



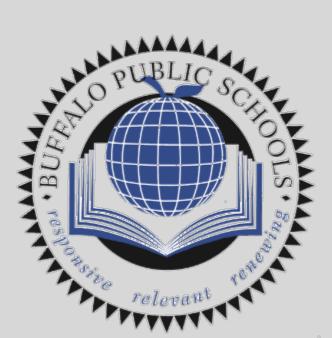


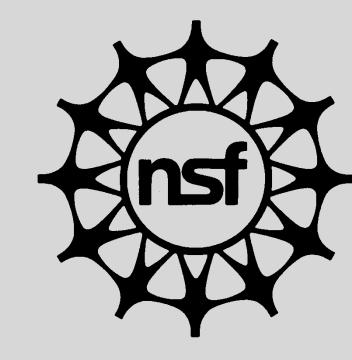
Biodiversity and Environmental Awareness at Lorraine Elementary in South Buffalo

Lorraine Medical Careers Exploratory Team

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Lorraine Academy Buffalo Public Schools #72







Introduction

The word biodiversity can be described as the variety of plants and animals, and the places they live. In referring to schoolyard biodiversity, we will be talking about all the different kinds of plants and animals that can be found in and around the school.

An important aspect of biodiversity that is not always apparent is the interconnectedness between all species, in other words, the ways in which they depend on one another for survival. One way this can be presented is through food chains and webs.

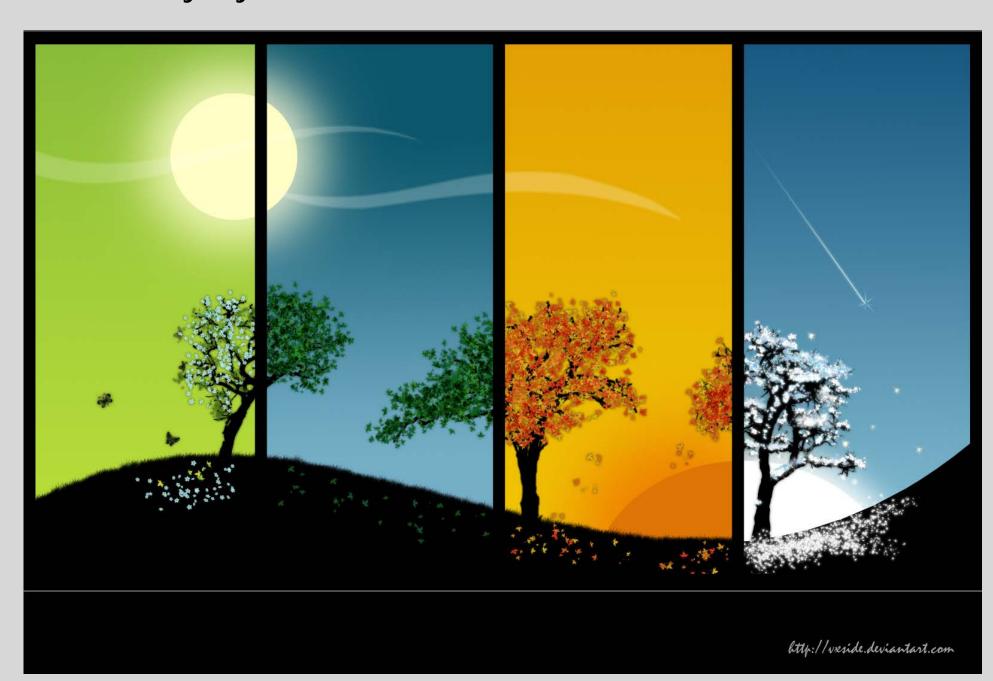
Lorraine Academy students will be learning about biodiversity and the environment as they try to answer the following questions.

Essential Questions:

- •How does biodiversity affect my quality of life?
- •How can we use science and technology to help us understand biodiversity?
- •How does biodiversity show interconnectedness (relationships and commonalities) among all systems?
- •How do we measure changes in living things over time?
- •How do we observe and measure daily, monthly, and yearly changes in the environment?
- •How do animals and plants make adaptations to changing conditions caused be seasons?

Conclusions

This project will be ongoing as students learn more and more about how the environment and biodiversity influence their everyday lives.



Acknowledgements

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Courtyard

Lorraine Academy was designed with a courtyard that has space for grade level appropriate farming and gardening projects.

Students are going to be active participants in the design and implementation of a patch in the courtyard.

- Students will use rain barrels to collect runoff for watering.
- Students will make measurements of the abiotic environment.
- Students will graph their collected data.
- Students will make diagrams and write observations

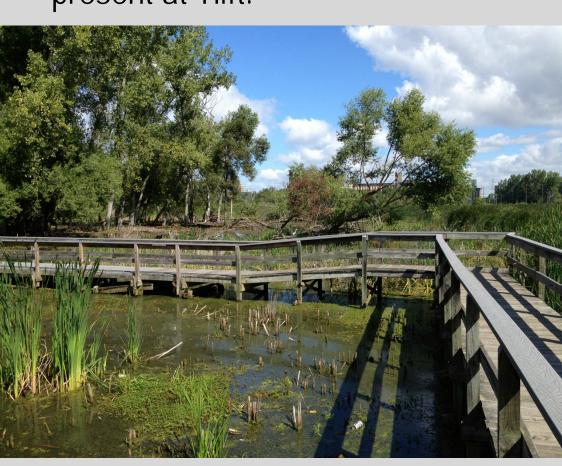






Tifft Nature Preserve

Tifft provides an excellent location and program for learning about the natural history of Buffalo. Furthermore, probeware can be used for soil and water testing in the variety of environments present at Tifft.



