



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

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Project Title Monkeyface Prickleback Reaction to Predators	
Objectives/Goals Fish may use scent to sense their environment. Last year I studied homing behavior in Monkeyface prickleback based on scent. This year was focused on predator avoidance. Abstract My project was to determine if Monkeyface Prickleback could sense where predators are located based on the scent they give off. Methods/Materials To do this experiment I had to collect Monkeyface Prickleback in tide pools in Monterey. Once I did this I took them to the UCSC Long Marine Lab where I performed my tests. I got water from a tank with a Cabezon in it (the predator). I took this water and I cycled it through one side of a tank and put unscented water in the other half. Then I placed the Monkeyface Prickleback in the front of the tank and waited for it to swim and pick a side. Results My results were opposite as expected, because the majority of the fish went directly to the scented part a significant amount of times. Conclusions/Discussion The Cabezon tank was a habitat tank, with representatives of an entire California ecosystem. The cabezon was the most important organism in the tank, but many other organisms were present. I think that the fish might have to choose between completely clean water, and water with a California habitat. They chose the habitat, which in hindsight is not completely surprising. This experiment should have used water from a tank with only a predator in it, without other confounding factors. I still learned a great deal from this experiment.	
Summary Statement Fish sense their environment through scents, here I tested if Monkeyface Prickleback can sense and avoid predators using their scent.	
Help Received My parents, who are marine biologists, helped me with this project. They gave me some advice, but did not perform any of the experiments which I did on my own.	