



CALIFORNIA STATE SCIENCE FAIR 2015 PROJECT SUMMARY

Name(s) Gwyneth C. Elliott	Project Number J1809
Project Title Dissolved Oxygen	
Objectives/Goals To study dissolved oxygen levels in water studying if aquatic plants make more dissolved oxygen than the mechanical stage of a filter, or an aquarium with just water. The dissolved oxygen levels in three different aquarium tanks were measured using dissolved oxygen tablets from a water testing kit. The hypothesis was that the aquarium containing aquatic plants would have a higher dissolved oxygen level than the aquarium with a filter or an aquarium with just water. The manipulated variable was the water and the oxygen testing tablets. The responding variable was the water. The controls are the filter, plant, and water.	
Abstract Using dissolved oxygen tablets, test tubes and water vessel sampled water from one of three aquariums to test the level of dissolved oxygen. One aquarium had a filter, one aquarium had just water, and the third aquarium had plants. There were 3 trials done over 6 weeks 18 days of testing. Testing was done every other day. After each trial period the water in each aquarium the water was changed. Materials important to understanding the project consist of : Aquatic plants, filter, water, dissolved oxygen kit,	
Methods/Materials Using dissolved oxygen tablets, test tubes and water vessel sampled water from one of three aquariums to test the level of dissolved oxygen. One aquarium had a filter, one aquarium had just water, and the third aquarium had plants. There were 3 trials done over 6 weeks 18 days of testing. Testing was done every other day. After each trial period the water in each aquarium the water was changed. Materials important to understanding the project consist of : Aquatic plants, filter, water, dissolved oxygen kit,	
Results The results after testing showed that the hypothesis was proven. That the aquarium with plants had a higher level of dissolved oxygen, than an aquarium with a filter or water.	
Conclusions/Discussion I learned from this experiment that aquatic plants put a higher amount of dissolved oxygen in an aquarium. Water temperature does have an effect on dissolved oxygen levels. The colder the water the higher the dissolved oxygen levels where. The data numbers showed the hypothesis was correct, an aquarium with just plants will have a higher rating of dissolved oxygen than a filter with a mechanical stage or a aquarium of water. I don't want just a cleaner tank for fish to live, but a healthier tank with enough dissolved oxygen for fish to live longer.	
Summary Statement To study the difference in dissolved oxygen levels in three different aquarium's one with just water, one with a filter and one with plants.	
Help Received Science teacher helped with how to set up the project testing correctly. Mom helped with the typing and correcting the paper portion. Dad helped with the charts in my paper.	