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Research Project

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## Research Project

During this Natural Dye Project, I was very excited to see the progress of my work and the finished result. I have never tie-dyed anything before, so using natural products was exciting and a little nerve-wracking since I only had certain items to choose from in my grandmother's apartment. The natural dyestuff I used was dried rose petals, onion skin, blueberries, and blackberries. I combined the rose petals and onion skin in one pot and the blueberries and blackberries in another. Since I had only a little bit of resources, I wanted to use most of what was available to me. I also decided to use a 100% white cotton T-shirt. In the end the results turned out better than what I expected.

### **History**

The natural items I decided to use were random, the first natural dye I chose was dried rose petals. This inexpensive natural item allowed me to save money and waste when it came to picking a natural dye. Roses have been around for many years, possibly originating from Asia with its migrating or appearance in North America. (The Editors of Encyclopedia Britannica • Edit History). When I chose to boil dried roses as one of my natural dyes, I did not expect to see bright colors from the dried-up flower. When reviewing its history, I read that colors such as red, pink, and even yellow could be shown on the pigment of the dye. "The results revealed that different shades of pink and yellow color were obtained from the dye when subjected to mordent. Thus, the color dye extracted from red rose flowers can be used to colorate cotton, silk, and wool fabrics" (Patil Dhairyasheel, 2016). From reading its history and how vibrant the color could get I aimed to find another natural dye similar to the dried-up rose petals so the color can stay in the cotton shirt. Luckily, Onion skin was my second natural item and the natural dye I decided to boil with the dried rose petals. Onion skin is a natural source of food for us humans and there are

many benefits in using it. This item, again, was inexpensive and a great way to help the dried up rose petal's color in sticking. Trying to find the history of onion skin and its use in clothing was difficult, I was only able to find that onion skin was a great form of natural dye through Youtube videos. In a PDF I was able to find later on, Nurunnesa Md. Alamgir Hossain and Md. Mahbubur Rahman (2018) was able to mention its color pigment. "The skin of onion is not edible and considered as wastage. However, it contains a coloring pigment called "Pelargonidin" (3, 5, 7, 4 tetrahydroxyantocyanidin). The amount of this coloring pigment is found to be 2.25%, and the structural formula of it has shown in Figure-1. [10]". Onion skin is not what most people think of when it comes to a natural dye but it is one of the most pigmented colors that always ends up showing. The onion I chose was a white onion, red and white have different appearance when dying and the skin of a white onion shows us more yellowish while the skin of a red onion shows more reddish brownish. In another pot I wanted to mix two more different natural dyes, in my grandmother's fridge I was able to find blueberries and blackberries. I used a handful of each ingredient. The history of blueberries begins in North America and Europe, where it was highly used and sold. Their pigment is always trusted and shown through when dying and allows for a red to purplish consistency. "Anthocyanins are responsible for the taste and flavor of the fresh fruit and for the brilliant red color and its different hues in many fruits and berries. The attractive color is one of the main sensory characteristics of fruit and berry products" (Song, Hyo-Nam, 2018). Blueberries have seemed to always be consistent when it comes to dying and extracting their color. Early American colonists boiled the blueberries with milk to make gray paint. (Lehner Dave, 2017). Its history and benefits have always been around so I knew blueberries would be a great source in natural dye. Blackberries is the last natural dye I used, I mixed this with the blueberries aiming for a purple color. Like the blueberries, blackberries began in North

America, Many Native Americans use blackberries as color dye. “The berries have been known to be used to make an indigo or purple dye.” (Telesco, Patricia 2020). The colors are similar and the information of blueberries and blackberries also have similar history, so dyeing them together seemed great in enhancing its color.

### Color In Fashion Today

In class, we discussed fashion today the colors we like, and who our inspo is when it comes to putting an outfit together. My favorite color is pink, and the garments I love to wear are always some sort of cover like a blazer or leather jacket. These pieces along with my favorite color allows me to feel confident and good in what I wear and I am able to prove it through my clothing. When it comes to picking an outfit and who really inspires me, there are many celebrities, influencers, and other people who inspire or I admire when it comes to my style. The one person I always end up getting drawn to though is model Bella Hadid. Her simple looks yet colorful and sexy outfits always inspires a look for me to put together, some of the colorful options she wears creates that conformability that I like as well because it allows me to incorporate color in my looks.



Insider, 2021



Instyle, 2020



Who What Wear, 2020

## Tutorial: Dyeing Process

*(All images taken by my brother)*

During this tie-dye project, I wanted a very colorful yet cute spring look for the shirt. I rarely wear color, so the yellow and purple allow me to leave my comfort zone. I relied on YouTube Videos for directions and felt I followed them well.

