

Outdoor Learning Unit 6

Unit 6: Things that Grow – Week by Week Outdoor Learning Ideas

The following chart provides suggestions for outdoor learning ideas by week. The topics suggested correspond to what is occurring outside in Maine during the late spring/early summer (May/June). As the natural world is always changing, choose those topics that fit best what is available at your site during each week.

Week 1	Week 2	Week 3	Week 4	Week 5
Gardening	Animal Life Cycles (frogs, butterflies, hatching chicks)	Macroinvertebrates	Tree Leaves	Flowers

Unit 6: Things that Grow – Overview

Living things are parts of interdependent systems.

Nature connection – Animals and plants have life cycles

Time frame for nature topics – May/June

Guiding ideas

- Studying the life cycles of animals and plants help children to understand the nature of living things.
- Gardening helps children understand where their food comes from.
- Tree buds begin to grow into leaves with chlorophyll so, along with sunlight, they can make food for the tree to grow.

Outdoor learning components and concepts

- Gardening
 - Vegetables and herbs are edible plants that grow from seeds
 - Plants need soil, sun, and rain to grow
 - We can grow our own plants by giving them space, keeping them watered, and pulling weeds around them
 - We can cook some of the things we grow into tasty snacks
 - We use plants for food
- Animal life cycles (frogs, butterflies, hatching chicks)
 - Amphibians live part of the time in water and part of the time on land and are cold blooded
 - The life cycle of amphibians and insects include changes called metamorphosis

- Birds hatch from eggs
- Macroinvertebrates
 - We can use nets and other tools to explore ponds up close
 - We can read charts and guides to identify different pond creatures
 - Macroinvertebrates are small creatures that are often the larval stage of an insect
 - The types of macroinvertebrates found in a pond are predictors of the pond's water quality
- Tree leaves
 - As the weather warms and the sap goes up to the buds, leaves emerge and chlorophyll produces their green color.
 - Chlorophyll and sunlight produce food for the trees
- Flowers
 - Flowers are important in making seeds and fruit
 - Flowers are brightly colored and shaped to attract pollinators

Outdoor learning ideas by the week

- Week 1 – Gardening
 - Plant lima beans or sunflower seeds in baggies with wet paper towel. Hang in the window to watch seeds grow. Plant seeds in little cups and watch them grow. Measure daily and make a chart to show growth. Grow wheat grass in containers. Children can draw faces on the containers. When it grows, children can cut it with scissors to give a “hair cut”.
 - Children do a science experiment: What does a seed need to Grow? Plant the same kind of seeds in several different containers. Give one water and another no water. Give one light and another no light. Try sand for one, rich soil for another. Put one in the windowsill and the other in the refrigerator. Water one, don't water the other one. Which grows the best?
 - Role play the life of a seed from hiding in the ground, to sprouting, to putting out leaves to catch the sun and ending up tall as can be. Sing Billy B. song – *I am a Sprout!*
 - Plant a garden with the children. Plant lettuce, kale, and cabbage in early May. Plant oregano and mint in pots. Plant beans, especially snow peas and climbing beans outdoors in May. You can design your own garden trellis and string to encourage vertical growth.
 - Look at the edible parts of different plants and lay them out on a large tray beside a drawing of a plant: show how carrots are roots; celery is a stem; broccoli is a flower; cucumber is a fruit; lettuce is a leaf; beans are seeds; and cinnamon is bark.
 - Chart everyone's favorite vegetable.

- Put soil, shovels and plastic hand rakes in a sensory table.
- Week 2 – Animal life cycles (frogs, butterflies, hatching chicks)
 - Make an aquarium. Take some pond water, some plants, tadpoles and snails and bring them back to the class to study. Children can watch how the tadpoles grow and turn into a frog or toad.
 - Look for tadpoles in the spring. Try to catch one in a clear tube or cup to look at carefully. Count the legs if there are any.
 - Look at a frog and a toad. How are they the same and how are they different? All toads are frogs, but not all frogs are toads.
 - Listen to frog sounds. Play a recording of different frog calls.
 - Write a story about an amphibian that goes through metamorphosis.
 - Use frog sequence cards for children to put in order depicting the life cycle of a frog in the correct order. Do the same with butterfly sequence cards.
 - Hatch eggs from a farm using an incubator. Children can observe the changes that take place before and after hatching.
 - What are the characteristics of amphibians (backbone, cold-blooded, live part of their life on land and part of their life in the water). How do these compare to birds and mammals?
- Week 3 – Macroinvertebrates
 - Introduce children to macroinvertebrates through visual guides and insect life cycles. Much of what they will find in a pond or stream will be the larval stages of various insects.
 - Take a plastic tub, pond nests, strainers, and macroinvertebrate field guides to a pond or stream. Show children how to look for critters in the water by turning over rocks and stirring up the mud. As the children find critters they can place them in the tub and try and identify them by comparing them with the pictures in the field guides.
- Week 4 – Tree leaves
 - Visit the same tree in different seasons. Every month photograph the tree and have the children add to a “Tree Journal” by drawing, painting and describing the tree. In the spring watch the buds open up as the leaves start to emerge.
 - In the early spring, bring some tree branches inside. Place in water and watch the buds change in the warmth of the classroom.
 - In the classroom, put out leaf matching cards, tree cookie puzzles, a tree display using real and fake trees, leaves, bark, and sticks, in the sensory table.
- Week 5 – Flowers
 - Take watercolor paints outside to where flowers are growing and let the children paint the colors they see.
 - Smell a variety of flowers. Do some have stronger scents than others? Do they all have the same scent? Can you match the scents without looking?

- Take magnifying glasses on a hike to really study the parts of a flower and use field guides to help identify different flowers.
- Plant a flower garden and let the children water, weed and tend the garden.
- Can you find any evidence of animals using flowers for food? Deer and rabbits enjoy some flowers. Hummingbirds, bees and butterflies sip the nectar from the flowers.
- Put different colored flowers between pieces of white cloth (muslin) and pound with mallets to release the natural dyes.
- Paint flower pots for growing plants.
- Put bulbs in shallow dishes with rocks and water. Watch as the roots grow down and the leaves and stem grow up. Dissect bulbs to discover what is inside.
- Dissect flowers with tweezers to examine all the parts of the flower. Use magnifying glasses to see small parts. Count the number of petals. Examine the flower parts with an electronic microscope.
- Use flower petals to paint by rubbing them on the paper. Some flowers may work better than others.
- In early spring, bring some forsythia branches inside to force bloom in the classroom.
- Use a flower press to press flowers which can then be used to make a card or bookmark.
- Put white flowers such as carnations in water with food coloring added and watch the flower change color. Talk about why.
- Help children name all the flowers that they know.
- Fill the sensory table with sand or soil and add silk flowers.