



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Brodyjohn D. Stancliff	Project Number S0224
Project Title Evaluating Filtration Options	
Abstract Objectives/Goals I did my project to draw a comparison between different aquarium filters available on the market for the first time aquarist wishing to start small. Methods/Materials I used 5 10-gallon tanks, each divided into two segments, to create 10 closed systems. I used five different types of filtration, power filter, power filter/undergravel filter combination, undergravel filter, sponge filter, and a control. Each tank also was equally lit, and had an equal amount of gravel. Five shrimp of the genus <i>Macrobrachia</i> were placed in each tank, and then the pH, carbonate hardness, general hardness, ammonia concentration, and nitrite concentration were tested daily over a two-week period. Results The power filter tanks did well initially, but not in the end. The undergravel/power filter combination tanks and the undergravel filter alone tanks did likewise. The sponge filter tanks did well for the duration of the experiment, and the control tanks quickly failed. Conclusions/Discussion Surprisingly, the cheapest filter available, the sponge filter, performed the best. When considering using a sponge filter, however, one should also consider the filter cartridges that need to be replaced every two weeks.	
Summary Statement My project tests different kinds of beginner's aquarium filters against each other for initial effectiveness.	
Help Received Father had materials industry contacts and design influences; Neptune's Reef tropical fish store contributed aquariums; Mr. Thomas Jett (science teacher) provided guidance	