



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Kevin M. Wolff	Project Number 22442
Project Title Will It Pass? The Study of Osmosis	
Objectives/Goals The experimenter believes that different concentrations of sugar and water affect how quickly the water moves across a semipermeable membrane. Abstract Methods/Materials Materials used: eggs, distilled water, corn syrup, triple beam scale, containers, vinegar, timer, spoon, measuring cups (1 cup, 1/2 cup, 1/4 cup), pencil, data sheet to record results, paper towels. Twelve eggs without shells were placed in different percentages of corn syrup and water over a 2 hour time period. The weight was recorded at the beginning of the process and then at 15 minute intervals for a total of 9 readings. Results Only the eggs immersed in 100% distilled water gained weight. While eggs immersed in 100% corn syrup lost the most weight. The amount of fluid moving across a semipermeable membrane from areas of high concentration to areas of low concentration varied based on the percentage of water contained in the solution. The eggs gaining weight visibly swelled and the eggs losing weight shrank. Conclusions/Discussion The results showed that when the eggs were immersed in 100% distilled water, the concentration of water molecules inside the egg was lower than outside. On the other hand, when corn syrup was mixed with various amounts of distilled water the concentration of water molecules was greater inside the egg than outside. The rate at which diffusion took place varied based on the ratio of corn syrup to distilled water in a constant volume of fluid.	
Summary Statement This project is the study of fluid passing through a semipermeable membrane.	
Help Received Mother helped glue pictures and charts to experimenter's project board.	