

## Spectroscope and Polage



On this day I learned about light and what a spectroscope is. I not only learned about it, but I also built a miniature version. The spectroscope uses a diffraction grating to separate out the different wavelengths of light. I looked at different types of lighting and observed that different types of light emitted only certain wavelengths of light.

The spectroscope is designed to let a person look in at a diffraction grating that reflects the light that comes in from a small slit in the box opposite the viewer. The light hits the diffraction grating and sorts out according to wavelength and as each wavelength gives off its own color you can tell which type of light is present by which colors are seen.

The other project I worked on was a polage. A polage is a piece of art that if looked at two different ways has two different color schemes due to the position of the polarizing filters. I learned that due to the thickness of the birefringent material between the filters, different colors can be seen and that the polarization only matters which way the filters are rotated, whether they are parallel or perpendicular to one another. This can be used by artist to create one piece of artwork that changes under different circumstances thus allowing the artist to do twice the work in the amount of time it would take to create one piece of art. Thanks to Austine Wood Comarow, the inventor of the polage technique and the fact that there will almost always be light, artists can have their work on display basically anywhere and at any time as it is focused on light.

