

Nuclear Energy

Nuclear Power: Risks and Benefits

Comprehension Questions

Watch the video carefully. As you view it, complete the following comprehension questions and tasks.

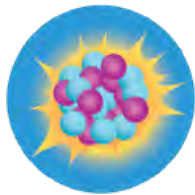
1. Nuclear waste can remain radioactive for:
 - a) several decades.
 - b) 6 to 12 months.
 - c) hundreds of millennia.
 - d) less than a few centuries.
2. Why does nuclear fuel need replacing every year or two?
 - a) The risk of meltdown increases with time.
 - b) Fissile isotopes break down into nonfissile ones.
 - c) Uranium-235 turns into neutrons.
 - d) New nuclear technology becomes available every few years.
3. The percentage of uranium-235 in a spent pellet of nuclear reactor fuel is:
 - a) just over 50 percent.
 - b) less than 0.5 percent.
 - c) about 5 percent.
 - d) about 1 percent.
4. Of all the materials a nuclear facility needs to dispose of, the most radioactive is the:
 - a) coolant.
 - b) spent fuel.
 - c) surrounding equipment.
 - d) control rods.
5. Provide an example of low-level radioactive waste.

6. Materials used to house nuclear core components are an example of intermediate waste.

True

False





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7. Even when cooling in a storage pond, high-level radioactive waste can fragment and leak into the water table or atmosphere. How is this prevented?

8. What is the name of a product developed by Australia's Nuclear Science and Technology Organisation for mixing with radioactive waste?

9. Use numbers to fill in the blanks: Only about _____ percent of spent fuel is waste that interferes with a chain reaction. Reprocessing can reduce this waste by _____ percent.

10. Why don't all countries reprocess nuclear waste?

11. What is an advantage of reprocessing nuclear waste?

12. A famous nuclear meltdown occurred in 1986 at a plant in the Soviet Ukraine. The name of the plant was _____.

13. Building a single nuclear fission power plant is generally _____ expensive than building a fossil fuel-powered facility. Running a single nuclear fission power plant is generally _____ expensive than running a fossil fuel-powered facility.

14. Use numbers to fill in the blanks: Fuel for a nuclear fission power facility is typically around _____ percent of its running costs. Fuel for a fossil fuel power facility is typically around _____ percent of its running costs.

