

ADDITIONAL EDUCATIONAL ACTIVITIES

Below is a list of lesson plans, activities, and prompts related to the Mission Blue Butterfly (MBB), not included in the main module.

Young to Elementary

- Butterfly
 - Lifecycle of a Butterfly,
 - Video, [WiseLearn](#), Grade 1
 - Multiple age/grade level lessons, [National Wildlife Federation](#)
 - *Monarch Butterfly, manual for the environmental educator*, Pre-k to Grade 3, [Royal Mail via Google Books](#)
- Pollinators
 - Pollinator Power, Lesson Plan with iPads, Grade 2, [WiseLearn](#)
 - Outside Activity, K-3, [Track Pollinators](#)
- Reading:
 - *The Very Hungry Caterpillar* by Eric Carle
 - K-3: Create your own [mini sequence book](#)
 - Grades 1-2, 1 week program [Butterfly Metamorphosis](#)
- Nature Journal
 - *Backyard Bugs* Nature Journal Prompt & Booklet, [Grassroots Ecology](#)

Middle School

- Butterfly lifecycle, multiple Lessons, multiple ages, [National Wildlife Federation](#)
- Natural selection
 - Explore natural selection through [Phet Interactive Simulations from University of Colorado](#)
 - Afterward, discuss and explore how natural selection has affected the MBB over time
- *Art in Nature*, lesson from [The Autry Museum of the American West](#)
- San Francisco Bay Watershed Curriculum, [Save the Bay](#)
- Prompts:
 - What do you find most interesting about the Mission Blue? Write a poem or nature journal entry from Mission Blue's point of view.
 - The MBB is a master at "hibernating" called diapause in caterpillars. Research different hibernation strategies and compare it to other insects or wildlife.
 - MBB only lives in a few spots in the Bay Area. What does it mean to be endangered? What can we do to help the MBB? If you were the Governor of California, what would you do to help the MBB?
 - MBB needs native lupine plants to survive. What does it mean for a plant to be native? Invasive? Why are planting native plants important?

High School

- Bugs 101: Insect-Human interactions, [Online Coursera Course offered by University of Alberta](#)
- San Francisco Bay Watershed Curriculum, [Save the Bay](#)
- Explore the quote: “A butterfly's flapping in the Amazon Forests can cause a storm in the United States”. Edward N. Lorenz
 - Step 1: Initial thoughts on the quote? True? False? True to some degree?
 - Step 2: Read:
 - [Can a Butterfly in Brazil Really Cause a Tornado in Texas?](#)
 - [The butterfly effect is not what you think it is](#)
 - Step 3: Compare and contrast the two articles. Do you agree with either journal article?
- Prompts:
 - Symbiotic and Parasitic Relationships. Learn about the symbiotic relationship of the MBB with native ants and the parasitic wasps. Research other local native species with symbiotic and parasitic relationships.
 - Research what it takes to get a species listed as Federally endangered. What does it mean to be listed as an endangered species at the state and federal level?
 - Explore what strategies are used to restore insect/butterfly/wildlife species to healthy populations. Create a 5-year recovery plan for the MBB.
 - The MBB only inhabits a few locations in the Bay Area. What characteristics make a good MBB habitat? Make a map of the potential historic range of the MBB based on their preferred type of habitat.
 - What adaptations help the MBB survive?
 - MBB needs native lupine plants to survive. Why is planting native plants important? What other species benefit from restoring native Lupines for the MBB?

Pollinator Information

- USA Wide:
 - *Bring Back the Pollinators*, a four step resource on helping pollinators, [Xerces Society](#)
 - [Pollinator Partnership](#) facilitate Pollinator Week, June 20-26, 2022
- West Coast
 - *Pollinators: An Information and Action Guide for West Coast Gardeners*, [Pacific Horticulture](#)
- California Specific:

- Pollinator Information, [California Fish and Wildlife](#)
- The Pollinator's Journey, K-12 Lessons, [National Wildlife Federation](#)
 - Scroll down to the "Pollinators" section

Earth Day/Month Specific

- Earth Day Teacher Toolkits from [Earthday.org](#)

Outdoor/Nature Walk Activities

- Explore California Phenology, [K-College](#)
- Explore the butterflies of Los Altos Hills. Take a hike and use this [pocket-sized guide](#) created by local Naturalists, John Metcalfe.
- Find Art in Nature, [Autry Museum](#) of the American West
- Rear your own caterpillars. Basic instructions from [Wildlife Insight](#).

Supplies

- Butterflies & Moths: Guides, kits, nets, posters, [Acorn Naturalists](#)

If you have an activity or lesson idea you think should be included, please email chloe@pacificbeachcoalition.org