How does surface temperature compare between the school prairie and the farmfield?

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Our Team

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Why are Native Prairies Important?

Native Prairies are not only important for their educational purposes, but can help keep our planet striving. Keeping our native prairies healthy and safe is very important. According to the very smart Mrs. Boros, “They provide a habitat for animals, are pretty to look at, and they control run-off.”

Research Question & Hypothesis

RQ:How does surface temperature compare between the school prairie and the farmfield?

Hypothesis:If we test the surface temperature between the prairie and the farmfield than the farmfield will be hotter because its open area will absorb more heat than the prairie.

Variables

- Dependent Variable: Surface Temperature
- Independent Variable:The location: Prairie vs Farmfield.

Farmfield

Prairie

Materials

- Infrared
- Recording Sheet
- Pencil
- Clipboard

Step by Step Procedures:

1. Get infrared and go outside
2. Point infrared at prairie in a certain location
3. Point infrared and pull trigger
4. Record temperature in celsius and repeat nine times in the prairie
5. When done go to farmfield with infrared
6. Point infrared at ground and pull trigger
7. Record temperature than repeat nine times again

Weather Conditions on the Day of Data Collection

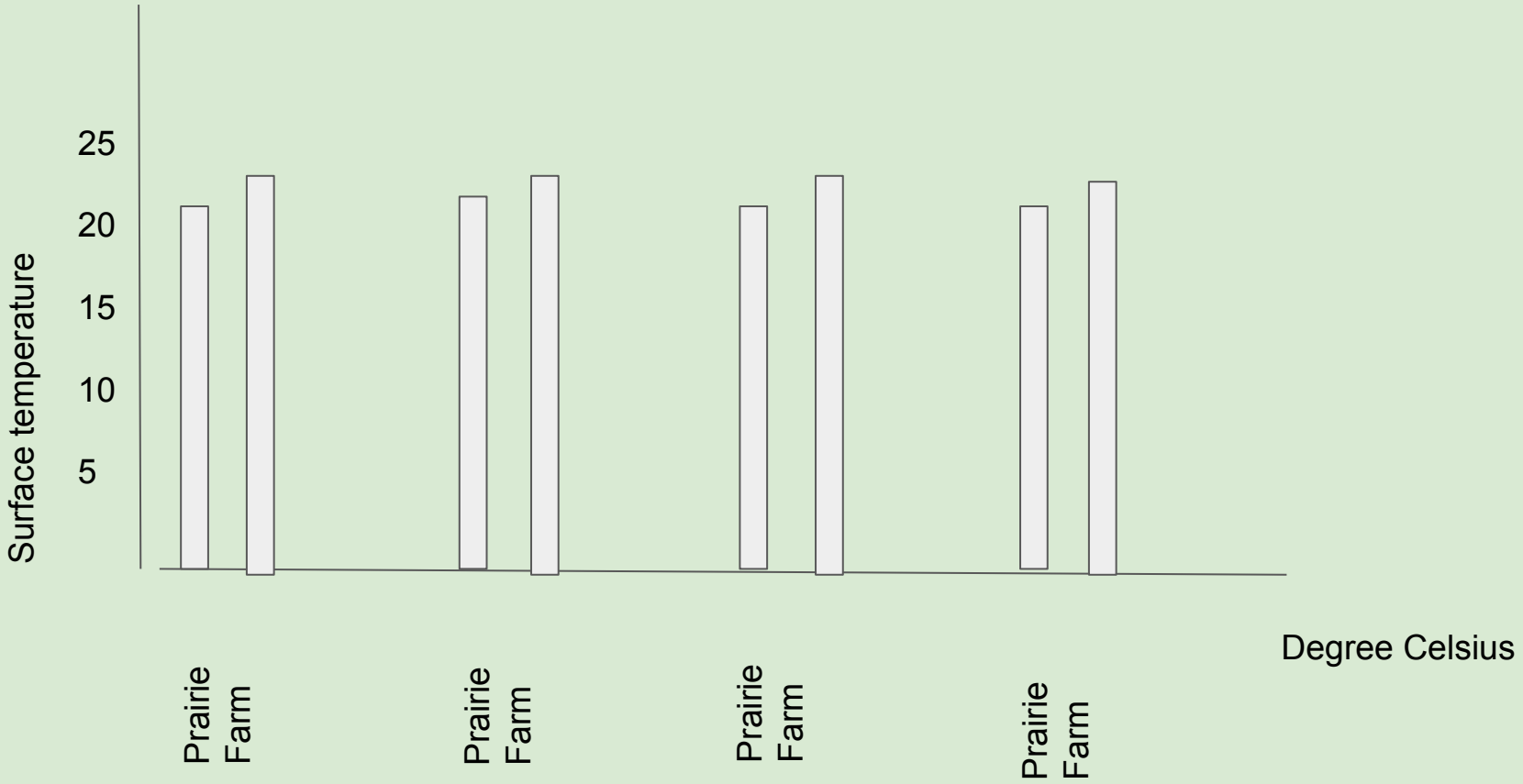
Description: Windy, Chilly, Gray, Cloudy

Cloud type: Altostratus, Stratocumulus, Nimbostratus
Sky color: Milky
Sky visibility: Very Hazy
Cloud cover: Overcast
Cloud opacity: Opaque

Data Table:

Independent variable ⇨ Dependent variable ⇩	Tall Prairie Grass vs.	Farmfield
Spot 1:	21.7	22
Spot 2:	21.8	22
Spot 3:	21.4	20.8
Average:	**20.7 degree celsius**	**21.6 degree celsius**

Results


Surface temperature
25
20
15
10
5
Degree Celsius
Prairie Farm
Prairie Farm
Prairie Farm
Prairie Farm

Conclusions:

We had found that the prairie was colder than the farm field. For example:

- Spot 1 in the Prairie had an average temperature of 21.7 where spot 1 in the farm had an average of 22.
- Spot 2 in the prairie had an average temperature of 21.8 where spot 2 in the farm had an average of 22

Discussion: What does this mean?

The data we found concludes that the farm was warmer than the school prairie. This is important because it could help direct you on where to plant something. For example, if a plant needed a cooler area they could plant it in the prairie instead of the farm. However, an important part to remember is that we did this experiment in the fall, when it was a cool, windy, and shady day. So if we were to do this experiment again, but in the summer we would find that the farmfield would furthermore increase its temperature. Which would not be good for the plants and animals in the farmfield.

Discussion: Possible solutions!

One way we can get people to be more interactive with prairies can be teachers teaching students more about plants and animals and their importance to this Earth. Especially, the ones that are native to your area and provide great nutrients. Another idea could be to show diagrams without prairies in the world and what can happen if we didn't get involved with planting native species. It could show what could go wrong if we didn't step into action and prevent that from happening. For example, an increasing problem we have today is global warming. Prairies help cool down the temperature by grabbing onto the carbon dioxide in the air. This process is part of photosynthesis. It is extremely important to plant prairies, and it can be super easy. Many people can plant a prairie and their backyard and enjoy the natural beauties of prairies.

Questions? Collaboration? Thank You.

First off we would like to thank Mrs.Boros for making this possible, and having to deal with us. At some points it got overwhelming with all the possible options to test , but she handled it greatly. We would also like to thank the school for all the equipment and all the work spaces to make this possible. We also appreciate Dr. Haney for directing and helping us through operation Project Prairie. **Our teacher is Amy Boros who teaches 5th/6th grade science at Hull Prairie Intermediate in Perrysburg, Ohio.**