



Mini-Field Trip

Introduction

In the book *On One Flower: Butterflies, Ticks and a Few More Icks*, author Anthony Fredericks goes on a "field trip between covers" to a single goldenrod plant and reveals the remarkable variety of insects that may be found there. Many other plants besides the goldenrod are host to insects. In this activity students will sharpen their powers of observation by closely inspecting a plant.

Materials Needed

- ◆ *On One Flower: Butterflies, Ticks and a Few More Icks* - by Anthony Fredericks
- ◆ Notebook and pen or pencil

Procedure

1. Read *On One Flower* as a class to show how a single plant can be a host to a variety of insects.
2. Ask the students whether they have noticed bugs on plants. What kind of bugs? On what kind of plants?
3. Decide what outdoor plants to observe. Alert students to the fact that their presence may impact whether the bugs will be there or not; for example, butterflies or other flying insects may not approach a plant if humans are nearby, especially if they are moving. Also alert students that they will have to observe all parts of the plant very carefully.
4. Observe the plants for a predetermined period of time. Encourage students to make note of what they see, or draw what they see.
5. Reconvene and share findings. Try to identify as many of the insects as possible. Try to determine why the bugs are there. Is the plant itself a source of food or shelter? Are other insects on the plant as a source of food? Are there other reasons for the bugs to be there? (For example, a place for spiders to spin a web and catch insects, or a place to lay eggs.)

Key Concepts

- ◆ Plan and conduct a simple systematic observation or investigation.
- ◆ Use knowledge and evidence (data) to formulate explanation.
- ◆ Communicate or analyze investigations and explanations that might be drawn or spoken as well as written.

For standards correlation please see our website.

Nature Connections

◆ After students have read this book invite them to discuss some of the similarities and/or differences between the community of animals on the flower and the community in which they live. Students may be interested in creating a large poster which illustrates those differences/similarities.

◆ After reading the book, ask students to survey other youngsters in the school about their favorite insects. Which ones are the most "popular"? Which ones are the least "popular"?

Additional Resources

New York Botanical Gardens
<http://www.nybg.org/gardens/>

Denver Botanical Gardens
<http://www.botanicgardens.org/>

San Francisco Botanical Garden
<http://www.sfbotanicalgarden.org/>

Desert Botanical Garden
<http://www.dbg.org/>

United States Botanic Garden
<http://www.usbg.gov/>





Not My Habitat

Introduction

In the book *On One Flower: Butterflies, Ticks and a Few More Icks*, author Anthony Fredericks goes on a "field trip between covers" and discovers the "community" of animals that live there. To introduce the idea that creatures are adapted to particular habitats in a fun way, this activity mixes up the creatures from three of Anthony Fredericks' mini-habitat books.

Materials Needed

- ◆ *On One Flower: Butterflies, Ticks and a Few More Icks* - by Anthony Fredericks
- ◆ *Under One Rock: Bugs, Slugs and other Ughs* - by Anthony Fredericks
- ◆ *Around One Log: Chipmunks, Spiders and Creepy Insiders* - by Anthony Fredericks

Procedure

1. Read each book as a class to show how habitats can be quite small, yet be host to a variety of animals, especially insects.
2. Make a list of all the insects mentioned in the three books. If you wish, add other insects that the students are familiar with, such as the housefly, dragonfly (or damselfly), beetle, mosquito, grasshopper, praying mantis, and moth.
3. Ask for ideas on what insects are least likely to be found in the various habitats (e.g. earthworms on a goldenrod plant, or butterflies under a rock). Have fun with this -- there are many impossible or unlikely combinations!
4. Why are some of those combinations so unlikely? What does each creature need that it couldn't get there?
5. Note that animals are well adapted to survive with the features (such as wetness or dryness, light or dark, closeness or spaciousness) of a particular habitat and not other habitats.

Key Concepts

- ◆ All organisms have different needs.
- ◆ The environment must supply the needs of organisms.
- ◆ Each organism has different structures for different functions.

For standards correlation please see our website.

Nature Connections

◆ Invite students to check out the web site of the Young Entomologist's Society (www.members.aol.com/yesbugs). Encourage students to obtain information about one or more of the critters profiled in this book for an informational brochure. What information does this site have that would be useful to young explorers?

◆ This book begins with a letter from the stinkbug. After students have read this letter, invite them to create alternate "beginning letters" as might be penned by some of the other critters profiled in the book. For example, what might the tick say?

