Name _____

## The Difference Between Nuclear Energy and Nuclear Weapons

Nuclear energy and nuclear weapons both come from the same source—tiny particles called atoms—but they are used in very different ways. It all starts with a process called nuclear fission, which means splitting atoms apart. When atoms split, they release a lot of energy.

In a nuclear power plant, this energy is used to create electricity. The plant carefully controls the fission process to make heat. This heat boils water, and the steam turns machines called turbines. These turbines spin generators that produce electricity. This is how cities and homes can get power from atoms. Nuclear energy is used safely in many places around the world.

Nuclear weapons, on the other hand, use fission in a very different way. They are made to cause destruction. Instead of slowly and carefully splitting atoms like in a power plant, nuclear weapons split atoms very quickly and all at once. This makes a huge explosion. These bombs have only been used in war twice, and they caused great harm to people and the environment.

So why is it important to know the difference? Because nuclear energy can be helpful when it is used safely—for making electricity, powering ships, or even helping doctors treat diseases. Nuclear weapons, however, are meant to hurt. Countries around the world have made agreements to try to stop the spread of these weapons.

In short, the big difference is in how the energy from atoms is used. Nuclear energy is made to help people. Nuclear weapons are made to destroy. That's why it's important to be careful with nuclear technology, and to use it in ways that help people—not harm them.