

Early Learning & Education PROGRAMS

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Learning from Nature

Nature is more than something beautiful to admire. Nature is mud between bare toes, the scent and beauty of flowers, the sound of the wind in the trees, and the feel of the sun on your skin. It is a sensory experience, and because children learn through their senses, it is a valuable learning tool for helping children understand the world. Reflect upon your own childhood. How often did you play outside, and what were your favorite outdoor activities? How much time do children today spend outside, and what are their favorite outdoor activities? How can educators encourage children to spend time outdoors?

Start by letting the children in your care see your own sense of wonder and curiosity for

nature. Children will be inspired when they see your enthusiasm for nature and science. Next, teach children how to view nature with scientific eyes, and allow them opportunities to experiment and explore outdoors. Science involves predicting, observing, classifying, hypothesizing, experimenting, and communicating results. Nature provides a wide variety of materials to explore, and only a few tools are needed to enhance the learning experience.

Some tools to use for nature exploration include paper, pencils, tape measures, magnifying glasses, plastic containers, crepe paper streamers, binoculars, utensils for measuring (cups, spoons, etc.), and a camera. Children can



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EDUCATOR RESOURCES

The following books and websites can support you in developing a nature-based curriculum.

- *Hey Kids! Out the Door, Let's Explore!* by Rhoda Redleaf
- *Nature-Based Learning for Young Children: Anytime, Anywhere, on Any Budget* by Julie Powers & Sheila Williams Ridge
- *Environmental Action Kit* (for preschool): <https://worldforumfoundation.org/workinggroups/nature/environmental-action-kit>
- Environmental education resources (for K-12): <https://www.neefusa.org/education/resources>
- *Environmental Kinship Guide*: <https://environmentalkinship.org>
- *Marvelous Explorations Through Science and Stories (MESS)*: <https://eclkc.ohs.acf.hhs.gov/school-readiness/article/marvelous-explorations-through-science-stories-mess>
- *Gardening with children*: <https://kidsgardening.org>
- *STEM* booklet by CHS: <https://www.chs-ca.org/family-education-program/overview>



Empathy and Ecology

Empathy is learned over time through the development of relationships, emotional literacy, and participation in caretaking activities. During play, children learn to resolve disagreements by listening to each other and seeing things from a different perspective. Activities that allow children to practice taking perspectives, such as dramatic play or reading stories about friendships, support the development of empathy. Engaging children in activities where they nurture or care for another person, pet, or plant encourages them to consider the wellbeing of someone or something other than themselves.

Including the study of ecology in your program is one way to support the development of empathy. Ecology is the study of the relationships between living things and the environment in order to understand how they affect each other. It also includes identifying ways to protect our natural resources. Preschoolers learn about ecology when they observe and investigate the natural world, monitor changes in weather and how it affects the earth, care for a small garden, make discoveries about animals and their habitats, and understand the purpose of recycling. Invite children to help take care of plants or pets, and use books such as *The Earth Book* by Todd Parr to start conversations about protecting natural resources.

School-age children can expand their knowledge of ecology and build empathy by participating in projects that positively impact others. For example, they can start a community garden to grow food that is shared by their families or begin a recycling program at their school. They can study climate and its effects

on living things, explore ways to preserve natural habitats, or volunteer in park clean-up programs. Learning more about the relationships between nature, animals, and humans teaches children to see things from another perspective, and allows them to explore how our actions can impact others. You can find resources for planning ecology activities in the *News You Can Use* section of this newsletter.

Source: *California Preschool Curriculum Framework, Volume 3* by the California Department of Education (Sacramento, 2013).



Summer Safety Tips

Outside play allows children to develop their muscles, balance, strength, and dexterity. It also provides them with fresh air, new learning opportunities, improved vision, a chance to be curious, and a fun way to practice skills. To get the most enjoyment out of summer fun, use the following tips to keep children happy, healthy, and safe.

Car Safety: Use appropriate car seats and restraints when transporting children, and do not leave them unattended in a vehicle. After arriving at your destination, make sure to check that no one is left behind in the car.

Water Safety: Drowning can occur whenever there is enough water to cover the nose and mouth. Closely supervise children whenever they are near water, and empty wading pools or water tables when not in use.

Sunscreen: Ask parents to sign a consent form for the use of sunscreen and apply it to children throughout the day. Ask parents to consult with a pediatrician before using sunscreen on infants less than six months old or children with skin rashes.

Inspect Outdoor Play Areas: Prevent injuries by doing safety checks of playgrounds and outdoor areas before children begin playing. Look for hazards such as broken or sharp materials, hot metal surfaces, and stray animals.

