



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Bella M. Gath	Project Number J1707
Project Title Camera Obscura: The Physics of Optics	
Abstract Objectives/Goals The Camera Obscura, also known as the pinhole camera, uses a simple hole which mimics the iris of an eye. The goal was to build a Camera Obscura that successfully captured the incoming light, demonstrating the physics of optics and light as it enters an eye. Methods/Materials The camera obscura was built using a paint can which provided a light-protected place to hold the light-sensitive photographic paper. Both positive and negative photographic paper was tested. The photo paper was developed in a homemade darkroom. Results By developing the photo paper after each exposure, trials and results were immediate and improvements and adjustments were made accordingly. The final result was a consistent, clear reversed image. Conclusions/Discussion This design confirms how a simple pinhole reverses light as it passes through, simulating how the iris of a human eye works.	
Summary Statement My project demonstrates how light is reversed passing through an aperture, simulating the optical physics of light through the iris of an eye.	
Help Received I found out how to build a darkroom online and only received help from my dad who had to use a power tool to cut a hole in the metal paint can. I performed the experiment and developed the photos myself.	