



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Maureen Kim; Leon Wang	Project Number J1523
Project Title Spectral Lines Emitted by Noble Gases	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our project was to determine the spectra line colors that were produced by noble gases. In addition, it was to determine what wavelengths each spectrum tube created. We believe the spectral lines would mostly be red, yellow, and green in each gas and that wavelength will change. Most importantly we wanted to explore the realm of light and see what it creates. On the other hand we had the noble gases to research.</p> <p>Methods/Materials Four spectrum tubes containing compressed gases were excited with the Electro-Technic Model SP-2000 Tube Power Supply. Diffraction gratings were used to see the spectrum colors and a vague count of how many there are.</p> <p>Results All different spectra line colors add up and create the assorted lights emitted by gases that we were experimenting on. Wavelengths were discovered -measured in nanometers- for each gas. We have discovered many properties of light. For instance the diffraction grating splits light up into what it reflects - different colors of the rainbow. As for the gases we have identified the properties of each and their own uses.</p> <p>Conclusions/Discussion Our conclusion is that the spectrum tubes show mostly red, green, and yellow spectral lines when viewed through diffraction gratings, all of which the wavelength of each spectral line vary from 4000 to 7400 nanometers. Also, there are various properties of light of which the gases emitted. For example, after using the diffraction gratings, the light that was reflected added up to the original color seen by the naked eye.</p>	
Summary Statement Our project is about spectral lines emitted by noble gases.	
Help Received Our teachers gave us knowledge; Parents helped us get together and give us rides ; School provided us with equipment; Each other for trying our best and helping each other out.	