



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Xavier D. West	Project Number J1929
Project Title Cryogenics	
Abstract Objectives/Goals The objective of this study is to measure the effect of cryogenic treatment on sunflower, cat grass, and pea seeds for efficacy of matter preservation. Methods/Materials Dry ice used to achieve a below-zero temperature environment. Some seeds immersed in dry ice for 24, 48, and 72 hrs and some seeds kept at room temp. After 3 days all seeds planted into seed starters with regular soil and watered every other day. Plant growth measured weekly. Results Cryogenics did not affect the rate of seed germination significantly. All plants grew; however, seed matter with cryogenics exposure grew slower than seed matter without it. Conclusions/Discussion The cryogenics effect on matter indicates living matter may be preserved during space travel or space living. Use of cryogenics could also extend into medical treatments, by preserving living matter until further treatment or testing may be done to stall disease processes.	
Summary Statement As measured by growth over time, I found that cryogenics harmlessly preserves living matter.	
Help Received My math teacher explained the statistical analysis of data I collected.	