How does the surface and air temperature compare between the prairie and the parking lot?

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Our Team

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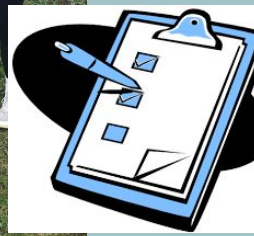


Why are Native Prairies Important?

Background information

Native Prairies can be important in many ways. Prairies hold plants, flowers, and animals, but they also do much more. Native Prairies can hold habitats for many different species of animals. Prairies also hold a lot of oxygen for people and help create a more natural environment. Native Prairies have many environmental benefits.

Research Question & Hypothesis

RQ: How does the surface and air temperature compare between the prairie and the blacktop?

Hypothesis: If we test the surface and air temperature between the prairie and the blacktop, then the blacktop will be hotter because its black and darker things get hotter.

Variables

- Dependent Variable

Air & Surface temperature

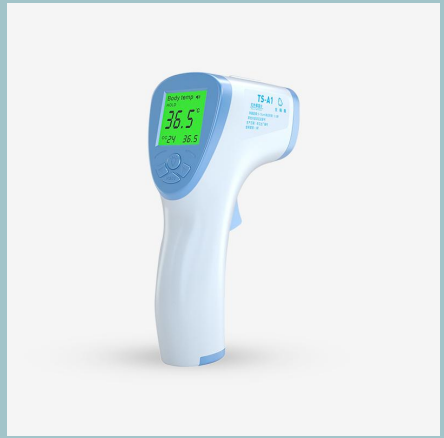
- Independent Variable

Prairie & Blacktop

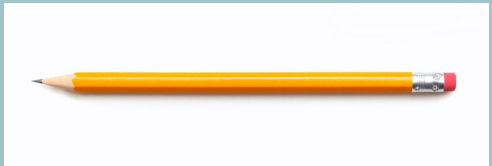
Constants : Prairie & Parking lot, same tools, follow the same steps.

Materials

- Infrared Thermometer
- Digital Probe Thermometer
- Clip Board
- Pencil
- Data Sheet
- IPad

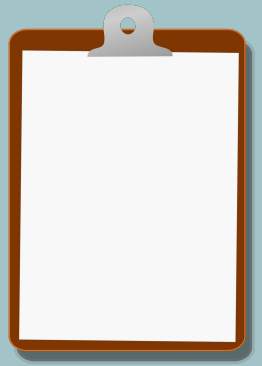


Infrared Thermometer



Pencil

Digital Probe Thermometer



Clipboard with Data Sheet

Step by Step Procedures:

1. Walk to the prairie
2. Find a spot A in the prairie to do experiments
3. Start with air temperature by taking out Infrared thermometer
4. Take air temperature
5. Record air temperature on data sheets
6. Now do surface temperature
7. Start by taking out digital probe thermometer
8. Take surface temperature
9. Record surface temperature on data sheet
10. Move to location B on the blacktop
11. Start again with air temperature by taking out infrared thermometer
12. Take air temperature
13. Record air temperature on data sheets
14. Now do surface temperature
15. Take out digital probe thermometer
16. Take surface temperature
17. Record data on data sheet

Weather Conditions on the Day of Data Collection

Day 1	Day 2	Day 3
Weather conditions: Chilly, windy, cloudy wind	Weather conditions cold, clear	Weather conditions warm,sunny,slight

Data - How does the surface and air temperature compare between the prairie and the blacktop?