Additional Resources

Fun Bug Websites for Kids to Explore:

Insectopedia

<http://www.pedagonet.com/other/insct.html>

Bugscope

<http://bugscope.beckman.uiuc.edu/>

Bug Bios

<http://www.insects.org/>

Wonderful World of Insects

<http://earthlife.net/insects/>





Picture Perfect

Introduction

In the book *On One Flower: Butterflies, Ticks and a Few More Icks* author Anthony Fredericks introduces children to a variety of creatures that can be found on a single flower. In this activity, students will be introduced to the book and the wonderful things children discover when they stop and look closely at the world around them.

Materials Needed

- ◆ Projector
- ◆ Transparency Paper
- ◆ *On One Flower: Butterflies, Ticks and a Few More Icks* - by Anthony Fredericks

Procedure

1. Before reading use several pieces of paper to cover up the words on the cover of the book. Then create a transparency of the cover illustration. Project the transparency for the entire class.
2. Then divide the class into several groups. Invite members of each group to generate three to five questions about the illustration. Afterwards, ask each group to write a story that has answers to the other group's questions embedded in the story (one member of each group records the story that is contributed by all the other members of the group). After sufficient time, invite the groups to share their completed stories with each other.
3. Invite the students to read the book (or listen to the book read aloud). Ask them to pay attention to the details, facts, and information that is shared throughout the story as well as the date presented in the "Field Notes" at the end of the book.
4. After reading invite each of the groups to return to their original "Picture Perfect" stories and to edit them in the light of the information they gathered from the book. What changes will they need to make in the next draft?

Key Concepts

- ◆ Students answering questions using scientific resources combined with observations.
- ◆ The assumption of order establishes the basis for cause-effect relationships and predictability.
- ◆ Plants are the base of the ecosystem.

For standards correlation please see our website.

Nature Connections

- ◆ Which of the creatures was the most amazing?
- ◆ How did the illustrations contribute to your enjoyment of this book?
- ◆ Which of the animals would you like to learn more about?
- ◆ How are so many animals able to live together in one place?
- ◆ What other animals do you think could be found on a single flower?
- ◆ If you could tell the author one thing, what would you like to say?

Additional Resources

Florida Native Plant Society
www.fnps.org

California Native Plant Society
www.cnps.org

Washington Native Plant Society
www.wnps.org

Find your states native plant society here:

Native Plant Conservation
www.plantsocieties.org/





Five Senses

Introduction

In the book *On One Flower: Butterflies, Ticks and a Few More Icks*, author Anthony Fredericks goes on a “field trip between covers” to a single goldenrod plant and reveals the remarkable variety of insects that may be found there. Each insect is well adapted to visit or live on the goldenrod, and to do so it uses very specially developed senses. In this activity students discover how the five senses help animals survive in different ways.

Materials Needed

- ◆ *On One Flower: Butterflies, Ticks and a Few More Icks* - by Anthony Fredericks
- ◆ Whiteboard or a large piece of paper
- ◆ Markers

Procedure

1. Read *On One Flower* as a class with particular attention to how the insects on the plant survive.
2. List the five human senses (sight, hearing, smell, taste, touch) and review the parts of the human body that provide sensory input.
3. Make a chart with the seven insects in the book on one axis and each of the senses on the other axis.
4. Note the sense or senses that are particularly important to the survival of each insect. For example, the sense of smell for the stinkbug (as a defense), or the sense of sight for the ambush bug (using camouflage).
5. Consider what senses are important to each insect, such as the sense of smell to enable a butterfly to find food, or the sense of taste to a ladybug (they taste terrible, and other insects, once having tasted one, will avoid others).
6. Consider what senses may be very poor (for example, ladybugs are blind and literally bump into their food).
7. Consider special cases where insects have much more developed senses than humans (as in the case of the tick, who “smells” carbon dioxide exhaled by animals in order to jump onto that animal).
8. Make notations on the chart reflecting strengths or weaknesses of the senses for the different insects.
9. For further fun, invite students to do research to be able to fill in the blanks on the chart.

Key Concepts

- ◆ Behavior is influenced by internal cues (hunger) and external cues (change in the environment.)
- ◆ Some characteristics of organisms are inherited while others result from interactions.
- ◆ Organisms can cause changes.

For standards correlation please see our website.

Nature Connections

- ◆ After reading the book to your students, invite them to write a letter to one of the boys in the story. What would they like to say? What would they like to ask? (Hint: The boys in the book are the sons of the illustrator!)
- ◆ Invite students to read some of the “insect poetry” listed in the “How to Learn More” section of the book. After reading some of the poetry, invite them to create and assemble their own book of poems about insects in their neighborhood.

Additional Resources

Interesting Insect Websites to Explore

Songs of Insects

http://www.musicofnature.org/songsofinsects/iframes/OLG_main.html

Butterflies of North America

<http://www.butterfliesandmoths.org/>

Using Live Insects In Elementary Classrooms

<http://insected.arizona.edu/uli.htm>