Create an Emergency Kit: Make sure the CPR and First Aid training is up to date for yourself and any other staff. Put together emergency kits for your facility and vehicle. You can include some basic supplies such as bandages and antibiotic cream, a bee sting kit, bottled water, and granola bars. Be sure to include a list of students and parent/guardian emergency contact information. You can discover more information by visiting the KidsHealth Summer Center website at <https://kidshealth.org/en/parents/center/summer-center>.



Learning from Nature

use these materials to conduct various science experiments. Documentation is an important piece of science experiments. Teach children how to make simple graphs or charts that demonstrate their predictions and findings. Taking photographs of each step is an effective way to keep a visual record of experiments. Keeping good documentation allows children to review, analyze, and reflect on each step of the experiment. This process supports children in learning to be effective problem-solvers.

Children can use paper and pencils to draw flowers, trees, insects, or animals that they see. Tape measures can be used to compare the size and length of leaves, rocks, or shadows. Children can fill plastic containers with water and paint the sidewalk to observe the process of evaporation. Crepe paper streamers can be used for wind experiments. Using binoculars and magnifying glasses is a fun way for children to see differences in size, distance, and shape. Children can experiment with differences in volume by using measuring cups and spoons.

Nature also teaches empathy. Inviting children to take an active role in caring for plants teaches them how to nurture another living thing. Some plants considered safe for children by the California Poison Control Center are Boston Ferns, Geraniums, Lucky Bamboo, Orchids, Marigolds, and Spider Plants. Caring for pets, such as a goldfish or a beta fish, is another way for children to practice empathy.

You do not need to have special knowledge to teach children about nature. Simply allow them to touch flowers, count lines on a tree trunk, watch earthworms, hold a raindrop, and look for rainbows. Give children the gift of joy, peace, and learning that comes from spending time outdoors and connecting directly with the Earth on a daily basis.

Sources:

California Preschool Curriculum Framework, Volume 3 by the California Department of Education (Sacramento, 2013).
The website <https://calpoison.org/topics/plant> was accessed for a list of non-toxic plants in April 2022.

NATURE SCIENCE

Create a science area where children can explore nature with a variety of materials. Rotate the contents of the science area according to the interests of children. The following items are suggestions for studying science through nature. How many of the following items are available in your program?

- **Natural objects:** rocks, insects, seed pods, sea shells, leaves, acorns, and gourds.
- **Living things:** house plants, gardens, and pets such as an aquarium with fish, an ant farm, a butterfly garden, etc.
- **Natural science displays, books, and activities:** nature matching cards, nature sequence cards, puzzles that depict nature, books with photos of animals, plants or seasons, and plastic animals.
- **Nature science activities and tools:** cooking activities, simple experiments with magnets, magnifying glasses, scales, measuring tapes, test tubes, eye droppers, rain gauges, and microscopes. This also includes time outdoors to study trees, clouds, birds, etc.

Source: *Early Childhood Environment Rating Scale, Revised* by Thelma Harms, Richard M. Clifford, and Debby Cryer (Teacher's College Press, 2005).

Sensational Strawberries



Introduce children to strawberries with the children's book *The Little Mouse, the Red Ripe Strawberry, and the Big Hungry Bear* by Audrey and Don Wood. Invite children to taste strawberries and add them to oatmeal, pancakes, salsas, or salads. You can also make the following snacks with children.

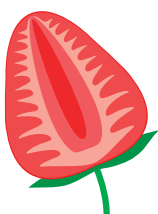
Stuffed Strawberries

Invite children to wash and dry strawberries, remove the tops with a butter knife, and scoop out the center from the top with teaspoons. Now children can use their teaspoons to stuff the strawberries with part skim milk ricotta cheese or cottage cheese. You can also stuff them with Greek yogurt or nut butter. Two cups of strawberries and 1/4 cup of filling makes about four servings.



Strawberry Yogurt Pops

To make four servings you need two cups of strawberries, one cup of Greek yogurt, 3/4 teaspoon of lemon juice, and 1/2 a teaspoon of vanilla extract. Invite children to wash the strawberries and remove the tops. Add all the ingredients to the blender and puree them. Pour the mixture into ice cube trays and place them in the freezer. After they begin to freeze, place a stick or plastic spoon into the center of each square, and then continue to freeze until they are ready to eat.



Food Science Fun



Activity: Carrot Pull

Age group: Infants

What you need: Carrots, large pot, and soil.

What you do: Place soil in the pot and bury the carrots, leaving their green stems above the soil. Show infants the pot and the green stems. Allow them to explore the stems and pull the carrots out of the soil. Invite infants to continue burying and pulling carrots. Later, the carrots can be cooked and pureed for infants who are eating solid foods to try.

What they learn: Infants develop language, are introduced to healthy food, build muscles, and explore the concept of cause and effect as they pull carrots from soil.

Source: Adapted from <https://kidsgardening.org/resources/growing-guide-carrots> in April 2022.

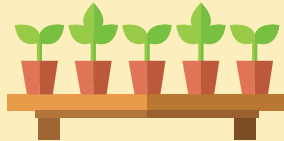
Activity: Herb Garden

Age group: Toddlers

What you need: Small pots of mint, basil, or rosemary; a large pot or garden area; soil; spray bottles with water; and sunlight.

What you do: Plant small herb plants in a large pot or garden area. Invite children to dig holes for the plants and spread soil around them. Give children spray bottles to water the herbs daily. Allow children to pick pieces of the herbs to smell, touch, and taste. Name the herbs as children taste them and explain how they add flavor to food. During cooking projects with children, such as making a salad or pita pizzas, ask children to gather herbs to add flavor.

What they learn: Children learn that food can come from plants and that herbs can be used to season other foods. They also learn the names of different herbs and care for plants by watering them each day and harvesting the herbs.



Source: Adapted from <https://www.kidsdogardening.com/growing-herbs-with-children> in April 2022.

Activity: Grow Scallions, Green Onions, or Spring Onions

Age group: Preschool

What you need: A glass jar (or multiple, if using one jar per child), water, child scissors, and at least one onion for each child. Clean baby food jars work well.

What you do: Invite children to cut off the white end of the onion at the point where it starts to turn dark green. Children can then place the white part in the jar with the roots on the bottom. Add enough water to the jar to cover the roots, keeping the top of the plant exposed. Change the water every other day. New growth should be visible in about three days. Children can cut off the dark green stems that grow and add them to soups, dips, or salads. They will continue to grow as long as the water is changed.

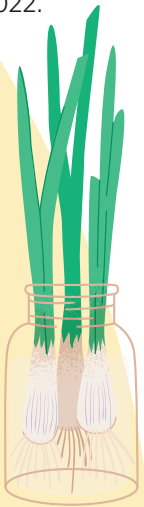
What they learn: Children develop cognitive skills by learning how to repurpose food scraps to grow new food, and that not all foods need seeds or soil to grow. They observe how food is made and also learn that onions can be used to season other food.

Source: Adapted from <https://thegardening-cook.com/regrow-your-food-from-kitchen-scrap> in April 2022.

Activity: Sweet Potato Plant

Age group: School Age

What you need: A sweet potato, glass jar, toothpicks, water, and sunlight.

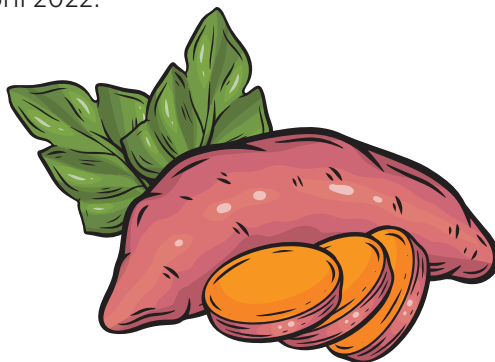


Food Science Fun

What you do: The larger end of the sweet potato is the end that sprouts, and the smaller end produces roots. Place the sweet potato in a warm area. When the “eyes” (or bumps) begin to form on the sweet potato, it is ready to grow. Insert toothpicks around the center of the sweet potato to hold it in the jar without it touching the bottom. Leave a couple of inches at the bottom for the roots. Fill the jar about three-quarters full of water. Place the sweet potato in the jar with the smaller end under the water. Place the jar in a sunny spot and change the water each week. Invite children to observe the sweet potato daily for changes. The sweet potato will grow “slips” (or leaves). At this point, you can either keep it as a plant for children to continue observing, or visit the link below to learn how to transplant it in soil and grow more sweet potatoes.

What they learn: Children develop cognitive skills by learning how to repurpose food to grow new food, discover that not all seeds are on the inside of vegetables, and have the opportunity to view both the roots and leaves of a growing plant.

Source: Adapted from <https://thegarden-ingcook.com/growing-sweet-potatoes> in April 2022.



ABOUT CHS

For over 130 years, Children’s Home Society of California (CHS) has adapted to the changing needs of children and families. Since 1891, CHS has worked diligently to protect our community’s children and strengthen their families through diverse programs and services.

At CHS, we view a child not in isolation, but in the context of each family’s health, stability, and resources. We believe that families are fundamentally strong and resilient. The mission of CHS is to reach out to children and families at risk with a range of services to ensure every child the opportunity to develop within a safe, healthy, and secure environment.

Therefore, CHS provides a variety of services to children and families in California and nationwide, working to improve their quality of life by offering vital information, education and resource services, and child care assistance.

CHS also serves as an expert resource for child care providers, other social service agencies, and government agencies at the local, state, and national level. To learn more about CHS and resources available to you, please visit our website at www.chs-ca.org.

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