



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Neil J. Patel	Project Number J0415
Project Title Cry Baby Cry	
Abstract Objectives/Goals People all over the world use onions on a daily basis and get irritated eyes in the process. I wanted to discover a format in which your eyes would not be irritated while cutting onions. Methods/Materials I used the following materials for my experiment:4 red onions, a knife, a cutting board, a microwave, a refrigerator, running water, a stopwatch, a pencil, and scratch paper. The four onions were placed in different conditions and then cut by my test subject. Results The results of my experiment were surprising. My hypothesis was that if you cut an onion after heating it you will have less irritation to the eyes. This was proved wrong because the heated onion actually made my test subject have the most irritation to the eyes. Cutting an onion under running water resulted in the least irritation to the eyes. Conclusions/Discussion My hypothesis is that heating an onion before cutting it will result in less irritation to the eyes because the sulfuric acid in the onion cells would evaporate. this hypothesis was proved wrong by my experiment. The results show that cutting an onion after heating it will make you have more irritaion to th eyes. Cutting an under running water will result in less irritation to the eyes. My explanation for these results has come after reading more about the cellular diffusion of an onion. The heating of an onion before cutting will make the sulfur in the onion to start cirrculating the cell at a faster rate so when cellular diffusion occurs in the onion the sulfuric acid will erupt out into the area of incision. When you cut an onion nder running water the sulfuric acid will be absorbed by the water.	
Summary Statement My project is about discovering new formats to cut onions with having less irritation to the eyes.	
Help Received Mother helped cut onions; Sister helped with presentation board; Uncle helped with graphs and application process	