# Butterfly Book

## Alabama Wildlife Federation Activity

**Grade Levels**
3-5

**Overview**
Students will create a butterfly book where they will keep a journal of their observations in the butterfly garden.

**Subject Areas**
Science, Language Arts, Arts

**Duration**
Book making: 25 minutes
Journaling: 30 minutes

**Learning Objectives**
Students will observe the life stages of the butterfly and identify butterflies in their habitat lab.

**Alabama Course of Study Objective Correlations for Science**
Third Grade: 7, 8 & 13
Fourth Grade: 5 & 6
Fifth Grade: 9

**Materials**
- Butterfly & Caterpillar Field Guides (*see p2 for suggestions*)
- Copies of the butterfly book stencil from page 4 (one for each student or group of students)
- Colored copy paper or construction paper (8.5' x 11")
- White copy paper (8.5" x 11")
- Pencils
- Scissors
- Stapler
- Ribbon or yarn (16" strips)
- Glue
- Colored pencils/markers(*optional*)

**Created by Shirley Farrell, Alabama Department of Education**



## Background Info

Butterflies and moths undergo complete metamorphosis through their four different life stages:
**Egg** - A butterfly starts its life as an egg.
**Larva** - The larva (caterpillar) hatches from an egg.
**Pupa** - The caterpillar then turns into a pupa (an encasement called a chrysalis), where it goes thru a metamorphosis into a butterfly.
**Adult** - Then a beautiful, flying adult butterfly emerges from the pupa.

For more details about the butterfly's life cycle, see page 4. Students will explore the habitat lab looking for the various stages of the butterfly, learn to identify different species of butterflies, and write a journal about the butterflies they observe. For more identification information about butterflies including photos of each butterfly, its larva, chrysalis, or egg, visit: http://bugguide.net www.npwrc.usgs.gov/resource/distr/lepid/bflyusa/al/toc.htm or www.whatsthiscaterpillar.co.uk/america/.

## Preparation

None

## Procedure Part I: Create the Butterfly Book

1. Let the students pick one piece of colored copy paper or construction paper for the cover of their butterfly book.

2. Hand out 3 pieces of white copy paper and a copy of the butterfly book stencil to each student.

3. Place the white copy paper on top of the sheet of colored paper (make sure to line up their edges). Then fold the stack of paper in half so that the colored paper is on the outside, you have a stack of pages that are 8.5" tall and 5.5" wide (like a book), and the book's pages open on the right side (as a book should).

4. Place the butterfly stencil (from page 4) on the front cover of the book, and trace the outline of the butterfly with the wing on the right side of the page. Then cut along the stencil line with your scissors.

5. Staple the left side of your book three or four times as close to the edge as possible to "bind" the book along its "spine." The staples should appear vertically along the edge of the book so that the pages still open easily.

6. Next, open to the middle of your book. Place the ribbon or yarn along the inside seam with 1" of the end of the ribbon sticking out the top of the book and the other 8" of the ribbon hanging out the bottom of the book (use glue if you would like to secure the ribbon along the inside seam the book). Close your book, and then wrap the ribbon around the binder of the book, tying it off at the top (again, use glue if you would like to secure the ribbon to the left side of the front cover of the book) . The 2 (two) 1" strips remaining at the top can act as the antenna for the butterfly book.

7. The students can decorate the outside cover with their colored pencils.

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**Habitat Lab Connection**
Students will observe the butterfly garden and other areas of their habitat lab as they search for different stages of the butterfly's life cycle and identify different species of butterflies.

**Literature Connections:**
- ⇒ *The Hungry Caterpillar* by Eric Carle (ISBN: 10-039925045X)
- ⇒ *Are you a Butterfly* by Judy Allen (ISBN: 10-0753456087)
- ⇒ *Where Butterflies Grow* by Joanne Ryder (ISBN: 10-0140558586)
- ⇒ *From Caterpillar to Butterfly* by Deborah Heiligman (ISBN: 10-0064451291)
- ⇒ *Caterpillar Spring Butterfly Summer* by Susan Hood (ISBN: 10-079440149X)

**Butterfly Field Guides**
- ⇒ *Stokes Butterfly Book: Complete Guide to Butterfly Gardening, Identification, and Behavior* by Donald & Lillian Stokes **(**ISBN:10-0316817805)
- ⇒ *The Life Cycles of Butterflies: From Egg to Maturity, a Visual Guide to 23 Common Garden Butterflies* by Judy Burris **(**ISBN:10-1580176178)
- ⇒ *Peterson Field Guide to Eastern Butterflies* by Paul A Opler (ISBN: 10-0395904536)
- ⇒ *Peterson First Guide to Caterpillars of North America* by Amy Bartlett Wright and Roger Tory Peterson (ISBN: 10-0395911842)
- ⇒ http://bugguide.net



**Procedure continued…**

**Part II: Begin Journaling**

Take the students outside to your butterfly garden in the habitat lab. Tell students they are keeping a scientific journal of the butterfly garden as they search the garden for signs of the butterfly's four life cycle stages. See page 4 for "Helpful Hints for Butterfly Observation." They are now ready to write and sketch their observations. Scientists write detailed observations. Remind students to include scientific vocabulary, such as larva, pupa, and metamorphosis. Scientists also use sketches and label parts in their journals. Give students 10-15 minutes for observations. Give students time to share their observations. You could make each page a stage of the life cycle &/or use each page for a different species of butterfly observed.

**Assessment**

Assess the students on the entries of their journals. Are they entering the scientific vocabulary words? How detailed are the entries? Have students sketched any butterflies? Have they identified the four life cycle stages of a butterfly?

**Extensions**

Students can use field guides to identify the species of butterflies in their garden. Students can expand their journal to include the other insects found in the garden.

**Literature Connection**

Butterfly and caterpillar field guides.

**Notes**

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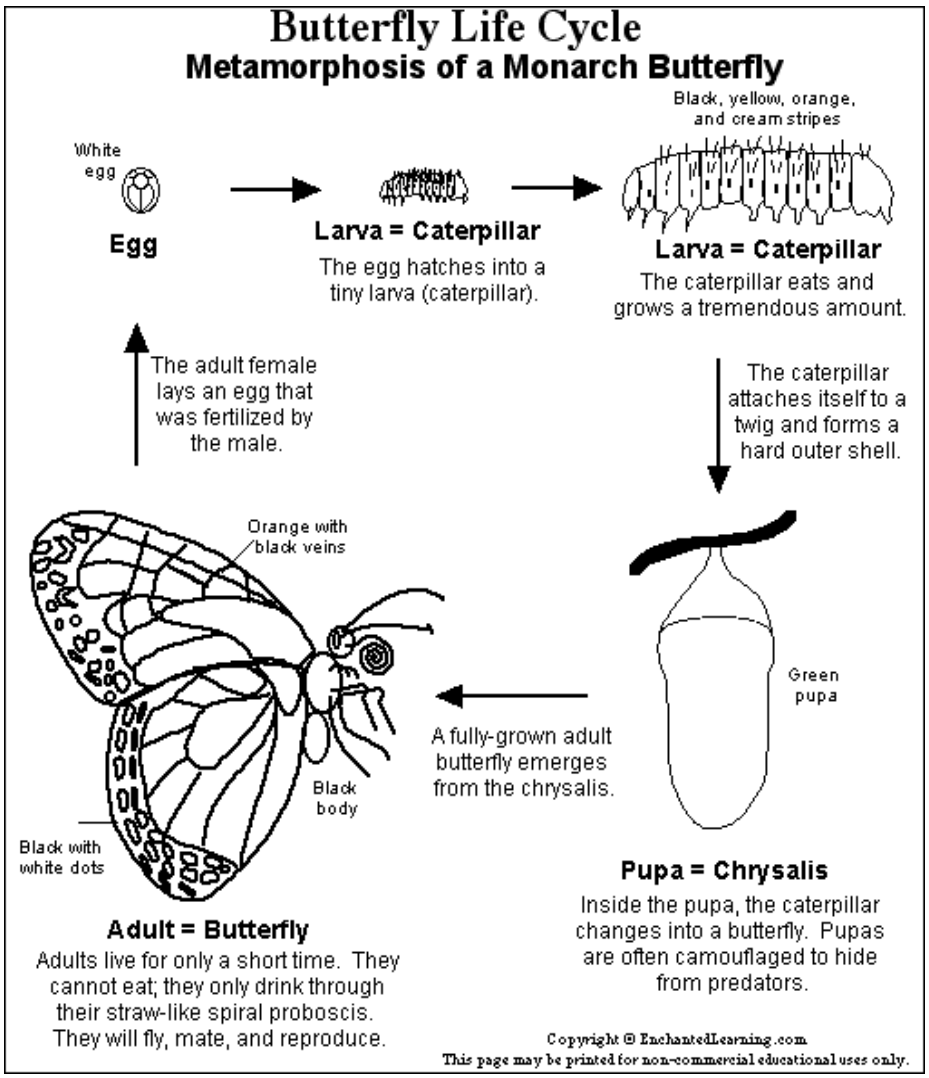
ALABAMA WILDLIFE FEDERATION ACTIVITY

**Supplemental Information about the Butterfly Life Cycle**

## SUPPLEMENTAL INFORMATION




Female butterflies lay many eggs during their short life to insure that even a small number of these eggs will survive. Eggs are usually laid on the under surface of a leaf of the host plant (butterflies and moths use specific host plants for their eggs and larva). For example, the Monarch butterfly lays its eggs on the bottom of the milkweed plant. There is a yolk inside each egg that nourishes the developing larva. When it is time to hatch, the larva (caterpillar) gnaws open the egg shell with its jaws. Afterwards, many species will only eat the leaves of their host plant for nourishment. The caterpillar is then in the larval stage for two-four weeks, eating almost constantly and molting four or five times as they grow very rapidly. When larval growth is done, the larva stops eating and attaches itself to a sheltered spot such as on a twig or leaf. It then splits open, loses its exoskeleton, and is encased in a chrysalis (pupa) as it undergoes metamorphosis. It does not eat during this stage. After a few days (or many months for some), an adult but-terfly emerges full-grown from the chrysalis. The primary purpose of the adult stage is to mate and reproduce.

Supplemental information provided by Enchanted Learning, www.enchantedlearning.com.

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**Habitat Lab and Discovering Our Heritage Connection**
Students will observe the butterfly garden and other areas of their habitat lab as they search for different stages of the butterfly's life cycle and identify different species of butterflies.

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**Helpful Hints for Butterfly Observation:**

**Eggs**
Eggs can most often be found on the under-side of the host plant in your butterfly garden. For monarchs, eggs can be found on the under-side of the milkweed leaves. Again, sometimes you can find eggs on the top side of the leaves but the monarch normally lays eggs underneath the leaves unless the butterfly is disturbed or feels rushed for one reason or another. If the eggs fall off the leaf, it is very difficult to re-attach, so be careful not to touch the eggs.

**Caterpillars**
Again, look around the host plants in your butterfly garden for signs of the caterpillars. For monarchs, look for milkweed plants with little dark green pellets on them—those are caterpillar droppings and they usually give away a location if the caterpillar hasn't moved on to a different milkweed plant. Caterpillars normally like to stay shaded from the sun and will usually be on the under-side of a leaf, along the stem-line of the milkweed plant itself or within the tiny gathering of leaves at the top of the milkweed plant. On rare occasions, you may find one here or there exposed out in the open. But generally they like to be shaded since direct sunlight, for long periods of time, can kill them.

Some good host plants to find eggs and caterpillars include:

| Host Plant | Butterfly Species |
|---|---|
| Milkweed | Monarch Butterfly |
| Thistle, Daisy | Painted Lady |
| Paw-Paw | Zebra Swallowtail |
| Parsley, Dill, Fennel | Black Swallowtail |
| Alph alpha, Clover | Clouded Sulphur |
| Willows, Poplars | Viceroy |

**Butterflies**
The adult butterflies are most often seen drinking nectar from flowers in the butterfly garden.

Some good nectar plants to find butterflies include:

| Nectar Plant | Butterfly Species |
|---|---|
| Butterfly weed | Monarch Butterfly |
| Zinnia | Painted Lady |
| Blueberry, Blackberry | Zebra Swallowtail |
| Red Clover, Thistle | Black Swallowtail |
| Butterfly bush | Clouded Sulphur |
| Golden Rod, Aster | Viceroy |

