Differentiation between different ground types and shaded temperatures

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We asked “How does surface temperature change on the ground and in the shade.” So we went out and took surface temps at three different locations to see the variation in temps throughout the months.In our results we found that it does get colder closer to december. But for some reason the asphalt gets WAY cooler than the other areas. So in conclusion the hottest area is actual the coldest.

> How does the temperature of the ground differ between different areas?
> Our hypothesis is that the shaded area is colder than the grass, because doesnt get as much sunlight.

The Urban Heat Island effect, what is it? Well the Urban Heat Island effect is process of where urbanization of lands with the use of pavement, cutting down of trees, and many other various unnatural elements may contribute to the trapping of heat to selected areas, causing an imbalance. The issue with this though is that the trapping of heat leads to issues that contribute to not just global warming, but illness too. Heat generates illness amongst the population by increasing the likelihood that bacteria can survive and thrive, creating threatening conditions for our elderly and youth. Another cause for concern on UHI effect is how negatively our economy is affected. Unnecessary demand is generated by the use of extra air conditioning, infrastructure maintenance, and straining energy grids. We can see a similarity between UHI caused heat/cold mortality and the economic affection of 192 euros for every -324 urban adult every year. This in short means that temperature related deaths are linked to the economy. Another pressing issue linking itself to economic strain is where our electricity comes from. The increase uses of electricity with air conditioning, cooling, and the strain on the energy grid itself. All this boosts the use of fossil fuels to support an environment thats been gradually becoming warmer, but this creates a loop within itself as the fossil fuels leave behind carbon emissions that keep the heat from dying down.

Step one is preparing to take the temperatures, firstly the observation tool is, our eyes, infrared thermometer, gps unit and a meter stick. Make sure the infrared thermometer is calibrated once a year by placing it in a ice water bath. Step two is how to / when to take temperatures, start with taking them one hour of local time noon in a clear observation observation zone with a large enough range to capture the area, when taking the temperatures make sure your arm is fully extended, point to the ground Three feet off the ground

Step one: we went out to take our data between 9:20- 9:40 being the only free time for us to take temperatures Step two: Our group splits up into three, one to sunny grass, one to sunny asphalt, and the other one going to shady grass and take the temperatures Step three: We meet back up do the math to gather our average back in the classroom then put it in the globe site

The question we posed was “How does surface temperature change on the ground and in shade.” We checked this by taking temps everyday. But in the end we added all of them up with the equation (x+y=a) then (a/10=b) to get the average.The results of the graph are that there different and Blue and yellow are very close and red is different. Red is off. The reason we did not take it at noon is because we were in school at the time and we had separate periods so we did not have the opportunity to get it there at that time. I didn't have data on it like there was because I joined in late and didnt have many in common. My hypothesis was wrong because when averaging them out we found out that the shady area is warmer. The results of the experiment were not correct because the shady area is warm in celcus than the other areas. similar studies are that from the past for comparing the temperatures of data is put in.

We can conclude that through our research the various spots indicate a decline in temps, although the results we found in CHS practice field and Agriculture field we witnessed a very close similarity. Although when we look into the temperature data of the asphalt, a much more man made landscape we can see an exponential difference in temperature, enough to sway environmental conditions. A much better way we may collect data in the future is the recruitment of more volunteers and increase in areas that are measured with more time slots.