accident:** When dangerous radioactive material is released into the environment. Highly radioactive materials like the uranium used for nuclear fuel or nuclear waste is toxic to people and animals.
- **Nuclear fission:** The splitting of an atom's nucleus into two smaller nuclei and neutrons.
- **Nuclear fusion²:** The combining of two nuclei to produce a single larger nucleus and much energy. Nuclear fusion happens in stars like our sun, producing heat and light.
- **Nuclear power/nuclear energy:** A method of harnessing the energy from nuclear fission reactions to produce electricity.
- **Nuclear reactor:** The part of a nuclear power plant where nuclear fission chain reactions occur.
- **Nuclear waste:** Sometimes called 'spent fuel,' nuclear waste is composed of the products of nuclear fission that are no longer usable but still highly radioactive, and thus toxic to life.
- **Uranium:** A naturally radioactive heavy metal that can be used as an energy source to power a nuclear reactor.

¹ [Take a deeper dive into greenhouse gases with the U.S. Environmental Protection Agency.](#)

² [Want to learn more about fusion energy? Take an online fusion course with the Contemporary Physical Education Project \(CPEP\)!](#)

