



## Pinhole Photography

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### Project Description

Students built pinhole cameras and took black-and-white photos, which they then developed, scanned into a computer, and manipulated using Photoshop to create their own unique piece of digital art. In the process, students learned about the optics involved in cameras—how the light ray's path affects the size, orientation and distortion of images. They also learned about the chemical reactions that occur between light and the silver bromide on the photo paper, as well as the chemical reactions in each step of the development process of a photograph.

### Teacher Reflection

This was my fourth year doing this project. In the first year I focused on technical aspects such as constructing and using the camera, and working in the darkroom. The next year, I increased the connection to the outside world with visits to the Museum of Photographic Arts and to Chrome Digital, the last full service photography facility in San Diego. In the past two years, I have tried to boost the professionalism of the final works of art and of our exhibition. This year, students wrote artist statements to accompany their pieces, and we mounted all the work in a similar fashion to mirror a professional gallery.

My students really enjoyed this project. Many had only used digital cameras, and the idea of developing photos in a dark room was “magical” to them. They valued the opportunity to showcase their artistic creativity through the project, something people might not expect from a math/science class.

—Rachel Ching

### Student Reflection

After hearing Rachel tell me that I was going to take pictures using an oatmeal canister, suddenly this project piqued my interest. Not only was I able to make some neat photographs, but I was also able to learn about how a camera takes pictures. Because of this experiment, I have found a whole new respect for photographers. At first, I was confused by how something simple, such as taking a picture, could be considered art. Now, because of this experiment and research, I learned that a photographer is a person who is able to catch the beauty of the world.

—Natasha Smith, 10<sup>th</sup> grade

To learn more about this project and others visit the HTH Digital Commons  
and Rachel Ching's digital portfolio at

<http://www.hightechhigh.org/> and <http://hthidps.hightechhigh.org/~rching/>