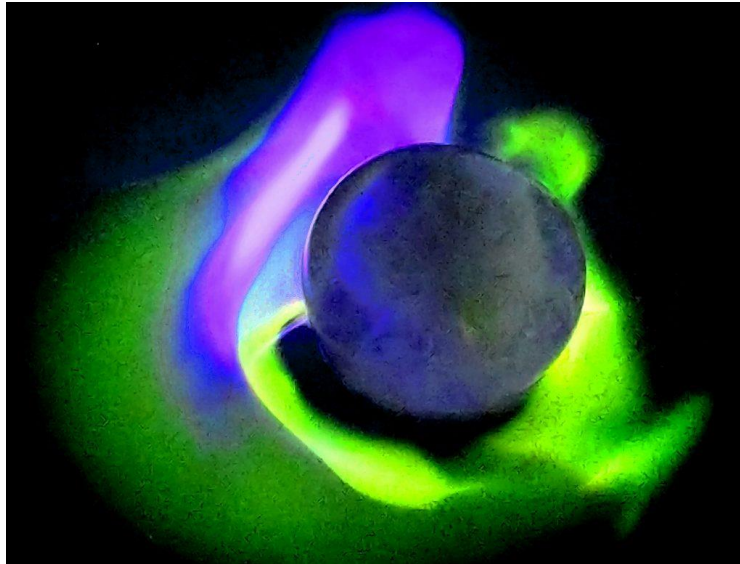


Fire & Ice



The image I created was sphere of ice covered in lighter fluid and then set on fire. The first thing I needed to do was get the ice ball made into a perfect sphere so that the flame could burn evenly all around it. I ended up using a whisky stone mold to get this perfect sphere. Then I poured lighter fluid all over the sphere and set it on fire with a lighter. The flow within the image depicts the flame burning around the ice. The phenomena observed would be a combination of surface tension and the chemical reaction of burning. The intent of the image was to create a scene where two opposites in fire and ice came together to create a beautiful piece of art.



Above is an image of the mold used to create the spheres

The flow within this image would be best described as a fire. Fire is the rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light, and various

reaction products^[1]. Fires start when a flammable or a combustible material, in combination with a sufficient quantity of an oxidizer such as oxygen gas or another oxygen-rich compound (though non-oxygen oxidizers exist), is exposed to a source of heat or ambient temperature above the flash point for the fuel/oxidizer mix, and is able to sustain a rate of rapid oxidation that produces a chain reaction. This is commonly called the fire tetrahedron. Fire cannot exist without all of these elements in place and in the right proportions.^[2]

The image depicted above has a total size of about 4" x 4" and approximately 2" tall and was taken from 12" away.

For this image, the photographing technique was quite simple. The area was completely dark with the only light coming from the fire. The flash was turned off so that it wouldn't reflect off of the sphere and take away from the flames. After taking several images of the flame, I decided on this one because it not only showed the most interesting shapes, but it also had the best (in my opinion) flame surrounding the sphere.

This image was taken using a Cannon model DS 126311 with a standard 18-55mm lens and a shutter speed of approximately 1/15 a f/ of 1.7 and an ISO of 2107. In terms of post processing I used Gimp to crop out the all but the sphere and flame, enhance the contrast, and complete the color editing which helped put focus on the flame and keep the "cold" look even with the flames. I also increased the brightness just slightly to further help the colors pop.

As aforementioned this image depicts the flame around an ice sphere. The fluid used was just standard zippo lighter fluid which can be found as most local supermarkets. This fluid was poured over the top of the sphere, allowed to run down the sides and then set aflame. Overall I am really pleased with how the image turned out. I am quite the novice when it comes to photography and image processing, so being able to produce something that I consider to be "quality art" is a real moment of pride for me. Looking back, I wish I would have lowered the ISO so that the image didn't come out as grainy. Since fire burns randomly there isn't much math behind why the flow came out the way it did, but we did notice that that water on the outermost layer of ice repelled the lighter fluid which caused the surrounding flame with no fire on the sphere itself. I would say though, that my intent for the photo was fulfilled and if I had to do it again I would try repeating it with different ISO's and possibly different fluids to see if flame color changed at all.

Source links:

1. "Glossary of Wildland Fire Terminology" (PDF). National Wildfire Coordinating Group. November 2009. Retrieved 2008-12-18
2. <https://en.wikipedia.org/wiki/Fire>