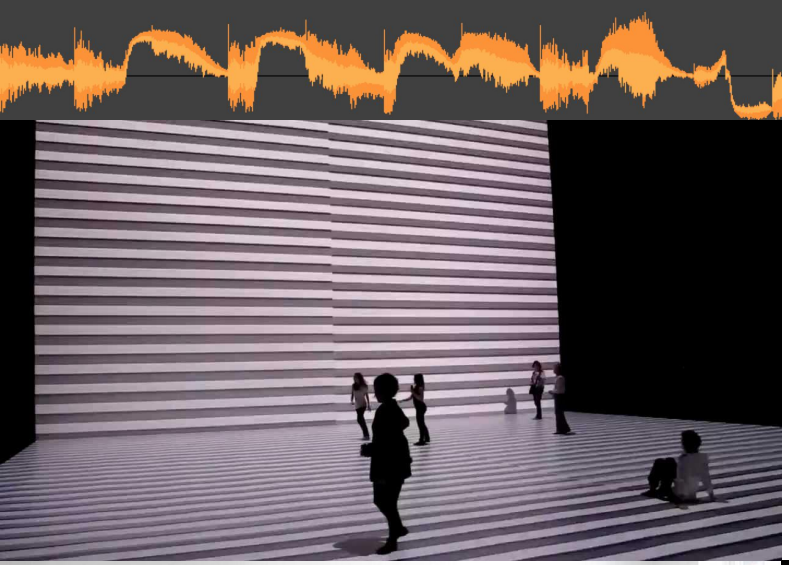
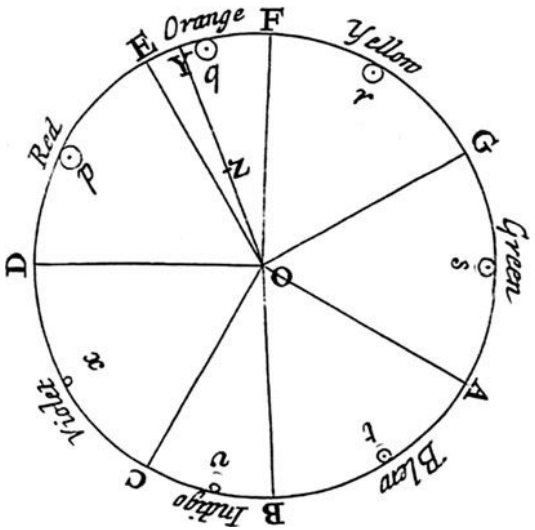
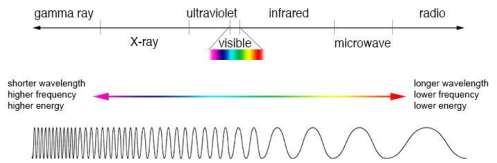
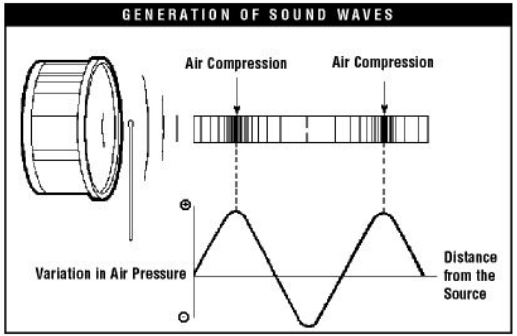
FIBERS AND DYING ASSIGNMENT 2

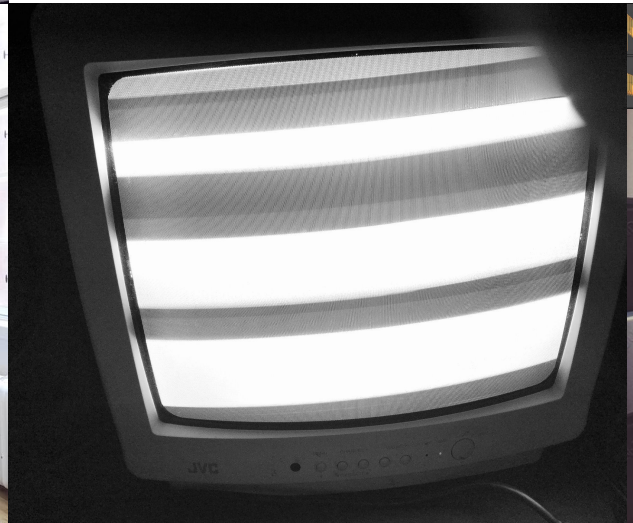
Translating sound into color and pattern into sound using Newton's Color Theory and video synthesis.

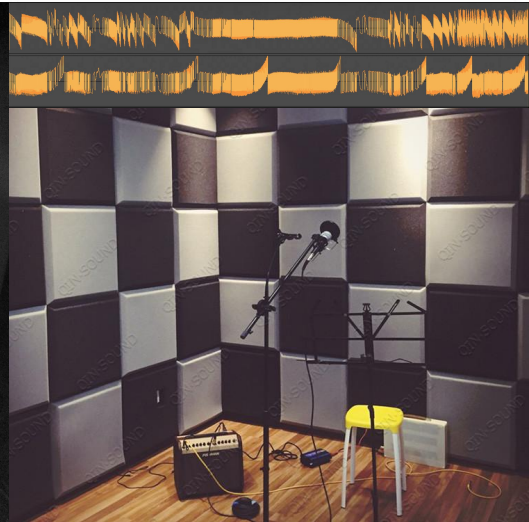



E
Orange
F
Yellow
G
Green
A
Blue
B
Indigo
C
Violet
D
Red


gamma ray
ultraviolet
infrared
radio
X-ray
visible
microwave
shorter wavelength
higher frequency
higher energy
longer wavelength
lower frequency
lower energy


