



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

Name(s) Weston Peterson	Project Number J1721
Project Title Measuring Radiation	
Abstract Objectives My project measures the amount of beta, alpha, and gamma rays emitted by polonium 210, americium 241, and an unknown mix from an antique lamp. The experiment then compares the samples based on their emissions. Methods I made a cloud chamber for an approximate alpha measurement. I also used a Geiger counter combined with an electronic counter for gamma and beta ray counts. I used the electronic counter to convert the clicks of the Geiger counter into a direct number. Results The results of this experiment are given in detail in my notebook. Here is a sample. Americium (obtained from a smoke detector) Alpha- Approximate 240 CPM Beta- 779 CPM Gamma- 9.75 CPM Conclusions We should know what kinds of radiation these radioisotopes emit because it will allow us to keep people who work with them in the safer workspaces. It will also allow us to find new uses that are yet to be discovered.	
Summary Statement My project counts alpha, beta, and gamma ray emissions of three different radioisotopes.	
Help Received Arnold Peterson (engineer and dad) advised me on building the cloud chamber and I had access to his Geiger counter.	