



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Tyler G. Baca	Project Number J1901
Project Title Sea Hermit Crabs	
Abstract Objectives/Goals Imagine going through life in a borrowed home. The hermit crab understands this as it must find a suitable shell to live in and protect its soft abdomen. Most research says that hermit crabs change shells when they outgrow them. The purpose of this science project is to determine if this statement is true. Methods/Materials A saltwater tank was set up to house the experiment with four crabs, two small crabs and two large crabs. Each of the four crabs had a letter assigned to it (A, B, C, and D) and was marked with a different color of nail polish. Each of the ten shells was numbered (one through ten) with a waterproof marker. For five weeks, data was collected, at a minimum of twice a day, by recording which shell each of the four crabs occupied. Results During the five weeks of data collection it was observed that each of the crabs behaved in different ways. The larger crabs, A and B, changed their shells more often than the smaller crabs, C and D. Crab D was the smallest and did not change its shell during the experiment which may indicate that D could have been vulnerable to an attack from the bigger crabs. In contrast, Crab B was the biggest and changed shells a lot. Conclusions/Discussion Based on my research, it can be concluded that hermit crabs change their shells for reasons other than growth. As the data shows, the largest crab (B) changed his shell frequently. Often, the shells were the same size. Beginning on December 24, 2005, Crab B changed shells four times over three days, there is no way he could have grown fast enough to require a new shell.	
Summary Statement Most research says that hermit crabs change shells when they outgrow them, this project is to determine if this is true.	
Help Received Mother and Father helped with buying the necessary materials and setting up the saltwater aquarium.	