



Butterflies (Grades K-4)

The Huntsville Botanical Garden currently offers a school field trip for kindergarten through 4th grade students called *Butterflies*. Students satisfy Alabama Course of Study Science Standards in the category labeled Life Science. In addition to spring and fall field trips to the garden children are invited to participate in special butterfly events scheduled throughout the spring as twenty (20) varieties of newly hatched butterflies are released into the Nature Center where waterfalls, ponds, streams, lush vegetation and flowering plants invite visitors to experience this varied and colorful collection of flora and fauna.

Pre-visit Activity – Raising Butterflies in the Classroom

These activities are for those who are raising their own butterflies in the classroom.

1. Use a paintbrush to transport your caterpillars
 - Hold the paintbrush in front of the caterpillars head.
 - Rotate the brush away from the caterpillar and he will grab hold.
 - To release the caterpillar, rotate the brush towards the caterpillar.
2. Remind the children to always be careful when observing their caterpillars

Objective:

Learning How to Raise Butterflies in Captivity

Materials: Per student for all three activities

- bristled paintbrush, clear cups, 1 piece of construction paper, 5-8 pieces of white paper, 12-inch string, pencils, crayons, measuring tape, fine-tip permanent marker, plastic petri dish, twig or chopsticks, flashlight

Activity: **Making A Journal**

- Journals encourage students to make in depth observations and record their findings as all true scientists do.
- Give each child a piece of construction paper and have them fold it in half on the short side.
- Give each child 5-8 pieces of white paper stacked together.

- Instruct the children to fold the paper in half on the short side.
- Instruct the children to place the white papers inside the construction paper, fold to fold.
- Give each child a piece of string and have them place the string along the fold and tie their books closed at the fold.
- Let the students decorate their covers according to the topic.
- The first page of the journal should have a drawing of the caterpillar they are observing. Throughout the journal they will take notes on the daily activities of their caterpillar, draw a picture of it in its chrysalis form, and draw a picture of it in its butterfly form. Any experiments can also be documented in the journal.

Activity: **Measuring the Length of a Caterpillar**

- Give each child a measuring tape and a permanent marker
- Show the children how to draw a ruler on the side of their caterpillar cup by placing their ruler either vertically or around the cup (your choice) and marking off the inches (or centimeters) onto the cup with the marker. You will want to mark off to $\frac{1}{4}$ inches if possible (or millimeters). Have the children do the marking before the caterpillar takes up residency.
- At the end of each school day, the children can use the ruler to measure how much their caterpillar has grown and record it in their journals.
- You can take this farther by having the children record the number of molted skins they find on the bottom of the cup, or by having them count the frass balls each day.

Extension:

- Figure out daily and average bathroom breaks of the caterpillar.
- Determine the average growth size per day of all of the caterpillars.
- Observe and record how often the caterpillar molts.

Activity: **Go Toward the Light (From Live Butterfly Activity Book)**

- Ask the children where they usually find caterpillars on a plant (near the top, outside leaves). Ask the children why they think the caterpillars are there. Ask them how the caterpillars know the best leaves are at the top and outside of the plant.
- Give each child a petri dish and paintbrush.
- Have the children carefully remove their caterpillars from their cups and place them in the petri dish. The children should then place the petri dish on top of their cup.
- Give each child a stick or chopstick. Be sure to tell them to always hold the stick on one end or the other, not in the middle.

- Instruct the children to carefully move their caterpillar from the petri dish to the stick.
- Tell the children to hold their sticks vertically (up and down) and observe what their caterpillar do.
- When the caterpillars have reached the top of their sticks, have the children turn their sticks around so the caterpillar is at the bottom. What does the caterpillar do this time (climbs back to the top)?
- Have the children repeat this 2 more times. Remind them that all experiments have to be repeated to make sure the first result was not an accident.
- Ask the children why they think the caterpillar crawls up the stick.
- If you have windows in your room:
 - Line the children in a single row in front of the windows with their backs to the windows. They should be blocking the light from their caterpillars.
 - Turn the lights off.
 - Have the children turn around slowly and hold their sticks horizontally so they are parallel to the floor.
 - Ask the children which way the caterpillars are crawling (towards the windows).
 - Once the caterpillars have reached the end of the stick, have the children turn the stick around so the caterpillars are closest to them and have them watch what happens.
 - Remind the children to repeat these steps two more times to make sure their experiment results are accurate.
- If you do not have the space or windows:
 - Give each child a flashlight and have them turn it on.
 - Instruct the children to hold their sticks horizontally.
 - Turn the classroom lights off.
 - Instruct the children to hold the flashlight in front of the caterpillars face.
 - When the caterpillar gets close to the light, have the children hold the light at the other end or turn the stick around.
 - Repeat these steps to be sure experiment results are correct.
- The caterpillar should crawl towards the light.
- Ask the children what they think would happen if you held the stick vertically again and held the flashlight at the bottom of the stick.
- Take their answers, and then do the experiment to find out. It is best if you do this experiment on your own.
 - Hold the stick at the top and the flashlight at the bottom.
 - Point the flashlight towards the caterpillar and watch what happens.
 - Remember to repeat to make sure experiment is correct.
- Have the children return their caterpillars to their containers and replace the lids.

- Remind the children about the question you asked at the beginning of the experiment (where do you find caterpillars on a plant and how do the caterpillars know that is where the good food is).
- Ask the children if they now know the answer to that question.
- Help lead them to the fact that caterpillars will almost always crawl towards the light. The caterpillars have figured out that their food is usually in brighter areas as opposed to darker areas. The instinct to climb also helps in case they fall off their plant. Climbing towards the light will help get them back to their food and away from danger.

- **References: Books-**

Live Butterfly Activity Book by Insect Lore

A World Of Butterflies by Brian Cassie

One Hundred Butterflies by Harold Feinstein

Are You a Butterfly? (Backyard Books) by Judy Allen

Peterson First Guide to Butterflies and Moths (Peterson First Guide (R))
by Paul A. Opler

National Geographic Readers: Great Migrations Butterflies
by Laura F. Marsh

The Life Cycles of Butterflies: From Egg to Maturity, a Visual Guide to 23
Common Garden Butterflies
by Judy Burris and Wayne Richards

Butterflies of North America (Kaufman Field Guides)
by Kenn Kaufman and James P. Brock

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