

Nuclear Survey

**Do you know whether each
Statement below is true or false?**

- ___1. The atom is the smallest particle in nature.
- ___2. Home smoke detectors contain radioactive materials.
- ___3. Radioactive materials and radiation are unnatural. They did not exist in the world until created by scientists.
- ___4. All radiation causes cancer
- ___5. Most space occupied by the atom is "empty".
- ___6. Electromagnetic radiation should be avoided at all costs.
- ___7. Human senses can detect radioactivity.
- ___8. All atoms of a given element are identical.
- ___9. Radiation can be used to limit the spread of cancer.
- ___10. Small amounts of matter change to immense quantities of energy in nuclear weapons.
- ___11. The human body naturally contains a small quantity of radioactive material.
- ___12. Physicians can distinguish cancer caused by radiation exposure from cancer having other causes.
- ___13. Most nuclear waste generated to date has come from nuclear power plants.
- ___14. Cells that divide rapidly are more sensitive to radiation than are cells that divide slowly.
- ___15. Physicians use injections of radioactive elements to diagnose and treat certain disorders.
- ___16. Medical x-rays are dangerous.
- ___17. Nuclear power plants are the only power generation plants that create serious hazards to public health and the environment.
- ___18. No one has died in the U.S. from radiation released by nuclear power plants.
- ___19. Nuclear power plants do not emit air pollution during normal operation.

- ___20. An improperly managed nuclear power plant can explode like a nuclear weapon.
- ___21. The main difference between a nuclear power plant and a coal fired power plant is the fuel used to boil the water.
- ___22. Some nuclear wastes must be stored for hundreds of years to prevent dangerous radioactivity from escaping into the environment.
- ___22. Nuclear power presently supplies more than 10% of our country's total energy needs.
- ___23. If the $\frac{1}{2}$ life of a radioactive substance is six hours, all of it will decay in 12 hours.
- ___24. In the United States, the largest quantity of human-produced radiation comes from nuclear power plants.
- ___25. Nuclear waste can be neutralized or made non-radioactive.
- ___26. Nuclear power plants produce a material that could be converted into nuclear weapons.
- ___27. A nuclear power plant uses a much smaller mass of fuel than does a coal-fired plant.
- ___28. A national system for long term storage of radioactive wastes is now operating.
- ___29. A nuclear power plant is less expensive to build than is a coal-fired plant.
- ___30. The U.S. should increase its reliance on nuclear power.