Why are native prairies important?

How does the air temperature in the middle of our school prairie compare to the middle of the playground?

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Our Team

Photographer:

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Experimenters:

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Data Recorders:

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Why are Native Prairies Important?

- Two times the amount of bird species are in the prairie than the playground.
- There is 40% less runoff in the prairie.
- Lots of different plant and animal species live in prairies.
- In a prairie, 95% less soil loss happens.
- There more pollinators in prairies than in many other places.
- They increase rainwater infiltration by 30-60%.
- Prairies reduce one metric ton of CO_2 per acre per year.

Research Question & Hypothesis

RQ: How does the air temperature in the middle of our school prairie compare to the middle of the playground?

Hypothesis: Our playground will have a lower air temperature than the prairie, because the prairie has tall grasses and plants that absorb the sun’s energy.

Research Abstract

Our team researched how the air temperature in the middle of our school prairie compares to the middle of the playground. The data that we found tells us that the middle of the playground's air is colder than the school prairie’s air. Some solutions to benefit our environment is to use more plants that are native to your environment, stop cutting down trees, and plant more prairies. Prairies are ideal environments. The plants keep the soil warmer in the winter and cooler in the summer, which plants need to thrive. Our native prairie is our little way to help slow down global warming and make a positive impact on our environment.

Variables

Independent Variable:

Middle of school prairie and middle of the school playground.

Dependent Variable:

Air temperature measured in degrees Celsius using a digital probe thermometer.

Materials

- Digital probe thermometer
- Pencils
- Clipboard
- Science Inquiry Planning Guide
- GLOBE cloud chart

Step by Step Procedures:

1. Go to a sunny area in the prairie and get your red thermometer out.
2. Turn it on to celsius.
3. Hold it up in front of you under the clipboard with your arm straight.
4. Take three temperature measurements one minute apart.
5. Then do the same for the school playground and field.

Weather Conditions on the Day of Data Collection

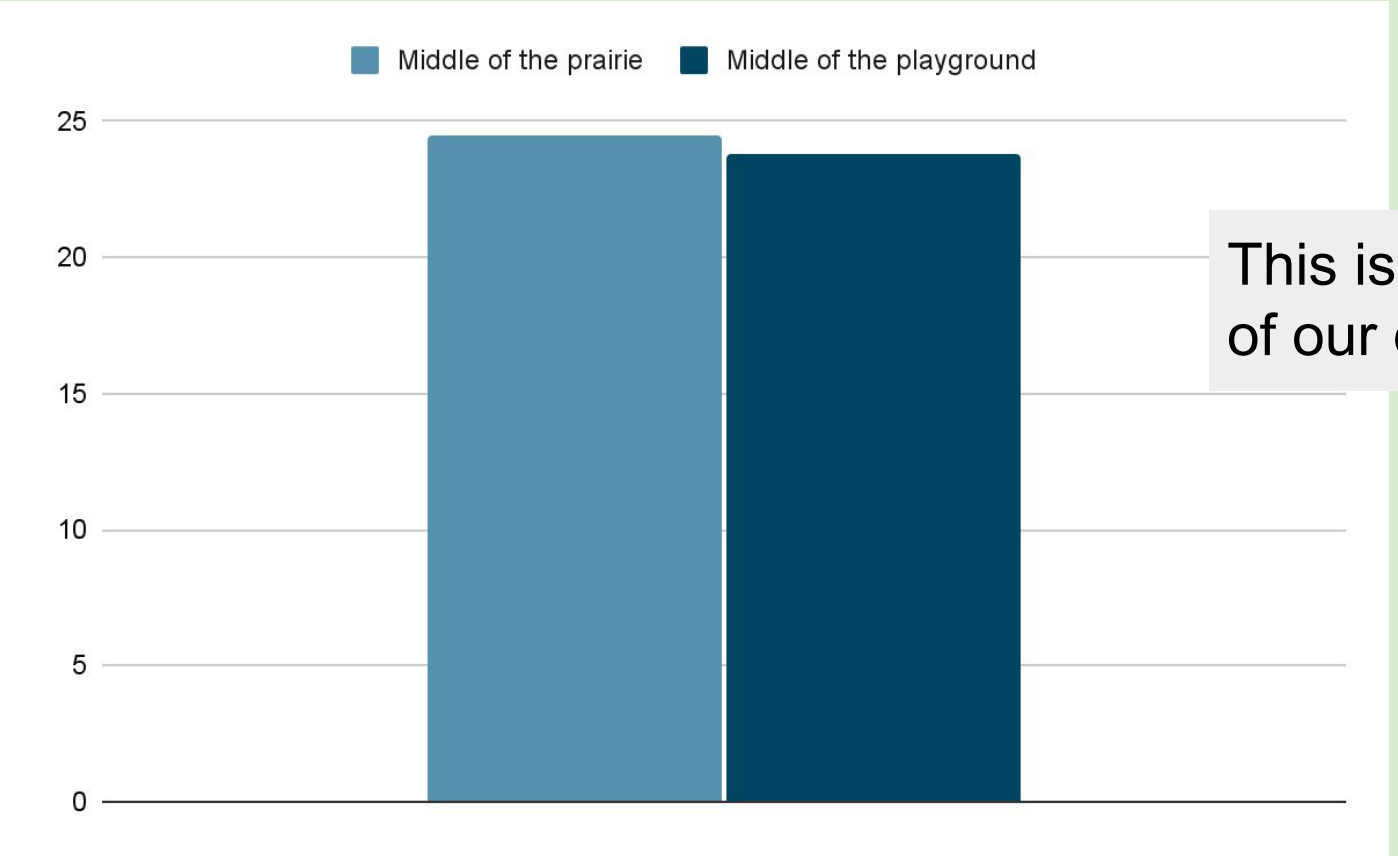
- Mostly sunny
- 72 degrees Fahrenheit
- Little to no wind
- No precipitation

