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| **Introduction**  **The idea of doing this project did not come quickly. I was originally flipping through books that only had projects which were already done to death. As I looked through these books consisting mainly of medicinal plants, my good friend suggested that I do something that I planned on doing later as a career. I, of course, have always dreamed of getting into Archaeology. I know there are aspects of archaeology which include Biology so I did not have to think hard to come up with a subject. Carbon dating immediately sprang to mind. This is a rather complex procedure to determine the date of a sample obtained by archaeological digs.**  **And so the search for information began. The first stop made was the Pleasanton Library. There was limited information at this library due to the complexity of the subject. I found a total of two chapters that included any information about 14C dating. So more drastic measures were needed. We gathered a small group who all needed to get information about research projects and headed out to the libraries at the UC Berkeley campus. This was a great success as there were separate libraries for each particular subject. One library was for Anthropology alone. Anthropology encompasses the subject of Archaeology and the library held an abundance of information on Carbon Dating. Here I found many different books containing every thing I wanted to know. It included a book with procedures both before and during the tests. There were several other books that included explanations of the procedures and a way to interpret results to find accurate dates.**  **There are many basic concepts in understanding how Carbon dating works. As described in Archaeological Techniques for Amateurs, " Carbon 14 or "heavy carbon" is a radioactive isotope of ordinary Carbon formed in the atmosphere through the bombardment of Nitrogen by cosmic rays.". 14C is absorbed by plant life and all animal forms in a stable rate and ratio. This means that all living things contain a certain amount of 14C. The diagram below was based on a diagram found in The Fabulous Isotopes and shows how the radioactive Carbon 14 is formed.**  **"At the time of death the absorption of 14C ceases and the residual 14C within starts to disintegrate at a fixed rate". Archaeological Techniques for Amateurs. This is known as the half life of Carbon. The Carbon within the sample will last for about 50,000 years. It is logical to suppose that by determining the percentage of 14C present in sample one can then come up with an estimated date. About 0.1% of 14C decays a year.**  **Willard F. Libby developed the Carbon 14 dating technique after WW2 and consequently won a Noble Prize for his work in 1960. According to the very useful Waikato radiocarbon website which I will refer to many times throughout this report,** [**c14.sci.waikato.ac.nz**](http://docs.google.com/c14.sci.waikato.ac.nz)**, Libby along with the help of Anderson and Arnold discovered that 14C decayed at a constant rate. "They found that after 5568 years, half of the C14 in the original sample will have decayed and after another 5568 years, half of the remaining material will have decayed, and so on (see figure 1 from web site)"**  ([NEXT](http://docs.google.com/intro2.html))  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |