



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Caroline K. Salmond	Project Number S1916
Project Title A Goldfish Never Forgets	
Abstract Objectives/Goals Do goldfish contain long-term memory capabilities or the ability to remember an event or an occurrence in time? Methods/Materials These were the steps taken to complete my experiment: 1. Construct two partitions(one colored red and one colored blue) with a hole evenly placed in the middle of both. Both holes must be the same size. 2. Put one partition at a time in the middle of the tank with the fish corralled to one side of the tank (food goes on side opposite of side with fish when red partition is put in the tank). 3. Record the times the fish swim through the hole. 4. After several trials, put fish in between both partitions in tank and let the fish choose the hole to swim through. These were the materials used in order to conduct my experience: # 10 common goldfish; # 1 20-gallon aquarium; # 25 pounds of black gravel; # 1 filter; # 1 aquarium heater; # 1 aquatic thermometer; # 1 light and tank covering (lid); # 5 artificial plants; # 4 clear transparencies; # 2 permanent markers (one red and one blue); # 1 jar of fish food (flakes); # 1 stopwatch. Results The fish swam through the red partition with times lowering every trial. They chose the red partition favorably over the blue partition when given a choice of which colored-partition to swim through. Conclusions/Discussion The common goldfish has long-term memory. Also, the common goldfish has the ability to smell an object from a distance and follow its scent. The goldfish also have the ability to see and establish the differences between different colors (red and blue).	
Summary Statement If I operantly condition ten common goldfish to associate a certain colored partition with a food reward, then it will prove that goldfish do have long-term memory and are able to remember an event for more than three seconds alone.	
Help Received Mother, Mrs. Kathryn Salmond, helped maintain the goldfish and their tank.	