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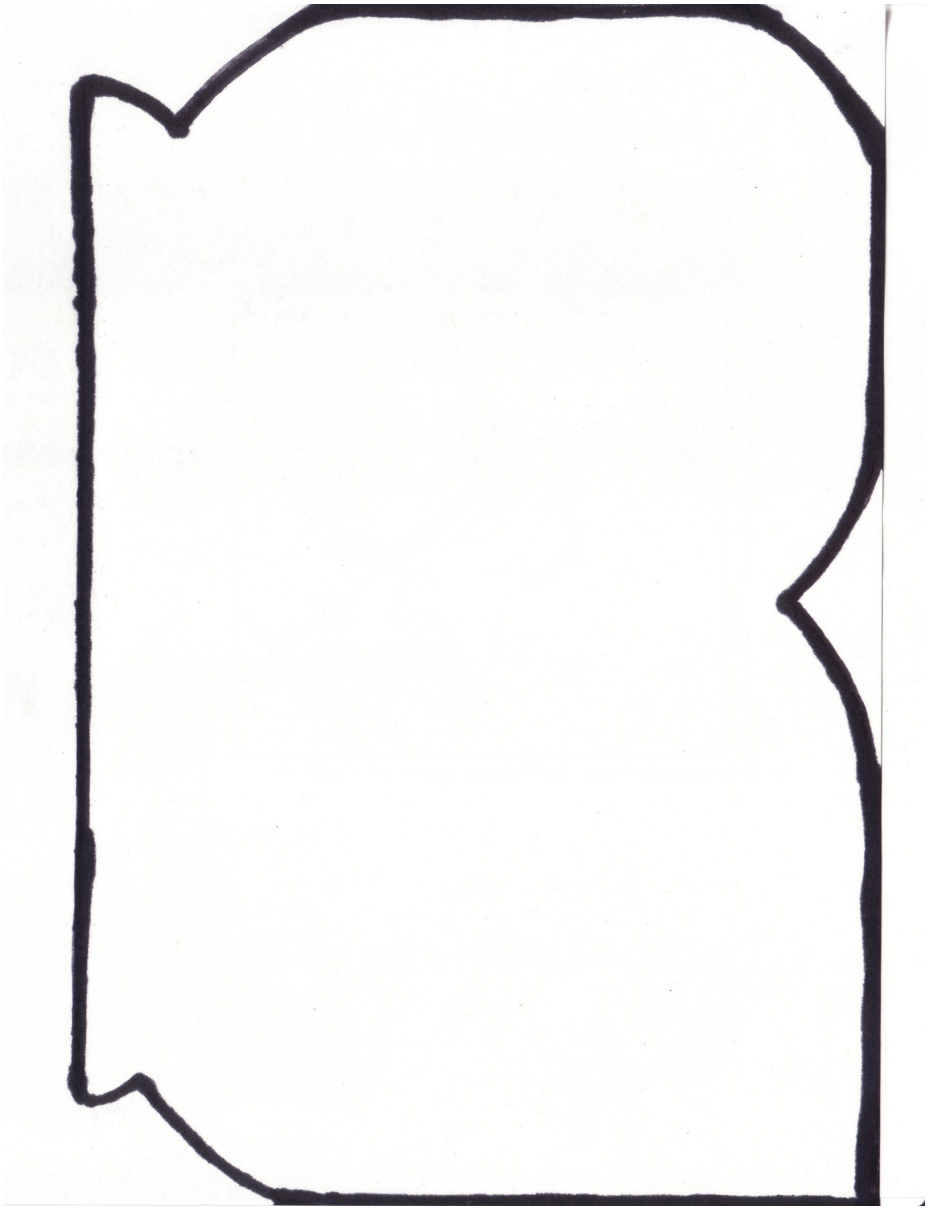
## Alabama Wildlife Federation Activity

### Butterfly Stencil





*The Habitat Learning Lab Program is a partnership between:*

*Alabama Cooperative Extension System*

*Alabama Wildlife Federation*
www.alabamawildlife.org/habitat-learning-lab/

*Alabama Department of Conservation & Natural Resources*