# Back to NativesEDUCATION

## SCHOOLYARD HABITAT GARDEN PROGRAMS

### FOR K ~ 6TH GRADES

The Back to Natives Schoolyard Habitat Garden Program was developed to educate students about the value of native plants and wildlife habitat, especially in an urban environment. Our habitat garden curriculum meets many of the California State Science or Social Science Standards for Kindergarten through 6th grade. These exciting, hands-on programs can stand alone, but are more beneficial for students if presented in combination with one of our Traveling Naturalist programs.

**Cost:** $9.50/student, min 20. Cost includes an initial onsite consultation, pre-digging, site conditioning, educational activities, planting guidance, and a one gallon sized plant for every two students.

**Schedule:** 949-509-4787 or education@backtonatives.com

### GRADE K "5 SENSES GARDEN" (Standards: 2c, 4a)

Children plant a "5 Senses" Garden, planting California Native plants that have distinctive sensual qualities. Bladder pod plants have seed pods that rattle. Sages have fragrant leaves and flowers. Lemonade berry has seeds that taste sour. Indian mallow has velvety leaves. Buckwheat has flowers that change from pink to rust, and deerweed has flowers that change from yellow to orange.

### GRADE 1 "PLANT PARTS GARDEN" (Standards: 1a, 2c, 2e)

Children plant a "Plant Parts" Habitat Garden, planting California Native plants while the Naturalist emphasizes roots, leaves and other plant structures. Each species planted will be included because it also provides food or shelter for animals such as birds and butterflies. Harlequin beetles live on Bladderpod plants. Monarch butterflies eat milkweed as caterpillars. Hummingbirds drink nectar from California Buckwheat. The Naturalist will show students how to combine solids (soil), liquid (water), and gasses ($CO_2$) together to create a perfect environment for their plant.

### GRADE 2 "METAMORPHOSIS GARDEN" (Standards: 2b, 2f)

Children plant a "Metamorphosis" Garden, planting California Native plants while the Naturalist emphasizes flowers, fruit and other plant structures. Each species planted will be included because it is a butterfly host plant – meaning caterpillars eat the leaves of that specific plant before they become chrysalises. Monarch butterflies eat milkweed as caterpillars. Mourning Cloak butterflies eat willow as caterpillars. Anise Swallowtail butterflies eat Lomatium as caterpillars. Painted Lady butterflies eat Bush Mallow as caterpillars.

## GRADE 3 "ADAPTATION GARDEN" (Science: 3a, 3b, 3c, 1d)

Children plant an "Adaptation" Garden, planting California Native plants adapted to the climate and soil at their school. Each species planted will have unique adaptations that the children will learn about during their planting experience. Laurel sumac has "taco shaped" leaves to create shade. Buckwheat has tiny leaves to conserve water. White sage has light colored leaves to reflect the sun's heat. Indian mallow has tiny hairs on its leaves to shade the surface from the sun. Lemonade berry has waxy leaves to retain water. Toyon has pointy leaves to reduce the surface area exposed to the sun. The Naturalist will also emphasize flowers, fruit and other plant structures, as well as the solids (soil), liquids (water) and gasses (air) needed by the plants to thrive.

## GRADE 3 "TONGVA GARDEN" (History-Social Science, 3.1.2, 3.2.1, 3.2.2)

Children plant a "Tongva" Garden, planting California Native plants that were once used by the Gabrielino (Tongva) for food, shelter, clothing, tools and medicine. Students learn how the indigenous people used the resources of the local region in their customs, traditions and daily life. Laurel sumac predicted the weather. Buckwheat seeds were ground for flour. White sage was used as incense and shampoo. Lemonade berry made a sour drink. Toyon bark cured stomach aches. California sagebrush was insect repellant and black sage was food seasoning.

## GRADE 4 "FOOD WEB GARDEN" (Science: 2b)

Children plant a "Food Web" Garden, planting California Native plants that provide food or shelter for animals such as birds and butterflies. Harlequin beetles live on Bladderpod plants, birds eat harlequin beetles and hawks eat birds. Mourning Cloak butterflies eat willow as caterpillars, willow branches provide structure for hummingbird nests, and hummingbirds pollinate California Fuchsia. The yucca moth pollinates the yucca plant, while the yucca seeds provide food for the moth larvae. Yucca moths provide food for bats and bats eat mosquitoes.

## GRADE 4 "CA NATIVE AMERICAN GARDEN" (History-Social Science, 4.2.1) Children plant a "California" Garden, planting native plants that were once used by the indigenous people of California for food, shelter, clothing, tools and medicine. Students learn how California Native Americans depended on and adapted to the land's natural resources. The Kumeyaay made shelters from manzanita, deerweed, tule, and chamise. The Miwok used yarrow, milkweed, yerba santa and monkey flower as medicine. The Chumash used buckwheat, wild grape, blackberry and prickly pear cactus for food.

## GRADE 5 "WATER CONSERVATION GARDEN"

(Standards: 2e, 2f, 2g, 3a, 3d, 3e) Students will learn that most of Earth's water is salt water in the oceans. Since the amount of fresh water located in rivers, lakes and under-ground sources is limited, it must be recycled and conserved. Students will take a look at where the water comes from that goes to THEIR school, and in order to conserve that limited water, they will plant a "Water Conservation" Garden. The garden will be planted exclusively with locally native plants that require little or no water once established because they are adapted to the climate at the school's location. During the program the Naturalist will also discuss photosynthesis, plant respiration and how sugar, water, and minerals are transported in plants using hands-on activities to engage the student's attention and retention.

## GRADE 6 "ENERGY GARDEN" (Standards: 5a, 5b, 6b)

Students plant an "Energy" Garden, planting California Native plants that provide energy to animals such as birds and butterflies. Throughout the program students will be reminded that energy enters ecosystems as sunlight, and it is transferred by producers into chemical energy through photosynthesis. Participants will learn about the destination of the energy they are "planting" – and have an idea of where the matter will be transferred over time from one organism to others in the food web. During the program the Naturalist will review the functions organisms serve in the ecosystem, and help students classify natural resources as renewable and non-renewable.