### What I Used

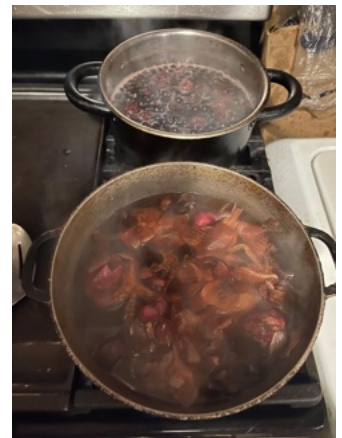
- Dried rose petals, Onion skin, Blueberries, and Blackberries
- 100% white cotton t-shirt
- 1 Aluminum tray, Salt, 2 squirt bottles, 2 strainers, 2 wooden spoons, rubber bands, and 3 pots

### Step One:

I first boiled my white t-shirt in a pot with 16 cups of water and 2 cups of salt.

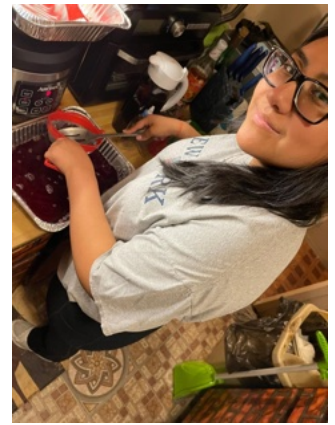
### Step Two:

While that was sitting and boiling, I started to add water to my 2 other pots; in one pot, I put the dried rose petals and onion skin. In the other pot, I put the blueberries and blackberries. I added 8 cups of water to each pot and let it heat up, stirring it every 10-15 minutes until it boiled and the color of the natural dye started to form.



Step Three:

Once I felt the white t-shirt was ready, I took it out of the pot, letting it cool down in the aluminum tray. While it was cooling down, I still allowed the natural dyes to boil up for another 20 minutes. Once time was up, I turned off my stove and started squishing the dried roses, onion skin, blueberries, and blackberries. Allowing more of the color to come out. Once I did that, I removed the white t-shirt from the tray and grabbed a strainer to start straining my natural dye from the pot. I grabbed one pot at a time and started straining the dye. Once everything was squished out, I grabbed one of the squirt bottles and added the dye to it. Doing this to both pots.

Step Four:

Once I had both squirt bottles filled with each dye, I assembled my white t-shirt. I aimed for an organized vertical pattern so I started to fold my shirt like an accordion, putting rubber bands 5 inches apart. After this, I laid my shirt back into the rinsed aluminum tray and started adding the dyes to the shirt. I did this 3 times on each side, flipping them constantly. Once the squirt bottles became empty, I decided to leave the shirt in the aluminum tray and sat it next to a window facing the sun for 24 hours.



Step Five:

The next day I searched up videos on how to rinse a natural dyed shirt properly. I decided to rinse it in the same aluminum tray under cold water, without removing the rubber bands first. Doing this on both sides for 5 minutes. After this I started removing the rubber bands under the cold water one by one. The dye instantly started to rinse off which scared me because I wasn't sure if the colors would still stay bright. I rinsed the shirt until the water in the tray started to look clear which only took 2 long rinses. Once this was done I squeezed and ringed out the shirt trying to take out as much water as I could. I then put it on a chair next to a window letting it dry for another 24 hours.





### **Conclusion:**

From this dying process and learning how to use natural dyes, I learned not to be scared of color and what the results of something will be. I was unsure if I should have used 4 natural dyes, having them boil together. Because of my lack of resources I thought the color that I wanted, which was purple and yellow, wouldn't turn out as good because of me mixing 4 natural dyes instead of just using 2. The end results though, turned out amazing. In seeing the shirt now dried up, I saw hints of green in the areas where the dyed touched, this was a little shocking to me because purple and yellow didn't make green so I thought I did something wrong. I believe the hint of purple had a blue tone in it from the blueberries and blackberries, causing the yellow to mix in it causing a green color to form. Overall, I am very proud of my end results, from the tutorials I followed, I felt that I did everything correctly and the shirt still looks bright and colorful how I wanted it to. The dyes held up great which I didn't expect, I thought once I started rinsing out the dye everything would fade but it didn't. This was my first time tie-dyeing a shirt and I loved it. I would do it again.



## Sources

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## Videos

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<https://www.youtube.com/watch?v=XRKdwp8SNz0&t=206s>