

# ***How does the Soil Temperature Compare between the HPI Prairie and the Gaga-ball pit.***

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School: Hull Prairie Intermediate, Perrysburg, OH

Advisor's Name: Dr. Jodi Haney



# Our Team

## Photographer

Julia Nagle



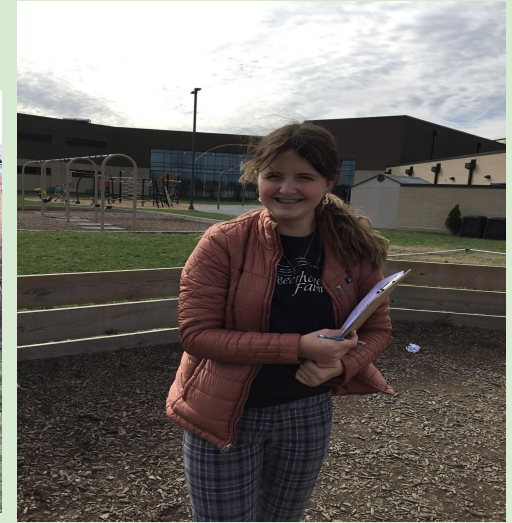
## Experimenter

Sofia Castrillon-  
Gomez, Norah  
Piland



## Data Recorder

Delany Floyd



# Why are Native Prairies Important?

*Native prairies are important to our ecosystem, and to all our nature because they are all native plants. Native plants are important because they are not invasive species, provides food for native animals, are great source of shelter, and help the earth be a cleaner, safer, and better place. For all these reasons, and many more, native prairies are important.*



# Research Question & Hypothesis

*RQ: How does soil temperature compare between the prairie and the gaga ball pit?*

*Hypothesis: If we test the soil temperature between the prairie and the gaga ball pit, then the gaga ball pit will be hotter because it is less covered from the sun than the prairie.*





# Map of our Research Locations



## Description of Locations:

A. Location 1 - Prairie

B. Location 2 - Gaga ball pit

# Variables

- Dependent variable: gaga ball pit.



- Independent Variable: soil temp.



**Constants:** Time of day, tools used, type of data collected, location (gaga ball pit & prairie), same steps.

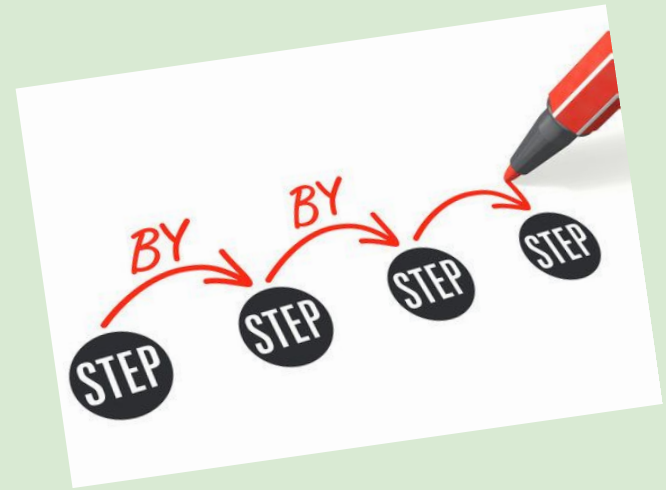
# Materials

- Auger
- Digital Probe Thermometer
- Soil Can
- Clipboard
- Pencil
- paper



# Step by Step Procedures:

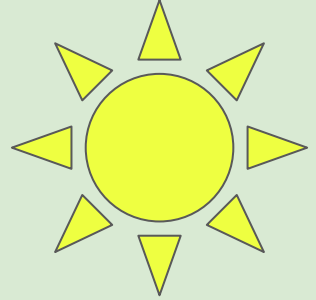
1. Go to the location in the prairie
2. Turn on probe thermometer and make sure it is on celsius
3. Stick it all the way in the ground, 10cm
4. Read and record the temperature
5. Repeat with the can. Use the can to stop the thermometer at 5cm
6. Repeat steps 1-5 for gaga ball pit