GENERATION OF SOUND WAVES
Air Compression
Air Compression
Variation in Air Pressure
Distance from the Source

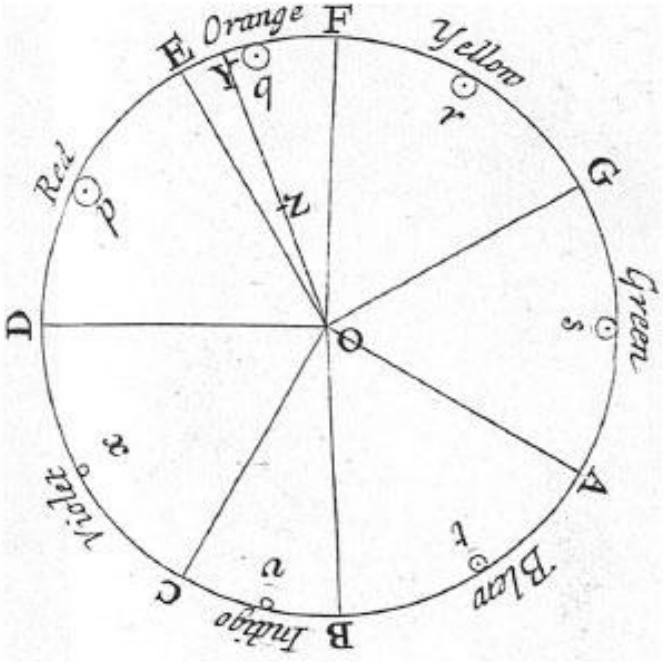




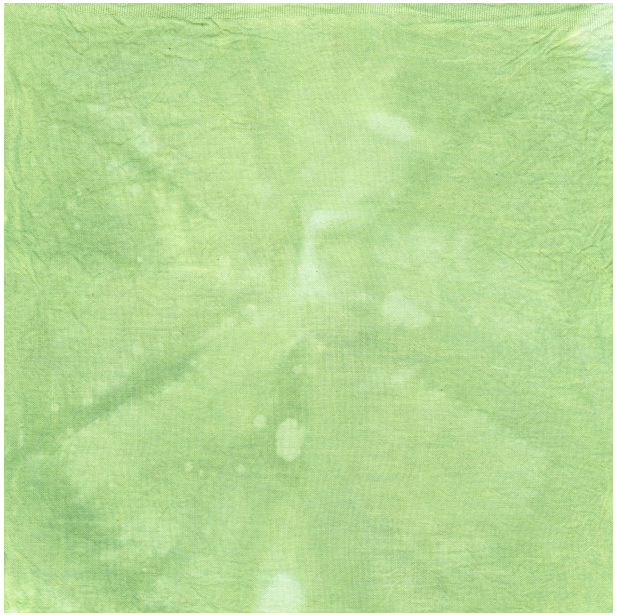
FIBERS AND DYING ASSIGNMENT 2

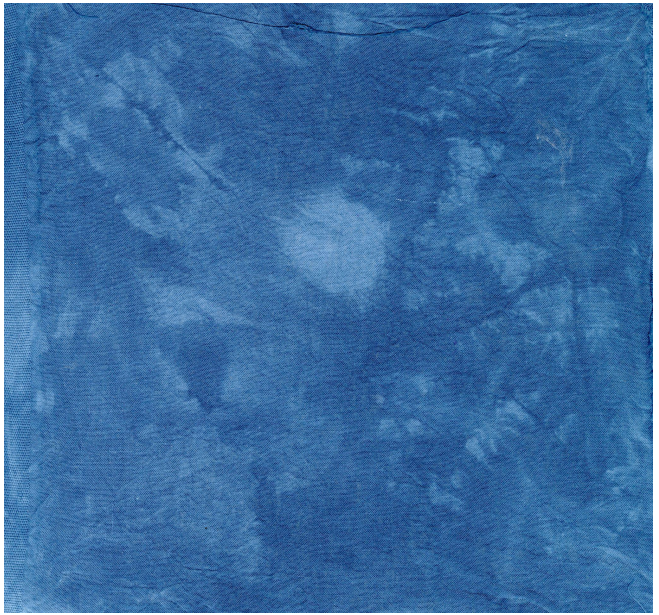
The chart on the left is a graph of newton's color theory, which translates colors into musical notes.

On the right, I use a mix of the primary MX dyes to create a visual representation of the chart. The yarn I used is undyed cotton yarn and the technique I used is table dying and direct application. I decided to use MX dyes for more control over the specific colors I wanted to use and because the synthetic dye correlates well with the idea of making synthesized sounds based off of colors.



FIBERS AND DYING ASSIGNMENT 2





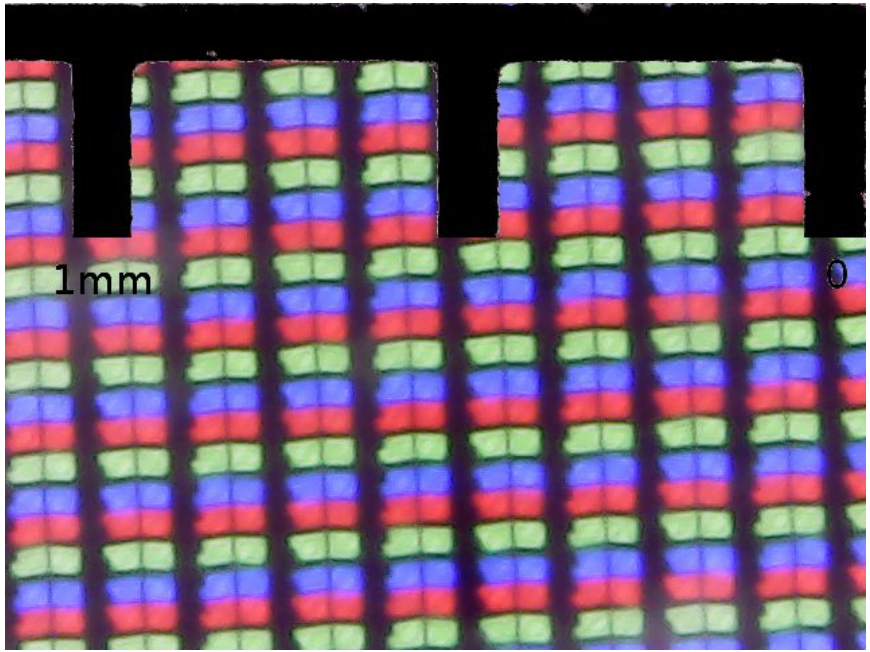
FIBERS AND DYING ASSIGNMENT 2

I dyed undyed wool yarn a mix of the 3 MX dyes I used to dye the previous samples using direct application to create a neutral tone.

FIBERS AND DYING ASSIGNMENT 2

Dying muslin the primary colors of LEDs which are RGB. I decided to use these colors because I would be using video that is made up of these colors as their basis. I decided to use muslin for its transparency. I used MX dye and both submersion dying and direct application techniques to dye these samples.

I wanted to have splotchy parts on the dyed muslin so that it would be darker in some parts and more interesting when I place it against the screen but it ended up not being that visible in the video. This picture is a visualization of TV screen LEDs (or light emitting diodes) under a microscope, showing how they are made up of red, green and blue LEDs.

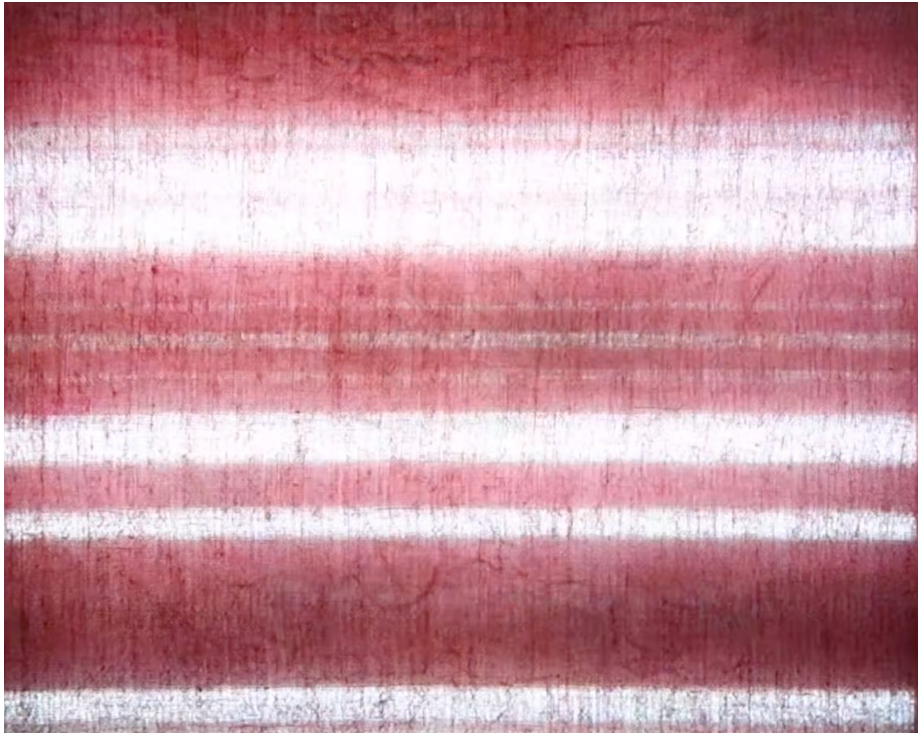


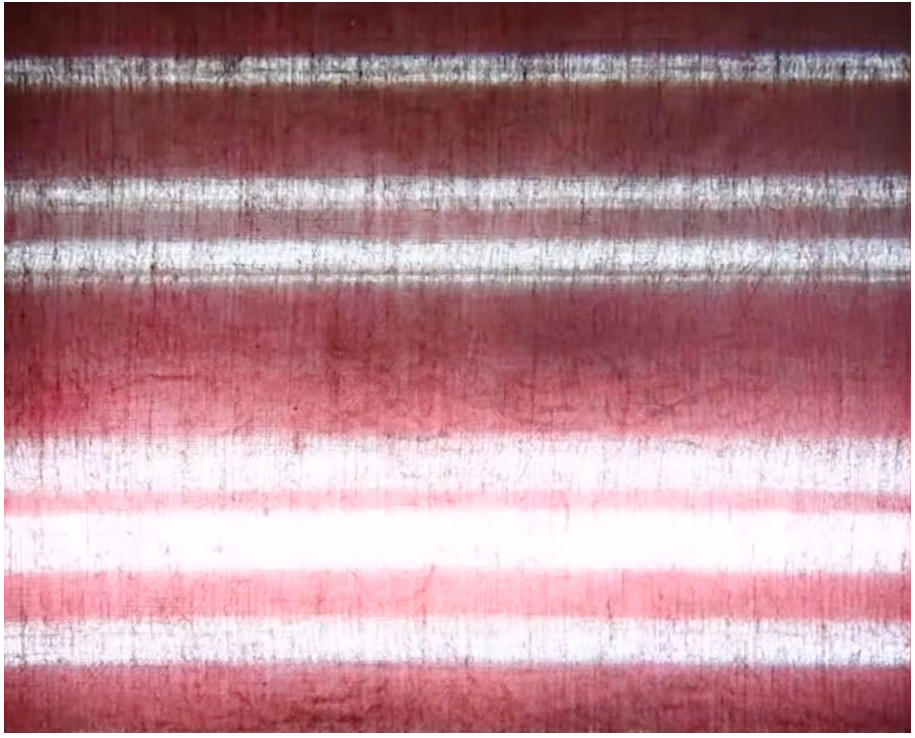
FIBERS AND DYING ASSIGNMENT 2

Here I represented RGB by dying a yarn blend of Martin's hair, tussah silk and unprocessed cotton. I used MX dyed and table dyed this sample.

