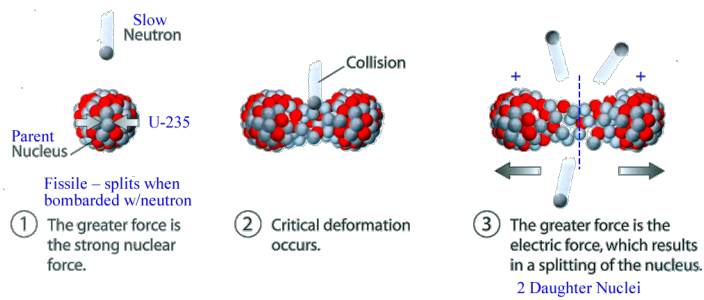
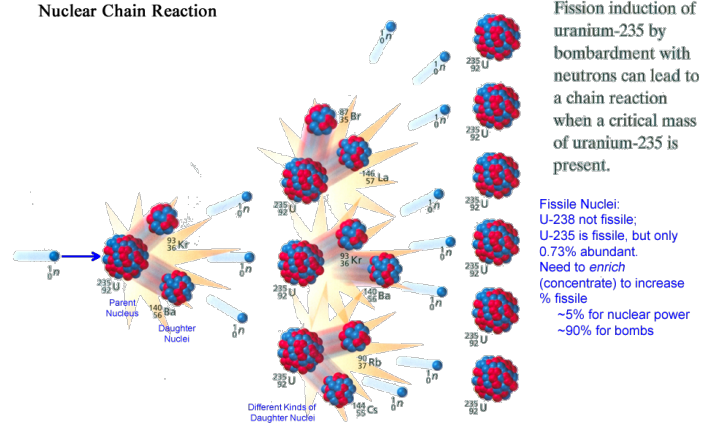


Nuclear Deformation

Nuclear Fission – One heavy nucleus splits into 2 lighter nuclei



Nuclear Chain Reaction



- Explain the process that occurs during the fission of a nucleus. Be sure to include a description of the forces involved and how they change during the process.
A slow neutron strikes a fissile nucleus (e.g. U-235), originally held together by the strong nuclear force, causing it to deform. The two parts of the deformed nucleus each hold together by the strong nuclear force but are pushed apart by electrostatic repulsion, and the two daughter nuclei form along with several additional neutrons.
- How does a nuclear chain reaction occur? What is needed for a chain reaction to go out of control?
When one nucleus is struck with a neutron and fissions, it releases several additional neutrons, which can then induce additional fission reactions, and so on. If the chain reaction occurs in a large enough piece (mass > critical mass), the energy can build up and cause a nuclear explosion.

Complete the following fission reactions.

