



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Kevin J. Tat	Project Number 31889
Project Title The Speed of Light in Gelatin	
Abstract Objectives/Goals In my Project the Speed of Light in Gelatin, I will be aiming a laser through Gelatin, and by using Snell's Law and the formula for the Index of Refraction, I will be able to calculate the Speed of Light within the Gelatin. Methods/Materials Five samples of gelatin, each with dimensions: 7.6 cm x 7.6 cm x 7.6 cm, and each with a different amount of sugar in it (the range is 0-20 Grams of Sugar, with increments of 5 grams of sugar). The Gelatin is placed on a paper, which has a circle on it, that is labeled with all 360 degrees. Shoot the laser at the Gelatin at 45 degrees in respect to the normal and after finding the refractive angle, use Snell's Law and the Formula for Index of Refraction to calculate the Speed of Light within the Gelatin. Results Out of all the gelatin except the Control, which contained no sugar, the Gelatin with 5 Grams of Sugar had the fastest average Speed of Light. The Gelatin with 20 Grams of Sugar consistently had the slowest Speed of Light. Conclusions/Discussion My conclusion is that the more sugar a sample of gelatin contains, the slower the Speed of Light within it will be. Additionally, the larger the refractive angle within the gelatin is, the faster the Speed of Light will be within the Gelatin.	
Summary Statement In my project, "The Speed of Light in Gelatin," I will be measuring the Speed of Light in samples of Gelatin; each with different amounts of sugar in, by using the formulas derived from Snell's Law and the Index of Refraction.	
Help Received Father helped set up the board; make the gelatin; darken the room so I may see the Refractive Angle better. Teacher (Ms. Buck) helped answer my questions; reviewed my writing; gave helpful suggestions on how to control variables.	