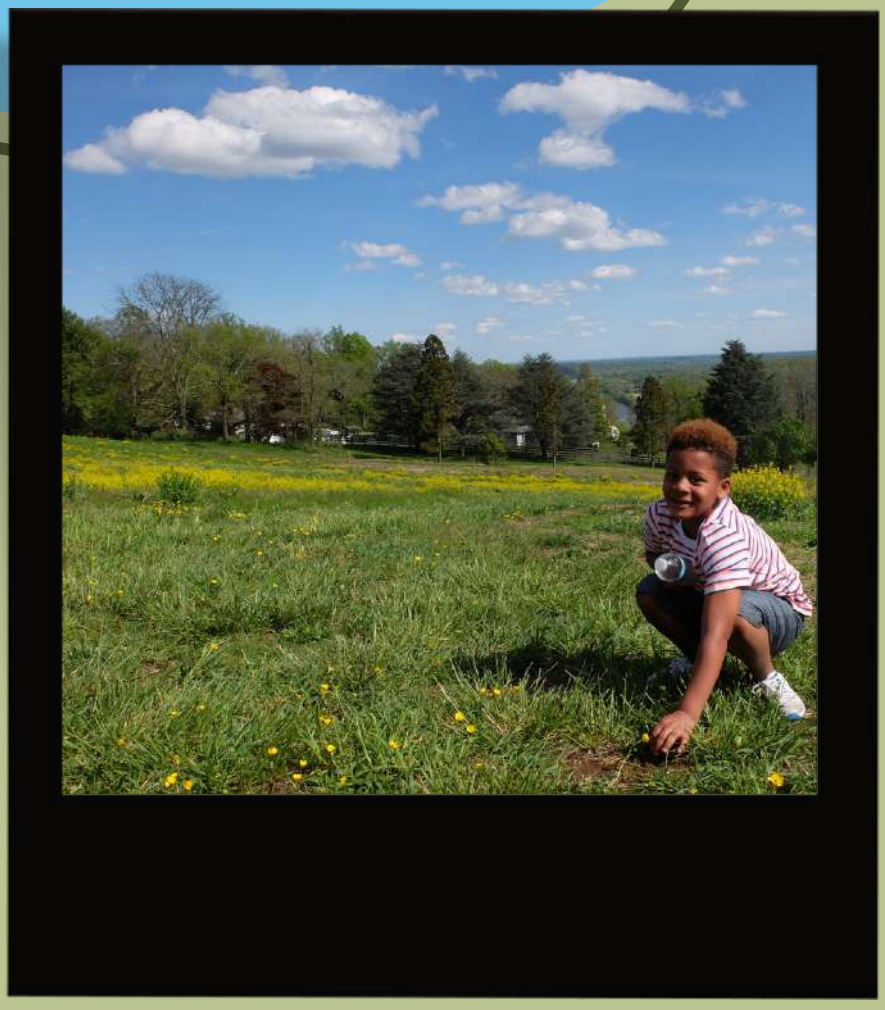
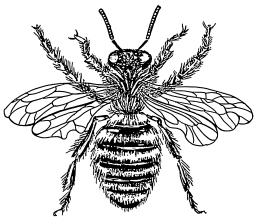
Core Module #5: Pollinators and Meadows

Enjoyment Module





Core Module #5:
Pollinators and Meadows
Enjoyment Module

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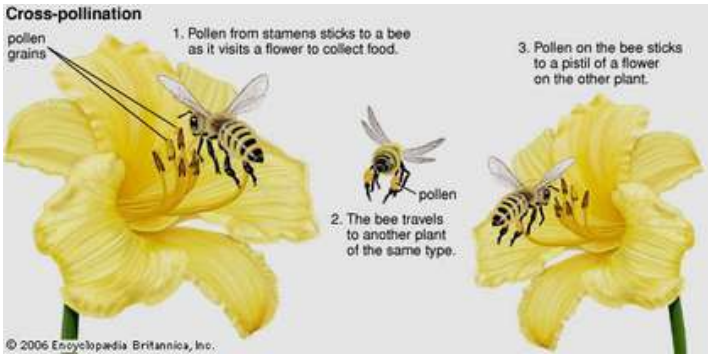
Themes

1. Appreciate the constantly evolving sights and sounds of meadows and the pollinators they serve.
2. Understand what meadows do for nature and people.
3. Use strategies that visually communicate meadows' diversity and environmental impact and encourage direct engagement with plants and pollinators.

