

Name: Anna St. Germain
Username: ella_gingras22
Team Don't Be Trashy
Wachusett Regional High School
stganna3@gmail.com

While outside, I noticed how all the leaves on the trees were changing color. And I remembered that they change color because they are no longer producing food due to the temperatures and shorter days. So the chlorophyll breaks down, changing the color of the leaves as a result. And I thought, what if humans had something like that where when we needed a process to stop or change, it would naturally change color to alert us. So I started to think about how in the summer, black pavement heats up a lot and it becomes extremely hot to touch. I also remember from the urban ecology challenge that black pavement with a lack of shade in the summer can increase the average temperature of the area drastically.

My invention would be that when the temperature reaches a certain point (somewhere around 80 degrees fahrenheit), the color of the black pavement would lighten in color to a lighter black/dark grey. Not bright enough to blind passing drivers, but enough to help lower the temperature of the surrounding area to decrease carbon emissions. The pavement would feel the heat, which would send a signal to the physical composition of the pavement to alter the coloration. I am not sure how to make it work from a scientific standpoint, but I know that there are objects currently that are able to change colors with sunlight. Such as the Converse Sneakers that reveal polka dots when exposed to the sun.

Define:

I want the black pavement of streets and sidewalks to change to a lighter shade of its black color when the temperature reaches a certain point in order to cool down urban areas.

Biologize:

My pavement must be able to sense the temperature and send a reaction signal to change colors. It must stop emitting its natural color, and change to better suit its changing environment

Discover:

In nature, when it becomes Fall, the leaves of the trees stop producing food and change color because of it. They know when to do this by being aware of the cooling temperatures and shorter days, so they stop making chlorophyll, sending a chain reaction to the leaves to change color

Abstract:

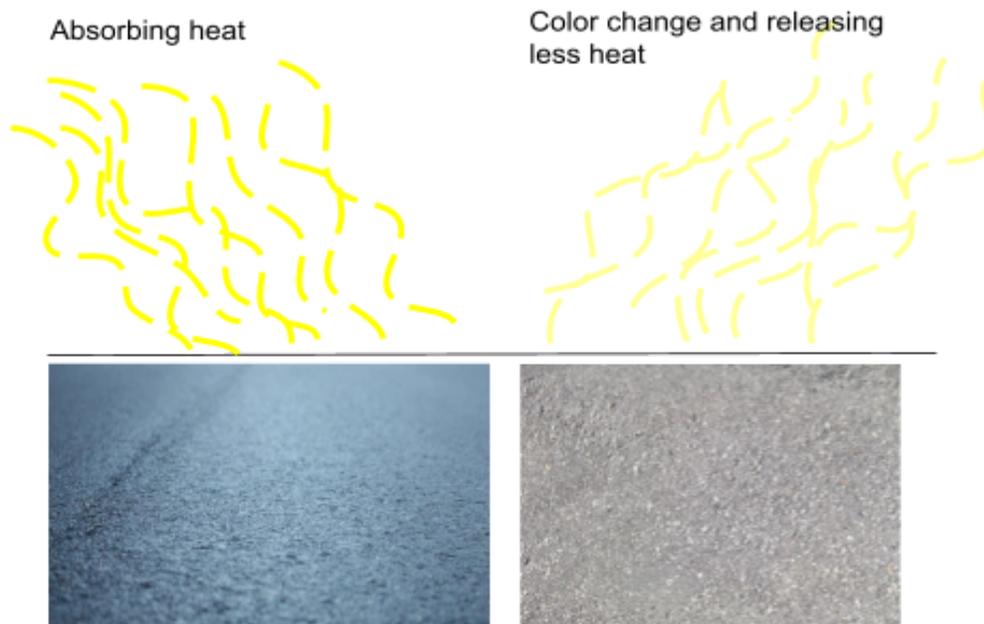
Because of the changes in day length and temperature, the leaves of trees stop their food-making process. The lack of sunlight signals the tree to start preparing for winter. The chlorophyll in the leaves which makes them green breaks down, causing the green color to disappear. And the yellow, orange, and red colors underneath become visible

Emulate:

Patterns and relationships between my pavement model and that of leaves changing colors is the color changing factor. In both models that products have the ability to sense a change in temperature and sunlight, and through chemical reactions within the products, they are able to act on that sensation and change colors

Evaluate:

This invention would be funded by state/local governments, as it would be difficult to get every town to implement this invention, but most would as it would improve the quality of living for the residents





[View Insights](#)

[Boost Post](#)



1 like

dont_be_trashy2021 Day 21: My invention would be that when the temperature reaches a certain point (somewhere around 80 degrees fahrenheit), the color of the black pavement would lighten in color to a lighter black/dark grey. Not bright enough to blind passing drivers, but enough to help lower the temperature of the surrounding area to decrease carbon emissions. The pavement would feel the heat, which would send a signal to the physical composition of the pavement to alter the coloration. I am not sure how to make it work from a scientific standpoint, but I know that there are objects currently that are able to change colors with sunlight. Such as the Converse Sneakers that reveal polka dots when exposed to the sun.

[@turninggreenorg](#) [@biomimicryinstitute](#) [#pgc2021](#)

