

PUFY 1100 Sustainable Systems Natural Dyeing PH experiment Worksheet
Water and Collection Experience and Analysis (EA): The Natural Dyeing Exercise

A Record of Your Scientific Method

Type or, carefully, handprint your answers. Use the back or an additional page, as necessary.

Date: 4/16

Season: Spring

Plant Used: Red Cabbage

Why did you selected this plant for the purpose of creating a natural dye?:

Red Cabbage yields uniquely vibrant results and after the first natural dye experiment I've grown comfortable with the process of extracting its color.

Location of water collection (insert image of the location) Make a brief observation of surroundings and state of water:

Prospect Park Lake – There was a lot of foot, boat, duck, and dog traffic around the collection site

Gowanus Canal – I went to a spot on the canal that was between an apartment building and adjacent recreation area, a major street, and what seemed like an industrial complex. The water itself was fairly stagnant and had a lot of debris.

Brooklyn Bridge Park – The water around this area was moving very very fast. It was the largest source from which I collected - the East River is huge and more-or-less directly connected to the Atlantic Ocean.

Tap – Very high pressure, very hard water, collected from kitchen sink

Flower water – I had had a rose in a vase of water since valentine's day and only the upper half had died. I was hoping the addition of a prominent biological factor, especially a decomposing one, would affect the PH

Dye Recipe: (Boil cabbage for 1 hour, let it soak overnight, soak strips for 1 hour, move strips to mordant mixtures for 15 minutes, remove and let dry)

Fabric: Canvas

Dye/volume: 1 mini solo cup

Mordant/amount (measure given amount using measuring spoons): 1 tbsp baking soda

What do you predict will be the outcome based on your observations? I tested the PH of the samples before I saw the dyed fabric. Because I knew all of the PHs were relatively similar I was expecting a similar color result across the dyed samples. I did not predict that the baking soda would turn the red cabbage dye so vibrantly green.

Reflections about the pollution results and PH of water conclusion:

There was a surprising uniformity of PH levels despite the varying quality of the water I observed.

**Attach a piece of the dyed textile
(see image)**

