

Nature Unit

A multi-sensory curriculum guide for young children

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Introduction: Why teach children about nature?

Teaching children about nature helps children connect with their surroundings, allows parents to embed early learning concepts in an engaging topic, fosters creativity and independent thinking, encourages children to explore, and teaches children to respect the diverse world in which they live.

Objectives

- Understand the connection between living and non-living things
- Explain how the land, sea, and sky relate to one another
- Engage different senses to explore materials from nature
- Follow directions to create nature-related projects from the child's perspective

Targeted Areas

- Fine motor skills
- Sensory exploration
- Vocabulary development
- Early reading and math
- Creativity
- Connecting concepts

Fine Motor Skills

Fine motor skills involve small movements of the fingers, wrists, hands, feet, toes, tongue, and lips. Targeting fine motor skills can improve:

- Functional grasp and endurance required for handwriting
- Age-appropriate play skills with a variety of toys
- Ability to manipulate small objects (e.g. turn knobs, press buttons, roll dice)
- Ability to complete art projects (e.g. cutting, painting, coloring)

Sensory Exploration

We have seven sensory systems that allow us to experience our surroundings, all requiring varying degrees of stimulation and development:

- Olfactory (smell)
- Visual (sight)
- Auditory (hearing)
- Gustatory (taste)
- Tactile (touch)
- Proprioceptive (understanding the position of our bodies with regard to our surroundings)
- Vestibular (motion/movement)

Nature is a wonderful vehicle for sensory exploration.

Vocabulary Development

Vocabulary is best taught within context by providing concrete examples of terminology through visual aids and hands-on experiences. Encourage children to use new terminology when describing activities in which they are engaged. To enhance a child's ability to learn and use newly-acquired terms, reinforce during follow-up discussions.

Early Reading & Math Concepts

Through this Nature Unit, your children can work on early learning concepts:

- Following single and multi-step directions
- Phonemic awareness (understanding words are made of individual sounds)
- One-to-one correspondence
- Counting objects

Creativity

Provide children with the materials and ideas to complete projects with the flexibility to be innovative. Display a model for children to use as a guide without having to adhere to exactly to allow for self-expression. Complete projects indoors and outdoors to vary inspiration, and most importantly, do not be afraid to make a mess

Connecting Concepts

Critical thinking skills can be taught at a young age. Children connect what they hear and read with what they experience to create a complete understanding. To assist children with making these connections, tap into prior knowledge when introducing new topics. Give opportunities for children to ask and answer questions.

Land Learning Activities

Sensory Activity #1 – Exploring the Land

Create multiple small bins, each containing different outdoor finds. Some examples would be twigs, rocks, dried leaves, and pine cones. Label the front of each bin with a small photo or icon and the corresponding word. Use a magnifying glass to examine each object.



Follow-up: Describe the outdoor items. Are they big/small? Smooth/rough? Hard/soft? What other describing words can you use?

Sensory Activity #2 – Gardening Fun

Create a large bin filled with potting soil or something that looks like potting soil (e.g. black beans, cocoa powder). Place large seeds in the soil, seed packets, trowel, shovel, watering can, small pots, rocks, gardening gloves, and pretend vegetables.



Follow-up: What do seeds need to grow into plants?

Sensory Activity #3 – Mud Dough Dig

Mud dough is a great way for children to work on fine motor skills while having fun!



Ingredients:

2 cups flour
½ cup cocoa
1 ¼ cups salt
1 ½ Tablespoons cream of tartar
2 ½ cups water
¼ cup oil

Directions:

1. In a large pot, sift together dry ingredients.
2. Add wet ingredients.
3. Place pot over medium heat, and stir until you reach the desired consistency.
4. Place on a counter and knead until no longer sticky.
5. Cool and play!

Add all different types of small insects, lizards, worms, etc. and have fun!

Follow-up: What animals can live in the dirt and mud?

Art Project #1 – Stick, Twig, and Grass Painting

Use backyard finds like sticks, twigs, and grass to paint a picture with tempera paints. Pour paints into dishes that allow easy access using these alternative painting tools.



Follow-up: What can we use to paint besides just brushes?

Art Project #2 – Rock Painting

Rocks are fun to paint! This project has two variations.



Variation 1

1. Hold open a large zipper bag.
2. Assist your child in pouring a few drops of his/her favorite colored paints into the bag.
3. Have your child place several rocks into the bag and close it.
4. Child shakes the bag and moves the rocks around to paint.
5. Remove wet rocks and sprinkle with glitter. Allow to dry.

Variation 2

1. Children will use paints and a paintbrush to decorate rocks.
2. You can add glitter, wiggly eyes, etc. for more details.

Follow-up: What can we use to decorate rocks?

Art Project #3 – Seed Art

Help children understand that seeds are part of their favorite fruits, vegetables, and flowers by creating seed art.

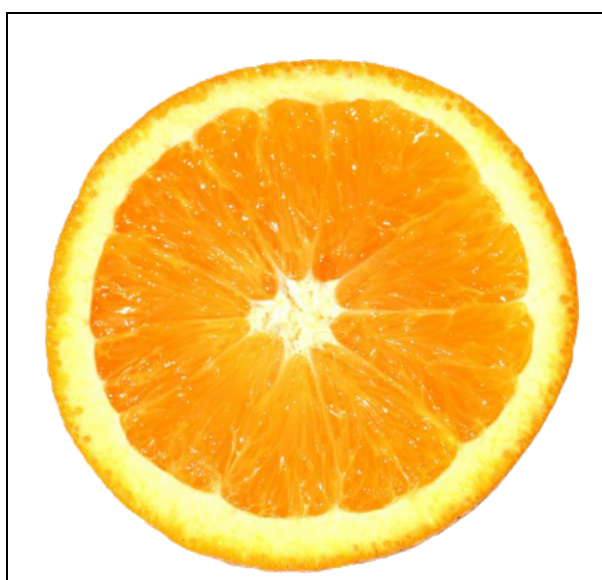


1. Purchase seeds or remove them from your favorite fruit/vegetable.
2. Have the child choose his/her favorite fruit, vegetable, or flower, and create a black outline on a plain sheet of paper.
3. Spread glue all over the inside of the fruit, vegetable, or flower.
4. Child will pick up seeds and place within the boundaries of the outline.

Follow-up: Where can you find seeds to grow flowers, fruits, and vegetables?

Task Basket – Parts of a Whole

Print and cut out the following cards. Cut each image vertically down the center. Glue the left half of the image on a 4" x 6" index card (on the left side of the card). Laminate the card. Laminate all the right halves of the cards separately. Place soft Velcro to the right of the image on the index card and rough Velcro on the back of the right half. Children will create a whole picture by finding and adhering the corresponding halves.



Experiential Learning Activity – Nature Walk Scavenger Hunt

Visit a local park or your own backyard. Bring a bag with you, and collect the following items together:

- Smooth rock
- Bumpy rock
- Small flower
- Big leaf
- Skinny twig
- Something yellow
- Something red
- Piece of tree bark
- Small handful of soil
- Something that does not belong in nature

When you return home, ask the following questions and have your child hold up the corresponding object(s):

- What did we have to pick off a tree?
- What needs water to grow?
- What did we find on the ground?
- Which one is smooth?
- Which one is bumpy?
- Which one does not belong in nature?
- Which one is the biggest?
- Which one is the smallest?
- Which are brightly-colored?
- Be creative!

Water Learning Activities

Sensory Activity #1 – Exploring the Ocean

Create a large sensory bin with beach sand, water, shells, small buckets, shovels, shark teeth, and anything else you may find at the beach. Children will explore the bin by digging to find their favorite sea creatures, shells, and more.



Follow-up: What can you find at the beach?

Sensory Activity #2 – What sinks? What floats?

Fill a large bin with water. Grab a variety of household items to test which items sink and which items float.

Objects can include:

- Keys
- Small ball
- Rubber duck
- Toy boat
- Feather
- Spoon
- Piece of fruit (e.g. apple)
- Pen



Follow-up: Sort the objects into two smaller bins – which objects sink? Which objects float?

Sensory Activity #3 – Edible Water Play

The night before, prepare a large bin of several packets of blue gelatin. The next day, add a combination of edibles (e.g. gummy worms, Swedish fish) and other objects (e.g. small boats, plastic sea creatures). Children will have fun playing with the gelatin and all the different water creatures.



Follow-up: Discuss the difference between wet and dry.

Art Project #1 – Homemade Watercolor Paints

This is a make-ahead recipe. Prepare the paints with your child the first day, then paint with them one to two days later. The paints harden the same way store-bought watercolors harden if left to dry.



Ingredients:

- 1 T light corn syrup
- 1/3 c cornstarch
- 1/3 c baking soda
- 1/3 c distilled white vinegar
- Food coloring

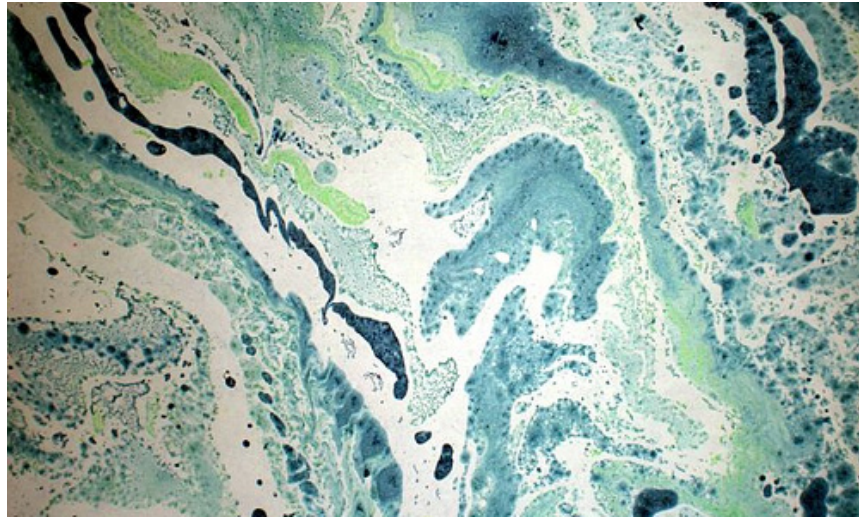
Directions:

1. Combine baking soda and white vinegar.
2. When it stops fizzing, add cornstarch and corn syrup.
3. Divide mixture into small containers (e.g. clear plastic cups, old muffin tin, ice cube tray).
4. Add a few drops of food coloring into each small container until desired color is reached.
5. Set aside 24 – 48 hours, until paint dries.
6. Paint beautiful watercolor paintings with brushes, construction paper, and your new paints!

Follow-up: What paint colors did we make?

Art Project #2 – Marbleized Paper

This art project is actually an introduction to the concept of density, teaching children how water and oil do not mix.



Materials:

- Shallow pan, larger than a sheet of paper
- White cardstock
- Food coloring
- Cooking oil
- Water
- Fork

Directions:

1. Pour just enough water in the pan to cover the bottom.
2. Put about ½ teaspoon oil and 1 teaspoon food coloring in a small jar.
3. Place a lid on the jar and shake to combine the oil and food coloring mixture. You can make multi-colored paper by creating several small jars of oil and food coloring.
4. Pour small droplets of the oil/coloring mixture on to the surface of the water.
5. When you have small drops all over the surface of the water, use a fork to gently swirl the colors together.
6. When you are happy with the swirled pattern, place the cardstock on the surface of the water and leave it there about 30 seconds. Carefully peel it off.
7. Allow the paper to dry, and it can be used to make cards, decorations, etc.

Follow-up: What happens when you combine oil and water?

Art Project #3 – Fish Tank

Children will use their hands to create fish that can be decorated with wiggly eyes, glitter, sequins, and more.



Materials:

- Orange tempera paint
- Sequins
- Blue paper
- Wiggly eyes
- Glue
- Sand

Directions:

1. Paint the child's hand orange and create multiple sideways handprints.
2. Add wiggly eyes to create a face and sequins as air bubbles.
3. Glue sand to the bottom of the paper to represent the sea floor.

Follow-up: What other animals can be found in the ocean?

Task Basket – Understanding 1:1 Correspondence

Understanding the one-to-one correspondence of object-to-object is necessary before a child can carry out meaningful counting and higher calculations. This is a simple way to begin teaching this skill. It's also a good way to work on fine motor skills, like using a pincer grasp or tool use.



Place small shells in a bowl to the left. Place an ice cube tray to the right. The child will pick up one small rock at a time, and place each one in an opening in the ice cube tray. If a child has more advanced fine motor skills, try using a spoon or tongs to pick up and move each small rock.

Experiential Learning Activity – Visit the Water

While not everyone lives by the beach, we can all explore the water. Visit a nearby pond, lake, river, beach, or even an aquarium. Discuss the following:

- What did we see when we visited the water?
- What animals live in the water?
- What animals live by the water?
- What non-living things did we see in and by the water?
- Were you able to touch the water? If so, how did it feel?
- How do we use water in our homes?

Sky Learning Activities

Sensory Activity #1 – Edible Clouds

Place whipped topping on a clean surface and use hands to spread to make big, puffy clouds. You can also encourage the child to use his/her pointer finger to write in the whipped topping. An alternative would be to use shaving cream (inedible).

For additional fun, blow a fan on high in the room to simulate the wind.



Follow-up: Look at the clouds in the sky outside. What shapes do you see?

Sensory Activity #2 – Bubble Play

Bubble play allows for limitless sensory play. Your child can use bubble wands (store-bought or home-made) to actually make bubbles or just splash them around like the image below. Be sure to use child-safe soap.



Ingredients:

- 1 cup water
- ¼ cup child-safe dish soap

Directions:

Mix ingredients together in a bowl and pour on to a cookie sheet. Use different tools (e.g. bubble wand, wire hanger bent into a large circle, straw, pipe cleaners bent into different bubble wands) to blow these homemade bubbles on the cookie sheet and in the air.

Follow-up: What ingredients did we mix together to make bubbles? What size bubbles did we make?

Sensory Activity #3 – Rainbow Salt Tray

Children love learning about all the different colors of the rainbow. This sensory activity allows them to cover up and reveal colors with either their hands or utensils.



Materials:

- 1 sheet of each of construction paper in each of the following colors: red, orange, yellow, green, blue, violet
- Clear tape
- 1 – 2 cups of salt, depending on size of tray
- Large paintbrush (optional)

Directions:

1. Measure the length of your tray. Divide that number by 6 to determine the width of each paper strip.
2. Cut each color of paper into a strip the width you determined above.
3. Lay the strips side-by-side and tape together. You may want to laminate this paper, but it is not necessary.
4. Place taped paper strips into tray.
5. Pour enough salt on top to cover the paper well.
6. Use finger or paintbrush to write or draw in the salt.

Follow-up: What colors do we see in the rainbow?

Art Project #1 – Paper Tube Birds

This is a free-form creative activity that allows children to have fun making a bird-inspired project.



Materials:

- Toilet paper tubes
- Feathers
- Wiggly eyes
- Sheet of orange construction paper
- Scissors

Directions:

Child holds paper tube in place, and uses the other hand to add glue, feathers, wiggly eyes, and an orange construction paper beak to make a bird.

Follow-up: Other than birds, what else flies?

Art Project #2 – Watercolor Wipe Butterflies

Painting wipes creates a blend of many beautiful colors. Allow children to get creative with the appearance of their butterflies.



Materials:

- Disposable Wipes
- Watercolor paints
- Pipe cleaners
- Wiggly eyes
- Craft paints
- Glue
- Clothes pins
- Marker

Directions:

1. Begin by laying a wipe on a flat surface. Using watercolor paints, paint the entire wipe.
2. When the wipes dry, pinch them in the middle with a clothes pin.
3. Add pipe cleaner antennae, draw a mouth, and add wiggly eyes.

Follow-up: What's different about a bird and butterfly? What's the same?

Art Project #3 – Rainbow Watercolor

Remembering the sequence of colors in the rainbow will be so important in science in the elementary and middle grades. Children can be taught through this fun watercolor painting activity.



Materials:

- Watercolor paints
- Paintbrush
- White paper

Directions:

Explain to children that the colors in a rainbow appear in a set sequence: red, orange, yellow, green, blue, indigo, violet. Help them to paint a rainbow in that order.

Follow-up: What sequence do colors appear in a rainbow?

Task Basket – Matching Letters to Spell Sky Words

This task basket focuses on using visual skills to correctly match magnetic letters to outlines of letters to spell relevant words.

1. Choose 4 short words related to the topic (e.g. sky, air, wind, fly).
2. Find the corresponding large magnetic letters (a size that is easy for your child to grasp).
3. Outline the letters on a strip of cardstock to spell the word.
4. Laminate the cardstock strip.
5. Place all the letters in a plastic bin with the word strips.
6. Child will remove a word strip and find the corresponding letters to place on top to spell the word.
7. To magnetize, have the child work on a cookie sheet.



Experiential Learning Activity – Explore the Sky

There are many ways to increase our understanding of the sky. Here are just a few:

- Lie on your back in an open area and look up at the sky
 - What do you see?
 - Are the clouds moving?
 - Do the clouds look like any shapes, objects, or animals?
 - How does the wind feel?
 - What does the wind do?
- Go to an airport and watch planes take off
- Discuss all the different things that can fly. What do they all have in common?
- Learn how to fly a kite