# Weather Conditions on the Day of Data Collection

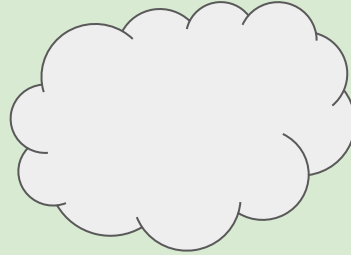
**Day One:**

**Windy/ sunny**



**Day Two:**

**Windy/ Partly cloudy**



**Day Three:**

**Windy/ sunny**



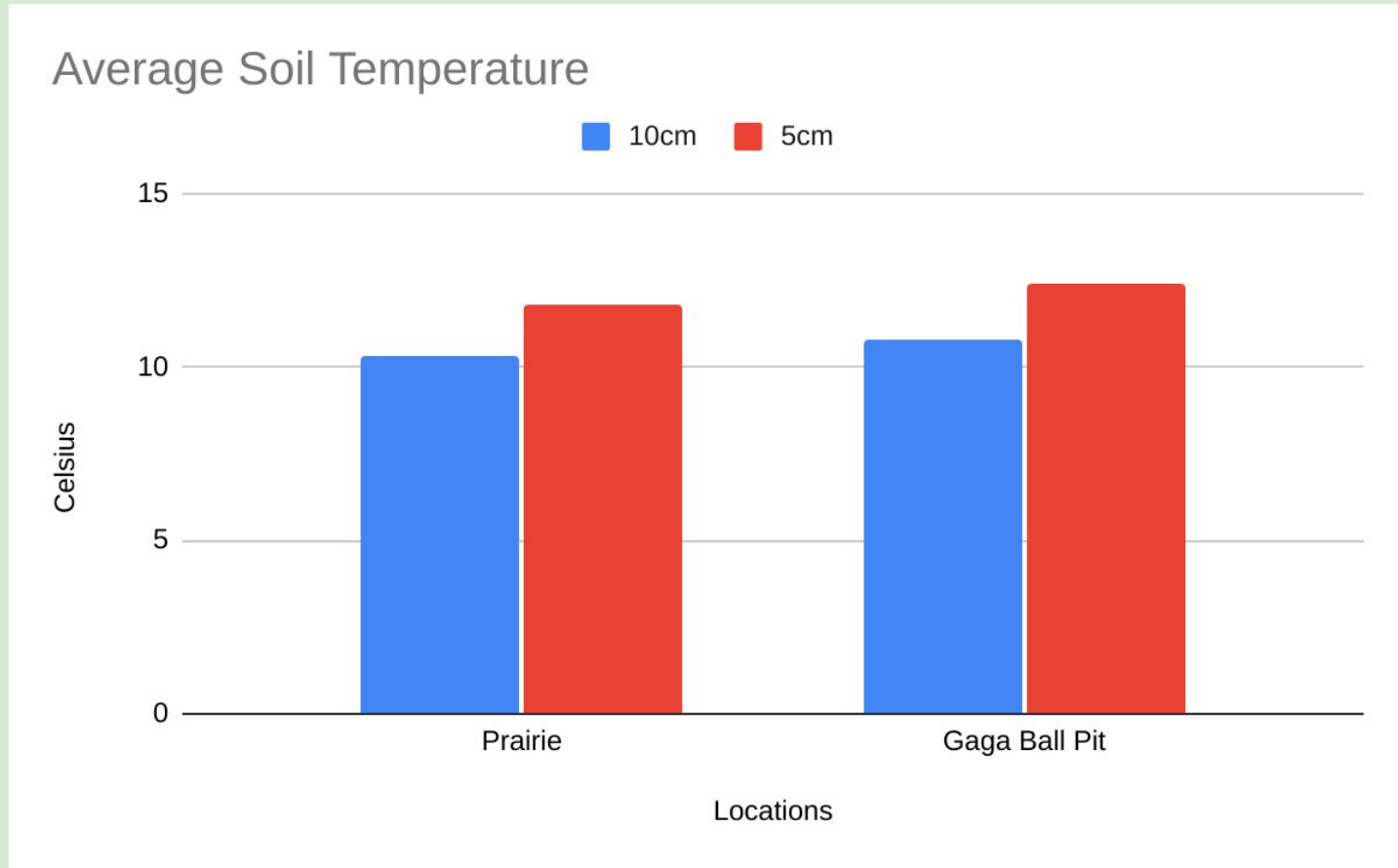
**Data** - How does soil temperature compare between the prairie and the gaga ball pit?

### Average Soil Temperatures

	10cm	5cm
Prairie	10.3c	11.8c
Gaga Ball Pit	10.8c	12.4c



# Results: How does the soil temperature compare between the prairie and the gaga ball pit?



# Conclusions:

We all came to the following conclusions,



- *Our results show us that the gaga ball pit is hotter than the prairie.*
- *Looking at the temperature for all three days,  $8.8^{\circ}\text{C}$ ,  $10.4^{\circ}\text{C}$ ,  $12.7^{\circ}\text{C}$  (all for 10cm), we can conclude that the gaga ball pit is warmer.*
- *The average soil temperature of the gaga ball pit is  $10.8^{\circ}\text{C}$ , while the average for the prairie is  $10.36^{\circ}\text{C}$  (all for 10cm).*
- *Our hypothesis was correct.*

# Discussion: What does this mean?

This is important because warmer soil is better for plant growth and will help keep them healthy. It is also important because warmer soil leads to microbes which leads to better and healthier soil, and plant growth. In conclusion, warmer soil is better for prairie growth, and expansion.



# Discussion: Possible solutions!

- People can make public statements about why prairies are important to the ecosystem by making flyers, speeches, or social media posts on the internet to convince people that we need them. Giving them stats is a big part of what could help the environment. We can show them numbers of how many animals and plants have lost their homes, or how many people *have* planted prairies. We could use this information to persuade them to plant prairies.
- Also, we could plant prairies in popular places. Like schools and libraries. It could show people that lot's of places have them and maybe they really *are* important.





# Questions? Collaboration? Thank You.

Thank you to Norah Piland, Delany Floyd, Sofia Castrillon-Gomez, Julia Nagle, and a very big thank you to Mrs. Boros for setting this up.

Any questions?



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