

## **Nuclear Science -older Scouts 14+ years or older**

**This class is designed for older scouts. While younger scouts are eligible to work on this merit badge, they are not eligible for this class at Pi day.**

6. Do ONE of the following; then discuss with your counselor how nuclear energy is used to produce electricity: (a) Make a drawing showing how nuclear fission happens, labeling all details. Draw another picture showing how a chain reaction could be started and how it could be stopped. Explain what is meant by a “critical mass.” (b) Build a model of a nuclear reactor. Show the fuel, control rods, shielding, moderator, and cooling material. Explain how a reactor could be used to change nuclear energy into electrical energy or make things radioactive. (c) Find out how many nuclear power plants exist in the United States. Locate the one nearest your home. Find out what percentage of electricity in the United States is generated by nuclear power plants, by coal, and by gas.

8. Find out about three career opportunities in nuclear science that interest you. Pick one and find out the education, training, and experience required for this profession and discuss this with your counselor. Tell why this profession interests you.