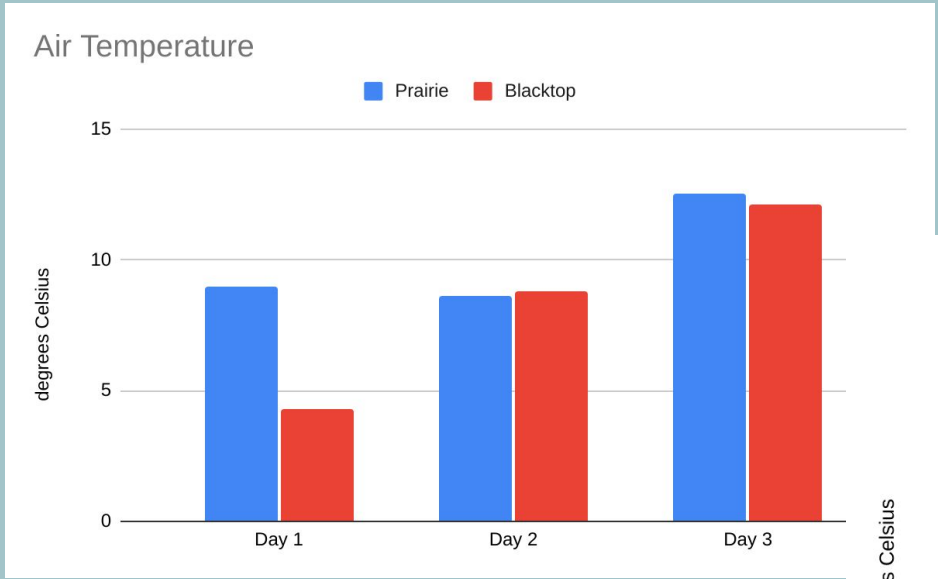
Air Temperature

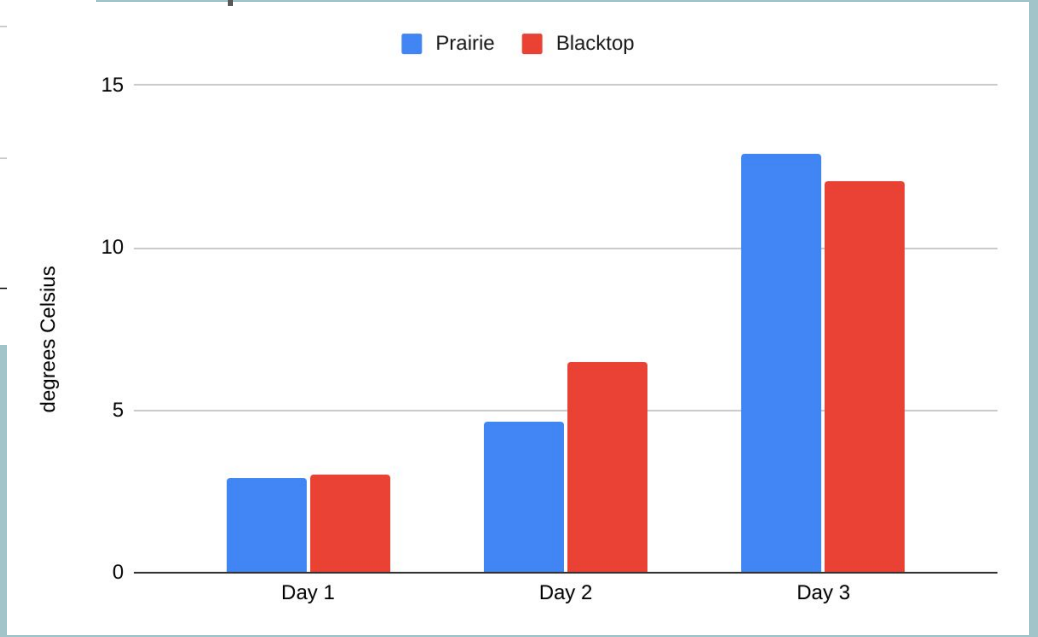
	Day 1	Day 2	Day 3
Prairie	9	8.6	12.5
Blacktop	4.3	8.8	12.1

Average Surface Temperatures

	Day 1	Day 2	Day 3
Prairie	2.93	4.64	12.91
Blacktop	3.04	6.5	12.04

Results: How does the surface and air temperature compare between the prairie and the blacktop?





Conclusion

Our results shows us that the surface temperature is hotter on the blacktop, and the air temperature is hotter in the prairie. Looking at the surface temperature averages for all 3 days, the prairie's temperature was 2.93 degrees celsius for day 1, 4.64 degrees celsius for day 2, and 12.91 degrees celsius for day 3. The blacktop temperatures was 3.04 degrees celsius for day 1, 6.5 degrees celsius for day 2, and 12.04 degrees celsius for day 3. Looking at the air temperature average of the 3 days, the prairie was 10.03 degrees celsius, and the blacktop was 8.4 degrees celsius. By looking at our Data you can see that the surface temperature is hotter on the blacktop, and the air temperature is hotter in the prairie. It is like this because the blacktop was around an open space and the prairie was in a place surrounded by things like plants. Because of that the prairie's air temperature is hotter.The blacktop is black and darker things get hotter than lighter things, which shows why the blacktop surface is hotter.

Discussion: What does this mean?

By finding the air and surface temperature in the blacktop and the prairie, we think the prairie is better because it provides more clean air. Also warmer surfaces are not good because its leading to a warmer earth so the prairies native plants provide shade to make the surface cooler.

Discussion: Possible solutions!

Everyone should plant small pocket prairies because they are better for animals and they help with biodiversity. Also they dont require very much maintenance. Along with that, the plants in the prairie give us clean air, they also provide richer soil. That's why you should plant your own prairie.

Map of our Research Locations

Description of Locations:

A. Location 1 - Prairie

B. Location 2 - blacktop

Questions? Collaboration? Thank You.

- **Thank you to Mrs.Boros for helping us through the process of making this.**
- **And thank you to all the group members for helping.**

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