FIBERS AND DYING ASSIGNMENT 2
Translating color into sound and generative visual pattern

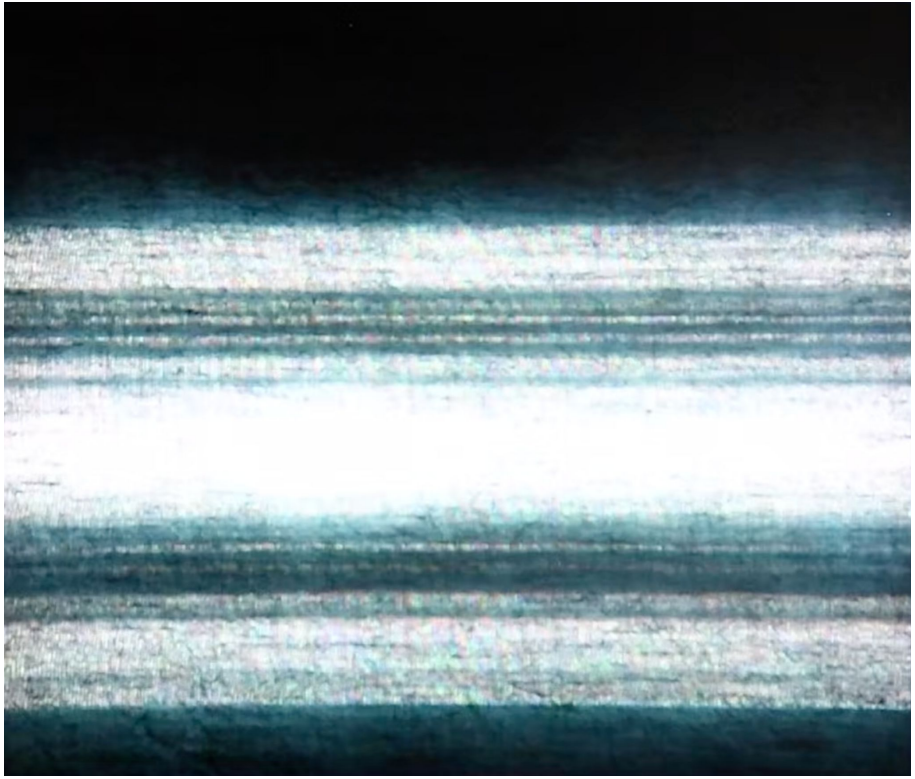
Referring back the chart we can see that the color red is associated with the note D. On my synthesizer, I tune one of my oscillators to the note D in the 4th octave, or D4. I then route this audio directly to the video input of the TV, directly translating the raw audio signal into video. The oscillator is visualized as moving white horizontal lines. The only effect I'm adding to the pure sound source is reverb. This is to make the lines overlap, change size and move in and out of phase with each other. I then place the red mulin over the TV screen to act as a filter, only showing the red of the RGB LEDs. In the video the note plays while showing the visuals in real time.

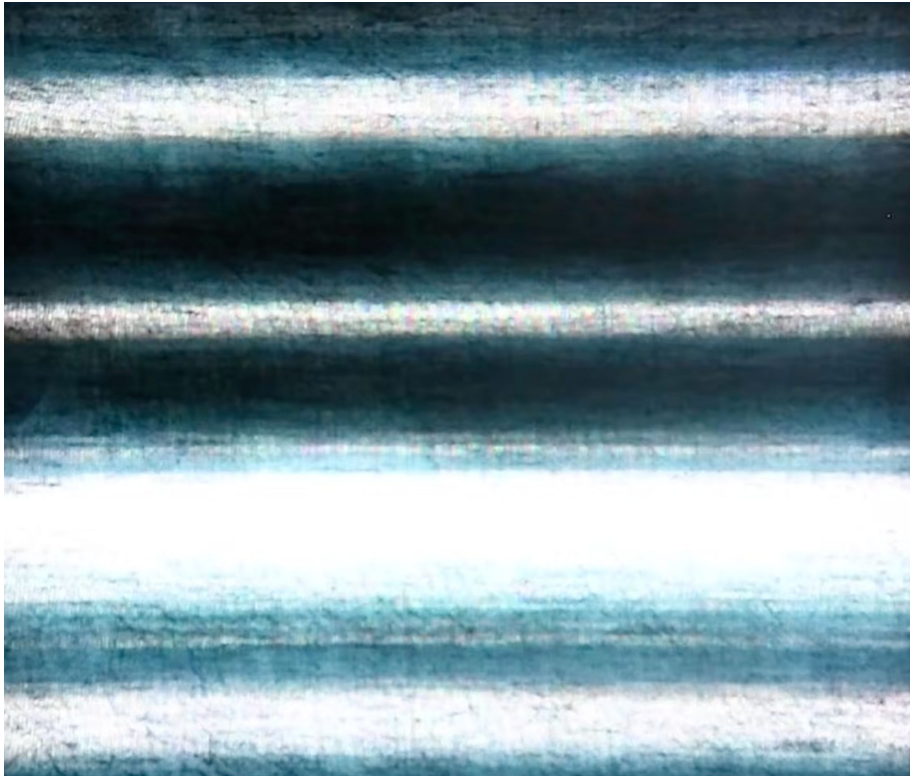




FIBERS AND DYING ASSIGNMENT 2

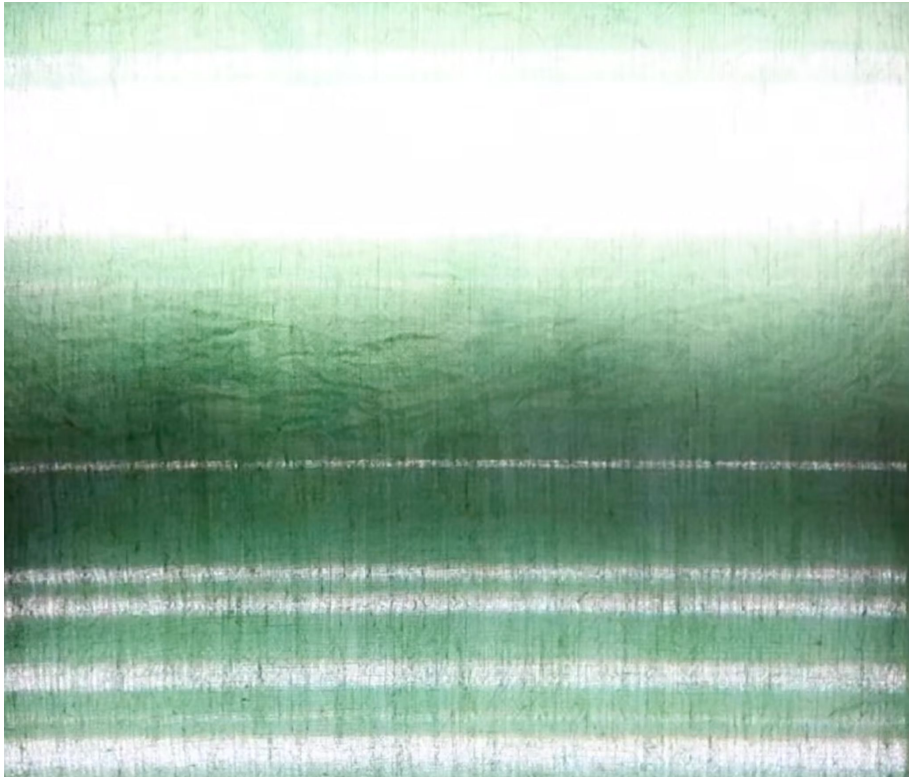
Referring back the chart we can see that the color blue is associated with the note A. On my synthesizer, I tune one of my oscillators to the note A in the 4th octave, or A4. I then route this audio directly to the video input of the TV, directly translating the raw audio signal into video. The oscillator is visualized as moving white horizontal lines. I then place the blue mulin over the TV screen to act as a filter, only showing the blue of the RGB LEDs. In the video the note plays while showing the visuals in real time.

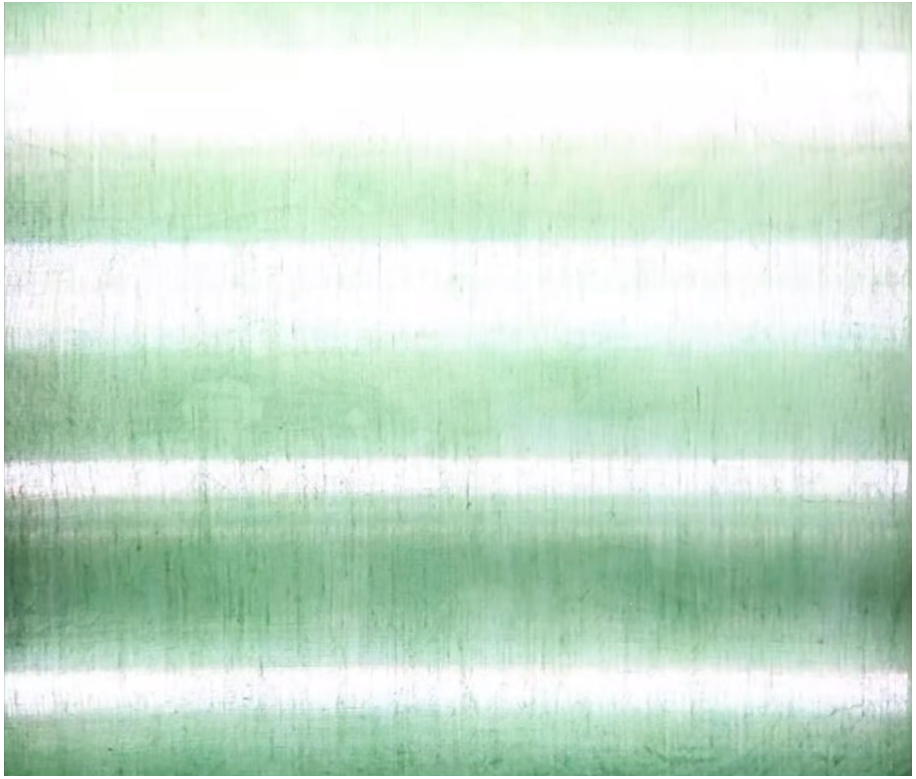




FIBERS AND DYING ASSIGNMENT 2

Referring back the chart we can see that the color blue is associated with the note G. On my synthesizer, I tune one of my oscillators to the note G in the 4th octave, or G4. I then route this audio directly to the video input of the TV, directly translating the raw audio signal into video. The oscillator is visualized as moving white horizontal lines. I then place the blue mulin over the TV screen to act as a filter, only showing the blue of the RGB LEDs. In the video the note plays while showing the visuals in real time.