Background/Definition/Introduction

Pollination is the act of transferring pollen grains from the male anther of a flower to the female stigma. The goal of every living organism, including plants, is to create offspring for the next generation. One way that plants can produce offspring is by making seeds. Flowers are the tools that plants use to make their seeds. Seeds can only be produced when pollen is transferred between flowers of the same species.



Our very life depends on pollination; the food we eat depends on this process. Without it, we would have no fruit, vegetables, or even meat to eat, as the animals that humans consume all rely on plants to survive. Seventy-five percent of leading food crops depend on pollinators to some extent. No pollination, no food!

Pollinators are the insects, birds, and bats that carry pollen from flower to flower, which fertilizes flowers of the same species. Native bees, butterflies, moths, and birds all transfer pollen to plants.

Meadows are diverse communities of grasses and flowers, buzzing with life and changing appearance from one week to the next. With more plant diversity, pollinators can find food, a place to rest, and a safe place for their young when the time is right for them.

Values/Benefits

Meadows are beautiful landscape features providing year-round sensory experiences. Aside from their beauty, meadows are part of the local solution to significant challenges, such as climate change and the loss of plant and wildlife diversity. The benefits of meadows include providing food, rest, and shelter for pollinators, as well as reducing carbon in the atmosphere through plants, which take in carbon dioxide and store it in their roots and soil.

Challenges/Liabilities

One challenge facing meadows and pollinators is expectations for where natural spaces belong, what they look like, and who they are designed for. A common and impactful strategy for community conservation is converting lawns to meadows. However, lawns are appreciated for their neat appearance and all-purpose design, which can cause conflict when conservationists support installing meadows where lawns are.

Another challenge facing pollinators and meadows is invasive plant species, which reduce the number of native plants in a meadow. Invasive trees and shrubs are particularly challenging because woody plants change the relationship between plants and pollinators in a meadow. In addition, invasive plants provide fewer food benefits to pollinators, reducing wildlife diversity.

Pollinators are in decline around the globe. Climate change and the use of harmful chemicals like herbicides and pesticides are killing pollinator species in large numbers. Additionally, biological pests like mites are affecting our pollinators in large numbers, leading to declining populations.

Solutions/Mitigation

Conservationists using this playbook are doing their part to change cultural expectations about what natural areas should look like, who they should serve, and where they should be. People helping others nurture a relationship with nature is the best way to change the culture. Educating others about the benefits of meadows to humans and wildlife is critical to building pathways for people to take actions that support healthy meadows. These actions might include reducing the amount of lawn in a community, not planting invasive species at home, and volunteering to monitor and remove invasive species in meadows.

Elimination and or reduction of herbicides and pesticides in our systems will go a long way in protecting our pollinators. Wherever possible, organic methods should be used to control pests and weeds, including biological insect control and mechanical removal of unwanted plant species.

Teaching/Training

The app, iNaturalist, provides tools that visually communicate the diversity of plants and pollinators that meadows support. For example, BioBlitz events organize people to photograph and identify plants and wildlife in a specific area. People at all levels of environmental knowledge can use iNaturalist in a BioBlitz.

Observing native flowers blooming in a meadow for only a few minutes will typically communicate the diversity of pollinators using meadows. For comparison, observe something blooming on a lawn for a few minutes, and discuss the difference in pollinator activity.

Facilitation Questions

1. When you hear the word meadow, what sights, sounds, and sensations come to mind?
2. Why do meadows support more pollinator species than lawns?
3. What is pollination?
4. What are some pollinators?
5. What opportunities do you see in your community to convert lawns to meadows?
6. Who can you ask for help organizing a BioBlitz to educate your community about the benefits of meadows?
7. Why are invasive plants a threat to meadows and pollinators?
8. What choices can we make to avoid the application of harmful chemicals in our natural system?

Additional Resources

- iNaturalist
- Choose Natives! Promoting Native Plants in the Mid-Atlantic
- Pollinator Conservation Resource Center | Xerces Society