Data Table

Air temperature in degrees Celsius in the middle of the prairie compared to the middle of the playground.

Location	**Middle of the prairie**	**Middle of the playground**
Spot 1	24.8	22.4
Spot 2	24.1	24.6
Spot 3	24.5	24.4
Average Temperature	**24.5**	**23.8**

Results: How does the air temperature in the middle of our school prairie compare to the middle of the playground?



This is a bar graph of our data.

In conclusion:

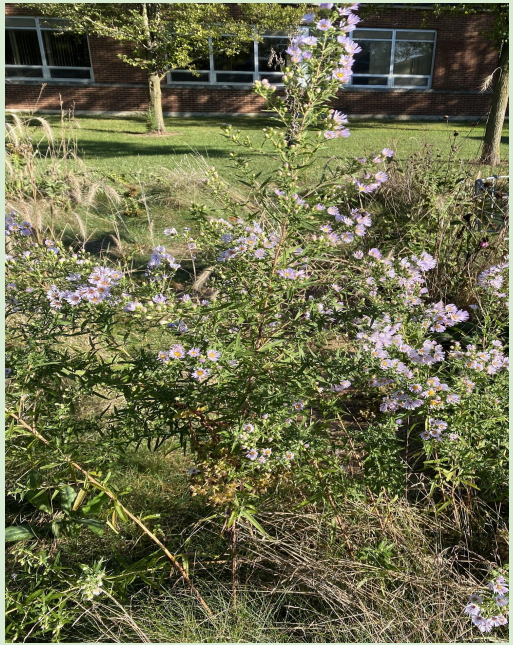
- The warmest temperature taken was 24.8 in the prairie.
- The coolest temperature was 22.4 in the middle of the playground
- The average temperature in the middle of the prairie was warmer than the playground (0.7)

Discussion: What does this mean?

- There are plants in the prairie, and the plants absorb the sunlight for energy which creates more heat.
- The playground is mostly gravel and rocks with weeds and only turf grass, so it doesn’t need to absorb much sunlight.
- The plants in the prairie are taller, which holds more of the heat.
- Having warmer temperatures in the cold weather is important for the plants and animals living in the prairie.
- The warmer temperatures are helpful for some plants to germinate and grow.

Discussion: Possible Solutions!

- **Plant a native prairie instead of growing turf grass.**
- **Try to only use native plants to attract native pollinators.**
- **Stop or reduce cutting down trees.**



Thank you, Mrs. Disalle and Dr. Haney for helping us with our research.

Do you have any questions?

Thank you for listening to our presentation!

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