

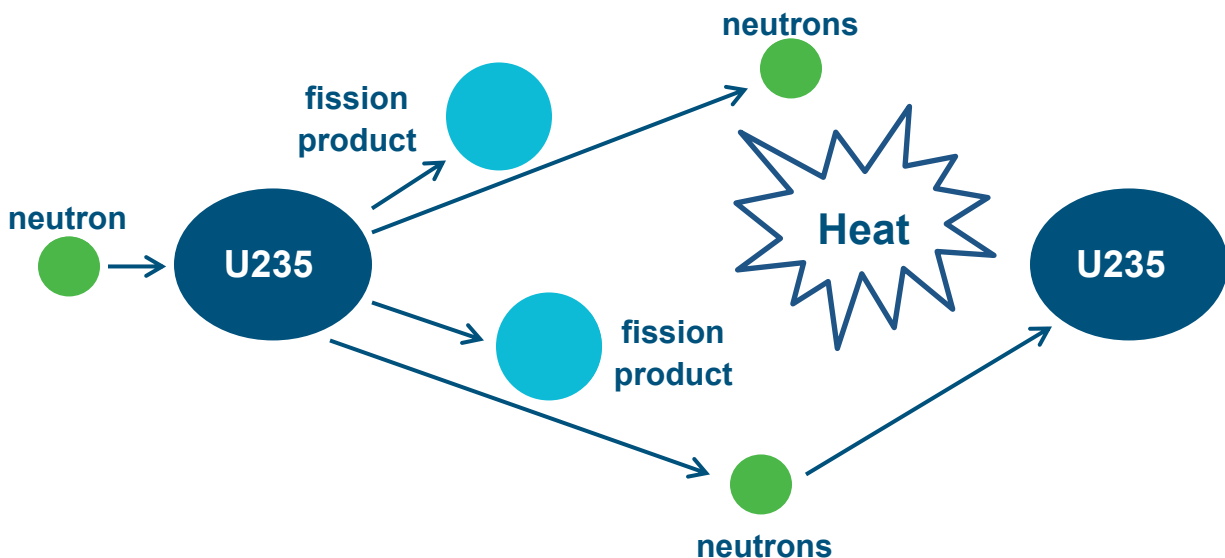
# Energy Education Resources

## Energy from Atoms

A nuclear reactor needs fuel that will fission (split). Reactors use uranium 235 (U235) because its atoms will easily split, emitting heat and causing a chain reaction.

### The Fission Process

- A neutron hits the nucleus of a uranium 235 atom.
- The nucleus splits, creating fission products and neutrons.
- These neutrons hit other U235 atoms, which split and create more fission products and neutrons.
- This process, called a chain reaction, continues producing energy in the form of heat.
- The fission process is started and stopped in the reactor with control rods, which absorb or capture neutrons.
- Because the chain reaction is controlled, the reactor can produce a specific amount of energy, which heats water to create steam.



### Discussion Questions

1. **Why do nuclear reactors use U235?** *It splits easily, creating a large amount of heat.*
2. **Explain what a chain reaction is and why it's important for generating electricity.** *A chain reaction is a series of reactions where the byproduct from one reaction causes another. Controlled chain reactions are important because they continuously create heat, which is used to turn water into steam and ultimately generate electricity.*