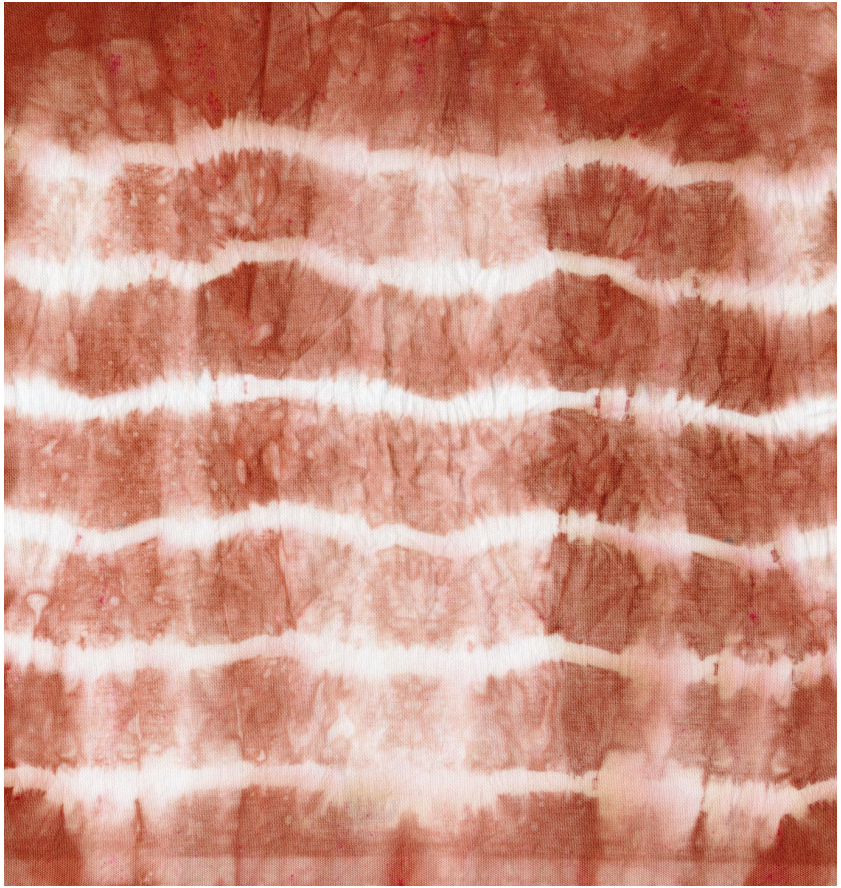


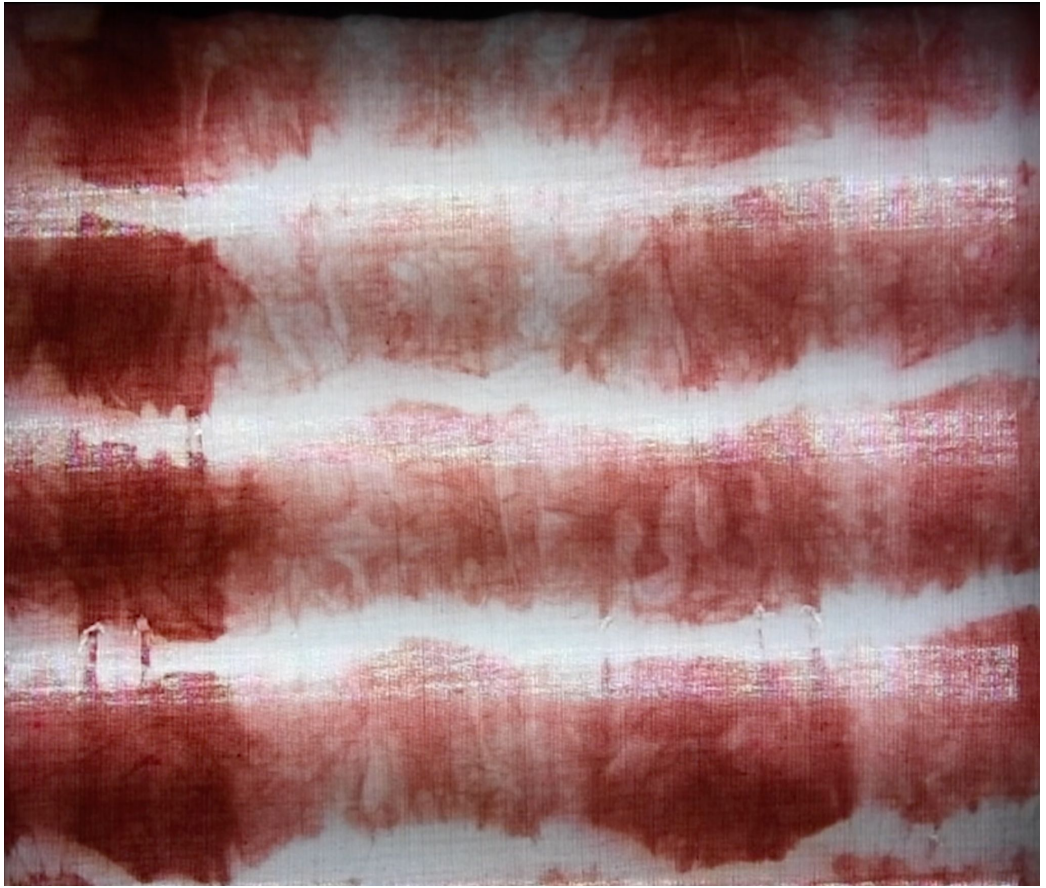
FIBERS AND DYING ASSIGNMENT 2
Matching visual pattern of textile into sound

I started by using zip ties to create a resist on my undyed linen. I created a random length between ties in hopes of giving me a repeating pattern or lines. I then overlay the dyed textile in front of the tv and use my synthesizer and the visual horizontal lines created by the synthesizer going into the TV to line up the lines with the lines created by the zip ties. I then use a tuner to find out what note the lines I created actually translate to.

