



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Xiaoyue Jin	Project Number 36045
Project Title Waves	
Abstract Objectives/Goals To investigate the behavior of transverse waves. Methods/Materials An oscillator is connected to a wave function generator on one end. A weight is attached to the string on the other end. The function generator registers the frequency. Using a ruler, I measured the wavelength and the amplitude. I calculated the speed, period, and equation of the wave. I also set different frequencies to get different number of the nodes of on the string. Results After I tested several groups in different situations in my experiment, I calculated the velocity of the wave using two different equations and comparing them. Then, I compared the placement of the y value of the wave I calculated using the equation and the one I measured with the ruler. Also, I graphed several standing waves. Conclusions/Discussion I listed several reasons that might have caused the error and I also calculated the error percentage. Then, I figured out the relation between the frequency and some factors. For example, as the number of nodes grows, the frequency grows as well. I also found the trend of how the frequency of a string increases as the number of nodes on the string grows.	
Summary Statement Speed and equations of transverse waves.	
Help Received Work at Seebach Family Physics & Chemistry Lab at Ribet Academy.	