Tifft Nature Preserve

http://www.sciencebuff.org/tifft-nature-preserve/about-tifft/tifft-photos/



2nd Grade

Second graders are going to examine the interconnectedness of all living things and experience the significance of biodiversity in their everyday lives.

- Journaling their observations, measurements, and conclusions.
- Use questioning strategies to increase the depth of their knowledge.
- Use the schoolyard to make observations, and trade books to gain access to informational text.



The 2nd Grade patch in the center of the courtyard.

4th Grade

Courtyard Gardening Project:

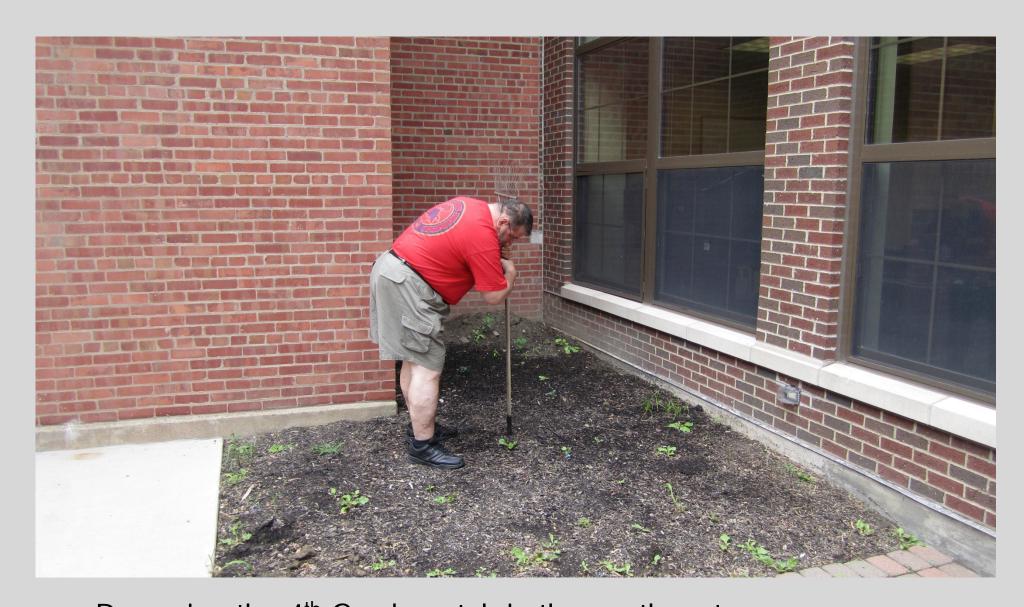
Fourth graders will undertake a project of growing seasonal crops in the courtyard. They will answer the following questions about the patch:

- The patch has a perimeter of _____ m?
- The area is ____ m²?
- The soil is _____ m deep?

The students will be assigned a plant and conduct research to determine the viability of the use of that plant in the courtyard patch.

Plant Growth and Development:

Fourth graders will also conduct experiments to explain ways that people change the environment and the impact of those changes on plant growth and food chains.

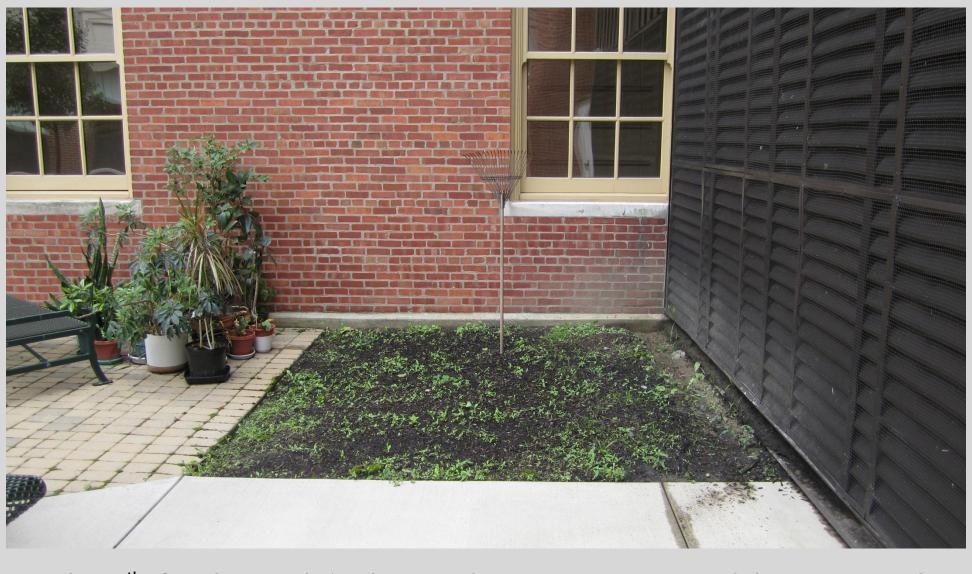


Preparing the 4th Grade patch in the southeastern corner.

5th Grade

Ecocolumn:

Fifth graders will build an ecocolumn to show interconnectedness of all living things and the environment. They will also observe experimentally polluted ecocolumns to examine the effects of pollution on ecosystems.



The 5th Grade patch in the southern-most corner of the courtyard.

7th and 8th Grade

Investigate the biotic and abiotic factors of an ecosystem

Perform research to understand the relationships: organism to
organism; and organism to environment. This allows the students
to realize the importance of diversity to a healthy, thriving
ecosystem.

- The students will create a three dimensional model of an ecosystem.
- The students will identify examples of mutualism, commensalism, and parasitism.
- The students will perform a variety of experiments to examine the process of natural selection and to determine how adaptations allow organisms to survive.



Preparing the 7th and 8th grade patch in the western corner of the courtyard.

