

Flutterings and Flowers

Willard Sipple, Jr., WCVE

Overview

Topic: Habitats. Everyone needs a place to call home where they can find food, water, and shelter. Butterflies are no exception. They have preferences about where they live and what they eat. Through this lesson, students will conduct research in order to design a butterfly garden containing plants which attract adult butterflies and provide an environment conducive for their larvae.

Time Allotment

5 – 45 minute lessons

Subject Matter

Science

Learning Objectives

Students will be able to:

- Investigate and understand how plants and animals interact with one another.
- Explain behavioral adaptations, life cycles, habitats, and niches.
- Investigate and understand important natural resources, which include animals and plants.
- Use text organizers to categorize information.
- Use information resources to research a topic.

(This lesson addresses Va. SOL Science 4.5, 4.8, English 4.5, 4.9)

Media Components

Video

Natureworks: #5, Habitats

Websites (see attached list)

Materials

Materials the teacher will need to prepare for the Introductory Activity:

- 1 copy of “Favorite Foods” worksheet (attached)

Materials the teacher will need for Learning Activity 1:

- 1 copy of “Habitats” worksheet for each student (attached)
- “Habitats” worksheet for classroom display on chart paper, blackboard, or transparency

Materials the teacher will need for Learning Activity 2:

- 1 copy of “Questions to Guide Your Search” sheet for each student (attached)
- 1 copy of “Larvae/Adult” sheet for each student (attached)
- 1 copy of bookmarked websites for each student (attached)
- At least one computer with Internet access for every two students

Materials the teacher will need for the Culminating



Activity:

- Colored pencils, crayons, or markers for each group
- 1 large sheet of 12" X 18" white paper for garden diagram

Materials the teacher will need for the Assessment:

- 1 copy of "Butterfly Garden Rubric" sheet for each student (attached)

For each group of four students:

- Large sheet of 12" X 18" white paper for garden diagram
- Computer with Internet access
- Colored pencils, crayons or markers

For each student:

- 1 copy "Favorite Foods" worksheet
- 1 copy "Questions to Guide Your Search" worksheet
- 1 copy "Columns – Larvae/adult" worksheet
- 1 copy "Butterfly Garden Rubric" sheet
- 1 copy "Habitats" worksheet

Introductory Activity:

1. Distribute "Favorite Foods" worksheet (attached). Say, "I want you to think of the types of food you ate when you were a baby. Your parents have probably talked about the things you liked or didn't like when you started eating baby foods. In the first column, I want you to list the foods you ate when you were a baby. In the second column, I want you to list the foods that you like to eat now. In the third column, I want you to list the foods your parents like to eat."
2. After students have time to complete their lists, say, "Look at your lists and compare the different foods. In many cases the foods you eat now are different from the foods you ate as a baby and some of the foods you eat now may be different from what the adults in your household eat. This is also the case with different animals. Their young eat different foods from the adult."

Learning Activities

Learning Activity 1

1. Distribute the "Habitats" worksheet (attached). Say, "We are going to watch a video segment from *Natureworks: #5*, Habitats. I want you to look for the six main things an animal or plant needs to survive in its habitat. On your sheet, put one answer in each of the grayed sections." **START *Natureworks #5*: Habitats** video after the introduction when the girl says, "Water, it's one of the basics..." **STOP** the video after the girl says, "Cattails need more...grow in marshes and wetlands."
2. Say, "You should have written down six needs in each of the gray sections. Can anyone tell me what the main needs of an animal or plant are in order to survive in its habitat?" (*food, water, shelter, air, protection from enemies, protection for young are named*)
3. Say, "I am going to give you a few moments to write down some ways your habitat provides these things for you in the white boxes provided." Have the students share their answers while the teacher writes down their responses on an enlarged "Habitats" worksheet.

Learning Activity 2

1. Say, "We have looked at the different needs of an animal or plant needs in order to survive in its habitat. Your job, as an ornithologist, is to plan and design a butterfly garden that will attract a certain kind of butterfly. Many adult butterflies only eat certain foods and the larvae often eat something completely different. You will choose a kind of butterfly and design a garden where the butterfly and its larvae will have everything it needs to survive. Remember, every living creature needs three items in which to survive: food, water and shelter. For this activity, you will be going to the sites I have bookmarked for you and find the information that you need for your garden. You will work in groups of four." Distribute a copy of the "Questions to Guide Your Search" worksheet (attached) to each student. Say, "First, each group will

choose a type of butterfly found in your area. Describe what your butterfly looks like and what makes him different from other kinds of butterflies?" Second, your group will make or draw a diagram of the life cycle of a butterfly." Distribute a copy of the "Bookmarked Websites" (attached). Say, "You will now go to the sites that I have bookmarked for you and find the information that you need for your garden."