FIBERS AND DYING ASSIGNMENT 2
Matching visual pattern of textile into sound

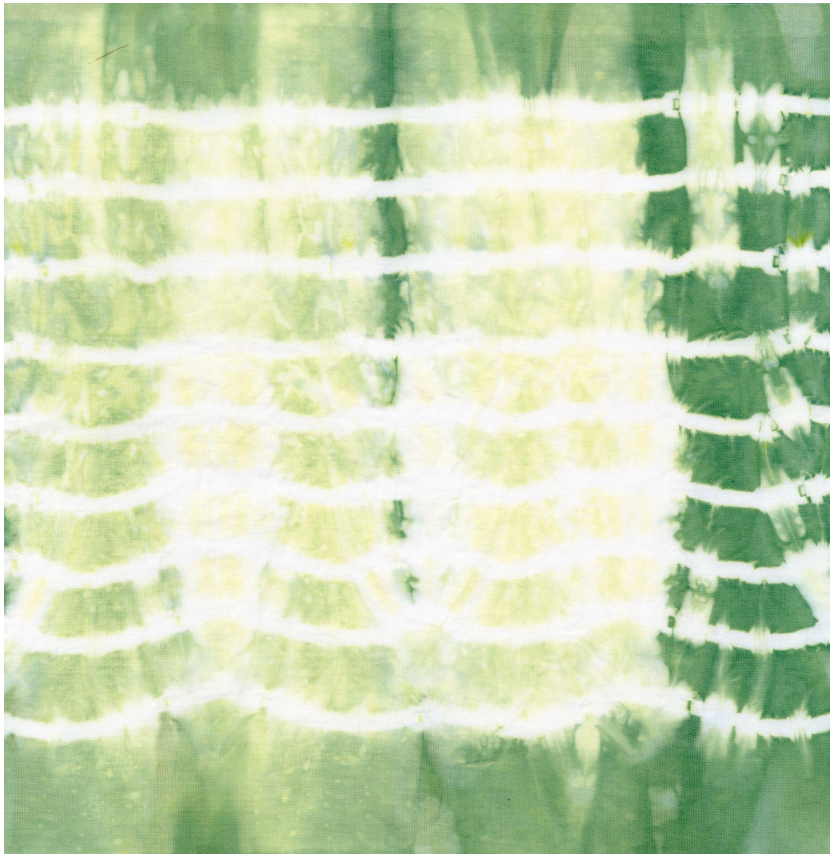
The ties on the red sample translated to the note A in the 3rd octave.

