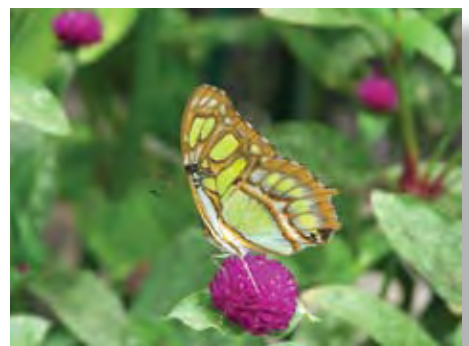


Creating a Butterfly Garden

at Your School



Creating a class or school butterfly garden is a wonderful hands-on way to expose your students to nature. Butterflies are not just beautiful to watch; they also play a key role in plant reproduction by transporting pollen from flower to flower. Loss of habitat, increased pesticide use, and pollution are the primary reasons their numbers are declining. Working with a butterfly garden teaches students that even small steps can help improve the environment. Butterfly gardens aren't just for younger students—colleges and universities can incorporate them for campus beautification and as a resource for biology classes.

You don't need a lot of space for a butterfly garden. Search the Internet or consult local parks or nature centers with butterfly-friendly habitats for advice on creating and maintaining a butterfly garden. Your students will also enjoy visiting these locations on a field trip.

Butterflies are attracted to a variety of plants, but certain



flowers and bushes have proved to be particular favorites. Many butterflies will lay their eggs on only one type of plant: For example, Monarchs will lay their eggs only on milkweed; Zebra Longwings on passion flowers. Providing the preferred types of plants will help ensure that butterflies thrive in your area.

Planting many different types of flowers and bushes will entice a variety of butterflies to visit your

garden. They especially like purple and yellow flowers, as well as white, blue, and red. But brightly colored clothes will startle them. Advise students to wear blues, greens, and camouflage clothing, but not black, loud plaids, or patterns, while working with butterflies.

How to Get Started

How can you attract butterflies? The easiest way is to plant enticing flowers and bushes and wait for them to discover your garden. Or you can obtain chrysalises or live butterflies (see section on "Ordering

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Butterflies flourish in warm, but not too hot temperatures. They cannot fly if the temperature is below 60° F. (15.6° C.). So the best time to create a butterfly garden is during an extended period of warm weather. However, if you have an enclosed butterfly shelter, you will need a fan or other method of air circulation and temperature control, especially if you live in a tropical climate.

Most butterflies live for only a few weeks, but some survive long enough to migrate long distances. Your students will enjoy using a map to locate the places the butterflies go when the weather gets cold.

Select a sunny plot of land on school grounds to cultivate, or even strips of dirt next to the buildings. Provide protection from the wind by placing the garden near natural barriers like buildings or trees, or include flowering shrubs in your garden plan. A raised-bed butterfly garden, created from a frame of bricks, concrete blocks, treated lumber, or railroad ties and filled with soil requires less fertilizer and water than regular

garden plots, drains well, and makes efficient use of space. Work some potting soil, compost, or fertilizer into the loosened dirt.

If your school is in the city, or in a location with extreme temperatures, you can create a container garden or window boxes with flowers and herbs that attract butterflies. Bring the containers inside in bad weather, and you and your students can enjoy them all winter.

Be sure to choose a large variety of plants that are attractive to butterflies (see list on page 28). You can buy plants from a local nursery or raise them from seeds in your classroom. When purchasing from a retailer, ask what kinds of pesticide have been used on the plants, as some chemicals can kill butterflies and their caterpillars. Keep in mind your school schedule, the local climate, and the amount of sun available in the garden area. Avoid introducing invasive non-indigenous plants.

Contact local firms to see if they will donate plants, and/or send a horticulturalist to talk to your class about gardening.

The section on resources lists a few Websites that provide butterfly garden designs. Some basic guidelines: Using a narrow strip of land or a raised flowerbed makes it easier to cultivate, water, and add new plants. Arrange the garden with tall plants as the back row, medium plants in the middle area, and shorter plants in the front row. Replace the plants as the flowers fade.



Butterflies are not just beautiful to watch; they also play a key role in plant reproduction by transporting pollen from flower to flower.

See the Resources for a list of butterfly identification books, activity books, Websites, and organizations where you can obtain more information or order butterfly pavilion kits and other supplies. *The Family Butterfly Book* by Rick Mikula offers step-by-step instructions for raising butterflies and creating a habitat for them, including advice on finding butterfly eggs and identifying caterpillars. It also offers tips for making containers for the eggs or caterpillars, butterfly nets, and cages for adult butterflies.

Obtaining Butterflies

Caterpillars can often be found on the leaves and stems of wildflowers, garden flowers, tall grasses, and shrubs, and on trees. Look for torn or jagged leaves of a favorite host plant, and clumps of caterpillar droppings. Warn children not to

touch unfamiliar caterpillars, as some can cause a sting or rash.

If you buy butterflies, be sure to obtain only varieties that are native to your area. Do not import butterflies or chrysalises from other countries. Make sure that the breeder/shipper has the proper permits.

Do not collect butterflies in U.S. state or federal parks. Under the Plant Protection Act, there is a \$50,000 fine for illegally transporting live butterflies across a state line.

Butterfly Favorites

Trees, bushes, and shrubs: Ash, butterfly bush, button bush, dogwood, eucalyptus, lilac, oak, plum, poplar, sassafras, spice bush, sweet pepperbush, tulip tree, Virginia sweetspire, wild and choke cherry, willow.

Flowering plants: aster, bee balm, black-eyed Susan, blazing star, Brazilian butterfly weed, caladium, clover, cosmos, daisy, dutchman's pipe, Egyptian starcluster, false indigo, flowering vinca, globe amaranth, goldenrod, hollyhock, hop, impatiens, joe-pye weed, lantana, lavender, lobelia, lupine, Mexican sunflower, marigold, milkweed, nasturtium, New York ironweed, pansy, passion flower, phlox, polka dot, purple coneflower, salvia, snapdragon, sunflower, tuberous begonia, verbena, vetch, violet, Virginia snakeroot, yarrow.

Herbs: anise, basil, dill, fennel, mallows, marjoram, mint, mustard, oregano, parsley, rue, sweet bay, sassafras.

Other: blueberry, cabbage, carrot, citrus, eucalyptus, hyssop, pea.

Care and Feeding of Butterflies

Keep chrysalises out of the sun. They can be stored in an airtight container in the refrigerator for a time. After being warmed up to room temperature, the butterflies will emerge.

Butterflies look very fragile, but are amazingly sturdy. They can be handled if you do so with care. A small paintbrush is the best way to transport a caterpillar.

In addition to flowering plants, bushes, and trees, butterflies also like overripe fruit, particularly melon. You can create your own butterfly food with a five to 10 percent sugar water solution (one teaspoon of sugar to a cup of distilled water), or use hummingbird food if it is diluted with distilled or bottled water.

Adult butterflies need small, shallow puddles of water for drinking. A fountain or birdbath will supply what rain and dew cannot.



Creating a class or school butterfly garden is a wonderful hands-on way to expose your students to nature.

Get your students involved in a butterfly garden, and watch their eyes light up as a butterfly emerges from “their chrysalis” or an adult butterfly lands on their shoulder!



Beverly J. Robinson-Rumble is the Editor of *The Journal of Adventist Education* and an avid observer and photographer of butterflies.

RESOURCES

Handbooks*

- Carter, David A., *Butterflies and Moths* (Dorling Kingsbury, 2002).
Field Guide to Butterflies of North America (Alfred A. Knopf, 1981).
 Latimer, Jonathan P., and Karen Stray Notting, *Butterflies* (Houghton Mifflin, 2000).
 Mitchum, Robert T.; and Herbert Zim, *Butterflies and Moths* (St. Martin's Press, 2002).
 Opler, Paul A. *Butterflies and Moths* (Houghton Mifflin, 1993).
 Stokes, Donald; and Lillian Stokes, *Stokes' Beginner's Guide to Butterflies* (Little, Brown & Co., 2001).

Coloring Books/Activity Books*

- Brooklyn Botanic Garden, *Butterfly Gardens*, Alcenda Lewis, guest ed., 1000 Washington Ave., Brooklyn, NY 11225.
 Opler, Paul, *Butterflies of North America* (Roberts Rinehart Pub., 1993).
 Wynne, Patricia J., *Butterfly Activity Book* (Dover Pub., Inc., 2007).

Other Helpful Books*

- Hagen, Claire, ed., *The Butterfly Gardener's Guide* (Brooklyn Botanic Garden All-Region Guides). (Science Press, 2003).
 Mikula, Rick, *The Family Butterfly Book* (Storey Publishing, 2000): <http://butterflywebsite.com/familybutterflybook/index.cfm>.
 Roth, Sally, *Attracting Butterflies and Hummingbirds to Your Backyard* (Roddale Press, 2002).
 Stokes, Donald; Lillian Stokes; and Ernest Williams, *Stokes Butterfly Book: The Complete Guide to Butterfly Gardening, Identification, and Behavior* (Little,

Brown & Co., 1991).

Tekusky, Matthew, *The Butterfly Garden: Turning Your Garden, Window Box, or Backyard Into a Beautiful Home for Butterflies* (Harvard Common Press, 1985).

Xerces Society/Smithsonian Institution, *Butterfly Gardening, Creating Summer Magic in Your Garden* (Sierra Club Books, 1998).

* Many of these books are available from Amazon.com.

Websites

- North American Butterfly Association (regional brochures): <http://www.naba.org/>
 National Wildlife Federation: <http://www.nwf.org/backyard/butterflies.efm>
 Monarch Watch: <http://www.monarchwatch.org/garden/index.htm>
 Montana State University-sponsored Children's Butterfly Site: <http://bsi.montana.edu/web/kidsbutterfly/>
 University of Kentucky Entomology, “How to Make Butterfly Gardens”: <http://www.ca.uky.edu/entomology/entfacts/ef006.asp>
 Teacher Website: “Bloom's Butterfly Garden Basics”: <http://udel.edu/~lynnneb/butterfly/>
 Butterfly Gardens and Exhibits in 38 Countries: <http://butterflywebsite.com/gardens/index.cfm>

Supplies

- Butterfly Pavilion (includes 75-100 butterflies): <http://insectlore.stores.yahoo.net/gibupa100bu.html>
 Butterfly Garden (with live caterpillars): <http://insectlore.stores.yahoo.net/butgarwitliv1.html>
 Butterfly Garden Habitat, Butterfly Pavilion, Butterfly Curriculum: <http://24hours7days.com/Butterflies/Butterflies.html>

Butterfly Garden Design

- <http://sciencespot.net/Pages/ncgardenpg.html>
<http://www.upf.com/news/cfla.html> (Florida)
http://www.mygreathome.com/outdoors/garden_butterfly.htm