2. Distribute a copy of the "Larvae/Adult" sheet (attached) to each student. Say, "Third, you will find out what types of plants the adult eats and what types of plants the larvae eat. You will pair up with a partner in your group. One pair will research the larvae and what they eat and the other pair will research the adult and what it eats."

3. Say, "Each student pair will also research the plants (food) to see how and where they grow best. You don't want to plant a plant that does not like a lot of sun in an area where there is a lot of sun. Use the "Questions to Guide Your Search" sheet to help you with your search."

Culminating Activity

After each pair of students has found out about the food (plants) for the butterfly and larvae, they will return to their group of four. Say, "Each pair will share what plants will be needed for the butterfly garden as well as the needs for plant survival. Your group will use the findings to design your group's butterfly garden. You can make it in any shape that you want. Make sure you include plants that both adult butterflies and larvae like to eat. Also make sure you include places for water and shelter. Look at the "Questions to Guide Your Search" sheet to guide your plan. Each group will take a large sheet of paper and draw the plan for your garden. Use a pencil to draw your rough draft. Then pencil in the plants and their names. After you have penciled everything in and I have looked at it, you may use markers, crayons, or colored pencils to color in your diagram. If you plan to use symbols in your drawing, include a legend."

Assessment

Distribute a copy of the "Butterfly Garden rubric" sheet (attached) to each student. Say, "Look at the rubric sheet first to see what types of information I will be looking for when I evaluate your final butterfly garden diagram. When you are finished with the diagram, fill out the rubric sheet and turn it in with your diagram."

Cross-Curricular Extensions

Language Arts:

- Write and illustrate a picture book on the life cycle of a butterfly.
- Write and illustrate a picture book on the different types of plants needed to attract butterflies.

Math: Tabulate the cost of the plants and special soils that you will need to plant your garden.

Community Connections

1. Plant your garden at school and share it with other classes.
2. Find some butterfly gardens in your area. Look at how the gardener chose the plants in his/her garden.
3. Join a group in your area that promotes gardening.
4. If you live close enough, visit a nationally or regionally recognized garden such as the Victoria Butterfly Garden in Victoria BC, Canada or the Magic Wings Butterfly Conservatory in Massachusetts.

Additional Resources

Books:

Stokes, Donald W., [The Butterfly Book: an Easy](#)

Guide to Butterfly Gardening, Identification, and Behavior, Donald and Lillian Stokes and Ernest Williams., 1st ed., Boston : Little, Brown, c1991.

Ellis, Barbara W., Attracting Birds & Butterflies: How to Plan and Plant a Backyard Habitat, Barbara Ellis., Boston : Houghton Mifflin, 1997.

Audubon Society's Butterfly Gardening videorecording / National Audubon Society ; a Mastervision, E/D production; written by Dr. Paul A. Opler and Jim Ebner; script by Peter Kreutzer; produced by Jim Ebner and Peter Kreutzer; directed by Jim Ebner., New York : MasterVision, c1996

Mikula, Rick, Garden Butterflies of North America: a Gallery of Garden Butterflies & How to Attract Them, by Rick Mikula; Claudia Mikula, editor. Minocqua, WI : Willow Creek Press, 1997

Norsgaard, E. Jaediker (Ernestine Jaediker), How to Raise Butterflies, E. Jaediker Norsgaard; color photographs by Campbell Norsgaard. New York : Putnam, 1990, c1988

Taylor's Master Guide to Gardening, New York, NY: Houghton Mifflin, 1994

About the Author

Willard Sipple, Jr.

Willard's students from last year will see a familiar face in their classroom next year...his! As they enter the 5th grade, Willard will be moving right along with them to insure that the transition is a smooth one. Although not used throughout Virginia, Stafford County is no stranger to "multi-year teaching." This concept enables teachers to be knowledgeable of each individual student's strengths and weaknesses. As a technology lead teacher for Grafton Village Elementary School, his responsibilities include conducting classes on the technology competencies for teachers and sponsoring Grafton's Environmental and Newspaper Clubs. Willard is a member of the Clinical Faculty at Mary Washington College in Fredericksburg. He is currently working toward National Board Certification as a Middle Childhood Generalist, which is a special type of certification for children ages 8-11. A graduate of Furman University, Willard has a Master's Degree in Early Childhood Education. In March 2001, he presented a workshop on Webquest and differentiation at the VSTE Conference. Willard is presently involved in designing a resource guide for the Children's Gardens at Ferry Farm, George Washington's childhood home. He enjoys reading science fiction, and spending time with his family and dogs.