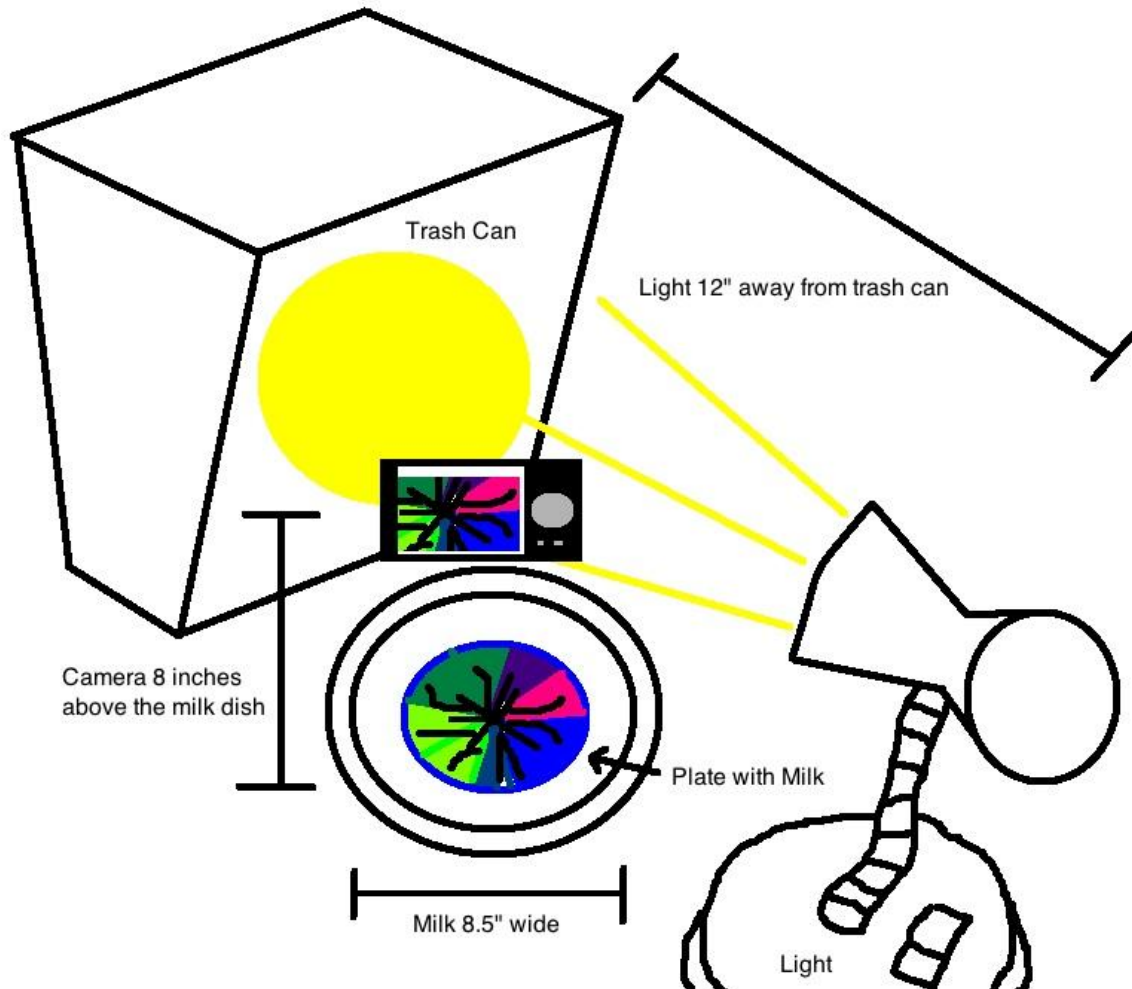


“Milk Flower” 1578 X 1554 pixels : 1/400 s : f/4.2 : 400

My girlfriend showed me an interesting video before the semester began that showed what appeared to be an explosion of color in milk. I was really blown away by the video and wanted to further explore what was happening with the milk. After taking photos of this phenomenon for the initial assignment, and deciding on going with something different, I decided to revisit with better knowledge of how to take a quality photo. Out of a lot of quality images, I chose this one because it was really clear and displayed the color explosion I had become enthralled with in the video.



Picture Set-up

This picture was taken on top of a coffee table. Whole milk was poured in to a recessed plate so it was only about a quarter inch thick. A desk lamp was used in order to provide the light for the image. After initial attempts to set up the camera always showed the reflection of the light, a different setup was required. Instead of pointing the light right at the plate of milk, a white trash can was placed along the dish so that the light could shine across the plate and on to the surface of the white trash can. This better illuminated the milk, while preventing the reflection on the bulb to be seen. After the set up was completed it was time to experiment with the drops and soap. McCormick NEON! Food color and egg dye was used to add the color, specifically the pink, green, and blue colors. Six drop of each color were placed in the center of the milk dish in this particular image. "Tide with a touch of Downy" laundry detergent was the soap used in this procedure. A bobby pin was placed in the cap of the detergent container, then in the center of the drops. This was the first image taken after the pin was removed. It expands rapidly, and this was the image I was hoping to capture.

This image was created using a Casio EX-H30BK at a shutter speed of $1/400$ s, $f/4.8$, and an ISO of 400. A focal length of 7.87 was used, or in 35mm films a focal

length of 44. I was really happy with these settings, and they really allowed me to get a high quality image. Photoshop was used to do the editing and the first order of business, as usual for me, was to crop the image. This took a few different tries before I was really happy with what I was seeing. There was too much green in a lot of the spreading dye and I wanted to remove some of it. I decided to use only what I thought was the most beautiful quarter of the dye, and leaving in the center of course. I then rotated the image 180 degrees, purely because I thought it looked better. Once the image was cropped properly it was time to mess around with the colors by using the curves tool. I kept it simple and only enhanced the contrast between light and dark. After I liked the bright and dark spots I sharpened the image a little bit. The image was then completed and submitted.

This is a simple experiment that is sometimes done at the grade school level to provide kids with information about surface tension. The milk is more dense than the food coloring drops, which allows the colors to remain on the surface of the milk¹. When the soap is dipped in to the milk it does not mix with the milk. Instead it spreads out over the surface of the milk, moving the dye with it. The milk has a higher surface tension than the soap². The higher surface tension pulls the lower surface tension of the soap outwards creating the nearly circular pattern. As the soap continues to spread out in the milk it engulfs fat globules. The reaction between the soap and fat creates micelles, which is how soap helps clean greasy dishes³. As the micelles form they change shape, creating motion in the milk. This is what lowers the surface tension and moves the dye.

Overall I am very pleased with this image. It allowed me to mess around with some different lighting options in order to set up my camera properly. Having my camera set up properly was crucial to producing a clear image, and the overall response from the class reinforced its' clarity. I was also very pleased with the editing I did. It really enhanced the quality of the image, while not distorting or losing information. If I could do this image over I would use a better camera. My point and shoot does a decent job, but it does not produce an image with the quality I would like.

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