

Uranium: War, Energy, and the Rock That Shaped the World

Study Questions for Extra Credit: Answer the questions and resubmit this document to jwalker@ccc.edu with your name added to the file name and email subject line: Chem121:Uranium Ch 3 & 4

Chapter Three: The Bargain

1. p. 51 Describe the method of separating the fissile component from the uranium ore suggested by John Dunning and Eugene Booth.
2. Describe Uranium Hexafluoride.
3. What is a "pile"? p. 53
4. What is "critical mass"?
5. Briefly describe the goal of the Manhattan Project.
6. What are neutrons?
7. On July 16th, 1945 a plutonium device was detonated. It released the equivalent of _____ truckloads of dynamite with _____ second.
8. The detonation turned desert caliche into greenish glass. What is caliche and why is the glass greenish?
9. How much material (in grams) detonated when the plutonium bomb was dropped on Nagasaki? p.68

Chapter Four: Apocalypse

1. Describe Sengierite, the "brilliant, hideous ore".
2. Who was William L. Laurence?
3. What are gamma rays and how are they dangerous?
4. Take a look at the pamphlet [Dagwood Splits the Atom](#). Why was this document written?
5. What happened in the explosion nicknamed "Dirty Harry"?
6. What is yellowcake? p.106
7. Testing for U-235 residue involves measuring to the femtogram. What is that? p.125
8. When Asahara could not obtain enough U-235 for his plans he switched to using Sarin. What is Sarin? p.129