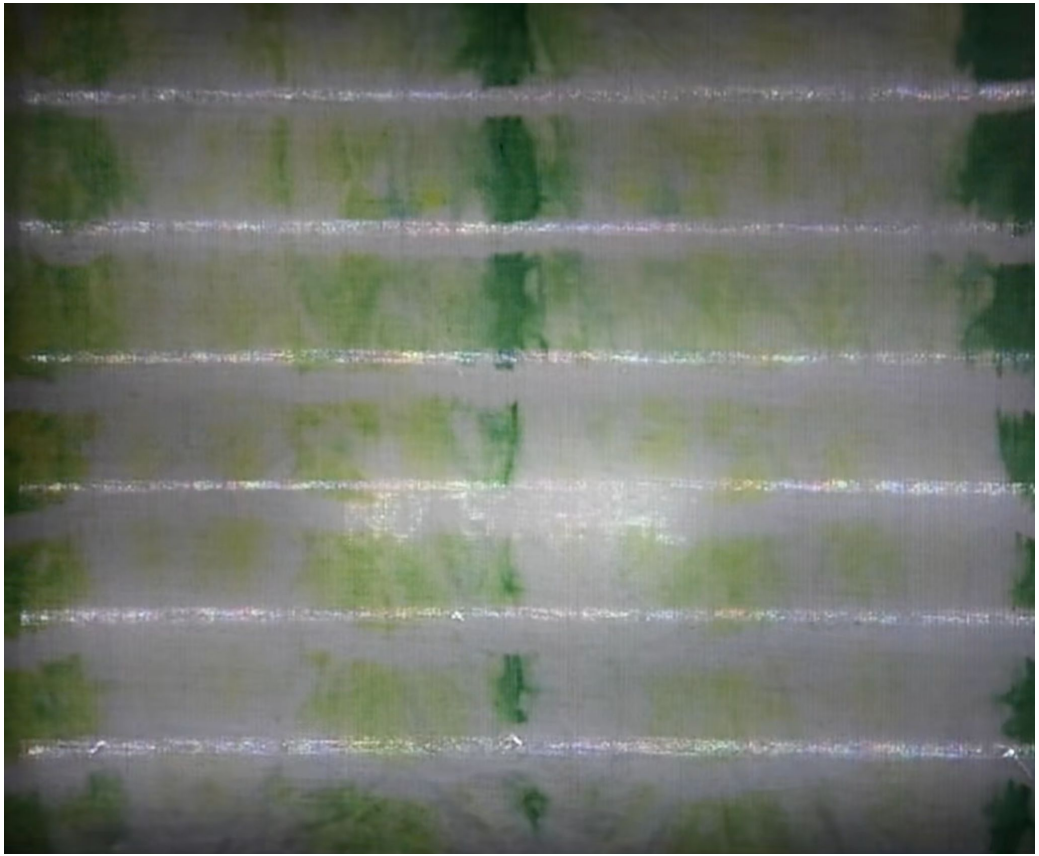




FIBERS AND DYING ASSIGNMENT 2
Matching visual pattern of textile into sound

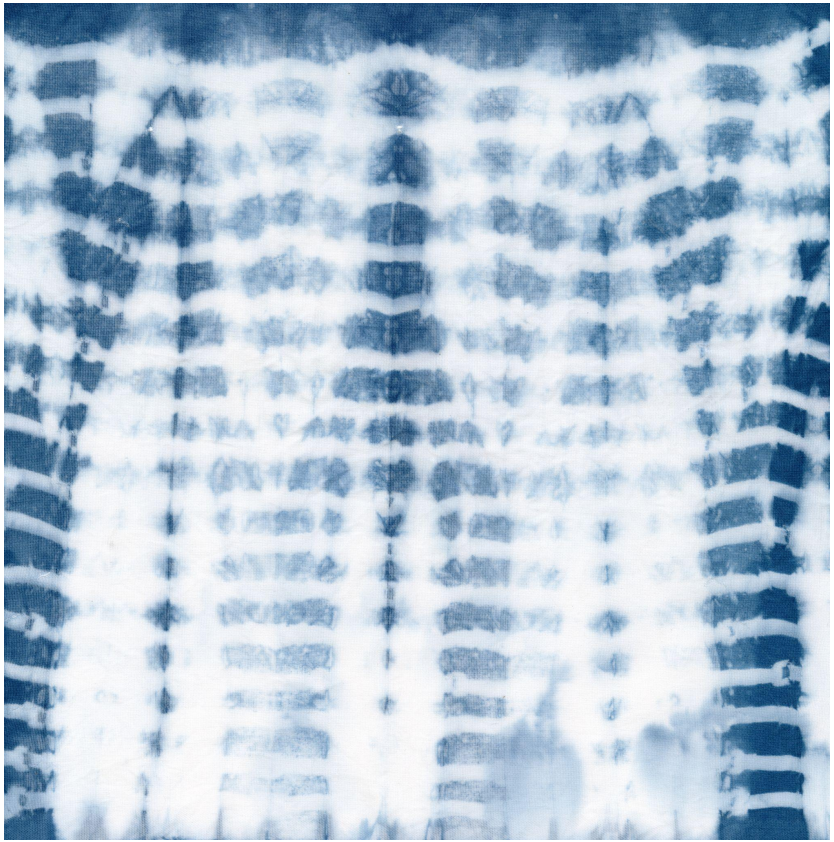
The ties on the blue sample translated to the note A in the 3rd octave.

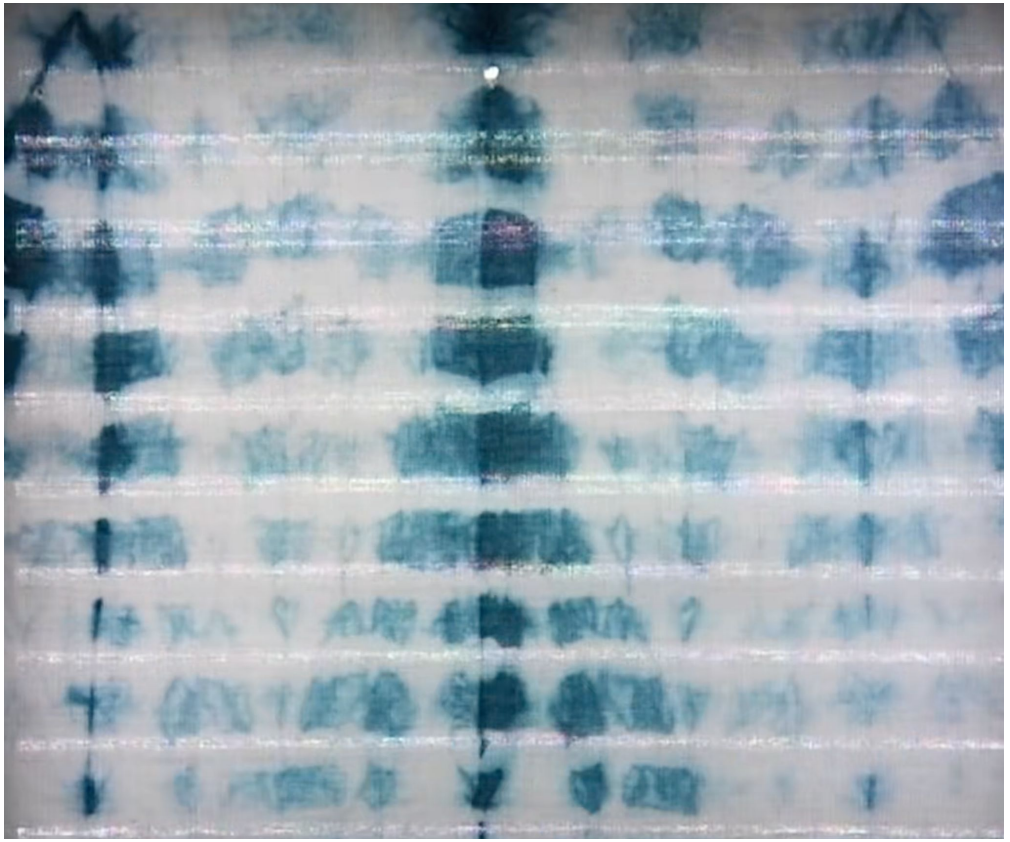




FIBERS AND DYING ASSIGNMENT 2
Matching visual pattern of textile into sound

The ties on the blue sample translated to the note F in the 3rd octave.





FIBERS AND DYING ASSIGNMENT 2

Here Im using various dyed wools and the wet felting technique to mimic felt made out of compost or recycled materials. In previous research I now know various types of wool and felt can have sound dampening characteristics. An appropriate application for using either organic sheeps wool (of which there is an excess of at the moment) or recycled materials turned into felt, is sound absorption panels, as they are made up of layers of wool. The holes in this particular felt sample will add space between layers as to not make the layered felt too dense, which would reflect sound instead of absorb it. This would also be a much more sustainable way of manufacturing sound absorption panels.