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ABSTRACT

One of a series of documents produced by a nationwide network of early childhood education specialists, teachers, parents, and Head Start staff, the guide provides a year of multisensory learning activities for children ages 3-8. In an easy-to-follow calendar format, sensation activities are given with directions in an accompanying teacher's handbook. Weekly themes follow seasonal changes and appropriate indoor and outdoor activities are suggested. (LH)

Sensations

Multi-Sensory Learning for Children Ages 3 — 8

Maureen Keilty-Carpenter

THE BEST OF BSS
MADE BY TEACHERS

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produced by

Basic Educational Skills Project
Ignacio, Colorado
1982

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Contents

Why Can't Butterflies Sing?

What is inside dirt? Where does the snow go when the sun comes out? This flower smells like peanut butter.

A child's natural curiosity makes him sensitive to the world around him. Teachers and parents can utilize their environment inside and outside to stimulate children's awareness of their world. By challenging children's inquisitiveness to environmental discoveries, thinking and expression abilities are enhanced.

This guide provides a year of learning activities in an easy-to-use calendar format. The multi-sensory approach is utilized. Key experiences occur in these active learning situations.

How to Use This Book and Calendar

Sensation activities are given with easy to follow directions for each school day of the year, September through May. The monthly calendar is correlated to the teacher's handbook. Simply look up the sensation by its location on the calendar. Weekly themes follow seasonal changes. Appropriate indoor and outdoor activities are suggested. The curriculum is flexible. A sensation may be done on a different day than designated, and an activity may be omitted or repeated without affecting the year's program.

The curriculum may be used any year by rearranging the dates on the calendar.

Above each month's sensation calendar is a simple line drawing depicting the month's theme. Encourage the children to discuss the theme and have them add to the picture in any way they desire.

Sensations and Working with Children

Allow children to experience and enjoy the sensations rather than simply learn the facts. Knowledge gained, however, will form a firm base on which children build scientific expertise and environmental appreciation.

Child Centered - A learning experience that is child centered is one in which children's voices are heard. "Wow, there are eight legs on that spider!" "Ooh, this mud feels like my cold oatmeal." These examples of children's imagination, expression, and attention to detail are important to child development. Ask questions and allow ample time for discovery.

Curiosity and Creativity - Tap children's natural curiosity. Ask questions about the obvious, and pay attention to the way children express themselves or examine a familiar object.

Spontaneity - Take advantage of a child's interest or discovery to teach. If the day's rain dampens the plans for a shadow discovery, let the wet weather become the focus of a sensation.

I Don't Know --- That's O.K. - Don't approach every activity as one who has all the answers. This attitude inhibits curiosity. Have children experience the joy of discovery as you guide them to the answers to their questions.

Respect for Life - This is the ultimate goal of environmental learning. Your example will be the best demonstration of this value.

Eek, I Don't Like That - Children will voice their fears and dislikes. Acknowledge their concerns. Don't force children to handle things or take part in an activity. Other children's reactions will soon reassure him/her that it is okay.

Indoor Rules = Outdoor Rules - Establish with the children appropriate do's and don'ts before embarking on a sensation. Make sure they understand that the outdoors is often their classroom and that similar rules exist in both learning situations.

Exit and Entrance - Make dressing up for the outdoor sensations part of the fun. Discuss with the children the need to dress appropriately for the weather every day. Sing a familiar tune: This is the way we put on our boots, put on our boots, ... This will help keep them on task and hurry the dressing period.

Litter Buglets - Collecting trash is an on-going part of every outdoor sensation. Conservation awareness develops as children learn how everything prospers in its proper place.

Collect natural objects found around the school yard. Ask children to arrange their personal collections in order of those they like the best to those they like the least. Ask them to explain why they feel the way they do.

NEAT & Y U K K Y

FINDING SAME

Children compare natural objects to see if they are the same. Are leaves from the same tree exactly alike? Are two pine cones alike? Describe the differences. How are the children's hands the same? How are they different? On a broader scale, are friends the same? Different? In what ways?

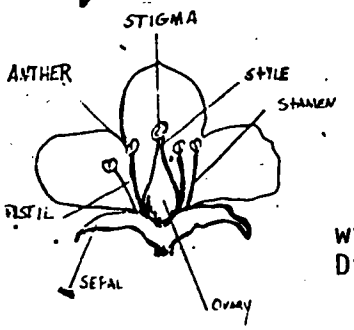
INSIDE - OUTSIDE

Collect a variety of indoor and outdoor objects (tree, leaves, indoor plants, weed, rock, soil, fly, butterfly, etc.). Show them to the children. Set up three locations and ask a child to choose one object and place it in one of three categories: 1) objects found mostly outdoors, 2) objects found mostly indoors, 3) objects found both indoors and outdoors. Ask children to explain why certain objects are found in specific locations.

FLORISTS

Hike outside and discover different kinds of wildflowers. Discuss size, count flower petals, determine names of color, give flower its own special name. "What is the purpose of the flower?" "Does it provide food for something?" "What?" "Does it serve any other purpose?" Find examples of flowers after budding takes place. Look for seeds. "What is the purpose of seeds?"

FLOWER PARTS



Have children examine a large flower with a magnifying glass. Look for pistil, ovary, and stamen. Compare with other flower types. Discuss what each part does.

FLOWER RUBS

Gather flower petals, plants, dirt and moss. Have children experiment with color by rubbing petals on paper to produce colors. Create a natural painting. Ask each child to name his/her art creation.

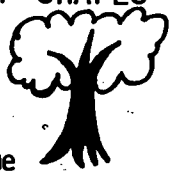
RAINBOW RACE

Give each child examples of colors. Hike to locations and discover native plants, insects, flowers, and animals that match the colors. Discuss why color helps a plant. Name the color of a plant found.

ROOT-N-ALL

Locate a flowering plant, preferably a weed. Ask the children how they would collect the entire plant - root and all. Allow each child to attempt to pull the weed. (If soil is very wet, it may be removed fairly easily.) Use a shovel, if necessary, to obtain the complete plant. Discuss the purpose of roots. Eat a root (a carrot).

LEAF SHAPES



Children bring a collection of leaves from their homes, showing differences in size, shape and color. Display all the leaves in one place and have the children find some that are the same size or color. Find some to match a shape. Discuss the many purposes of leaves (they provide food for the tree, for animals and insects, add to the soil, and provide shade). Use descriptive words and let the children try to identify the leaves from your description. Let the children name the leaves descriptively. Paste a leaf on paper and have the children add the parts of a body. Let them make pictures of themselves around the leaves.

September

TREE RUBS

Using light colored paper and soft, wide crayon (or colored chalk), children experiment with textures by creating rubbings of tree trunks and leaves. Children exchange papers with one another and try to correctly match rubbings with the trees.

BE A Tree

Children recreate the feeling of being a tree by "rooting" themselves into a field and holding their arms outstretched like tree branches.

The teacher announces types of wind: soft, gentle, brisk, wild and fierce.

Describe other weather conditions: snow, rain, lightning,... Children pretending to be trees react to each outside force as it is described, such as: the tree is begin uprooted; a woodpecker is pecking the tree; someone is trimming its branches.

Ask the children to describe how they, as trees, felt when each event occurred.

September

Read The Giving Tree by Shel Silverstein to the children. On a hike outdoors, ask children to observe and count trees, noting the ones that are the same type or size. Introduce the concept of the tree trunk, branches, roots, crown. Ask children to describe how each part of the tree helps it to live and grow. Point out differences between pine needles and leaves. Smell the differences. Have children locate a leaf tree and a pine tree.

TREE ADOPTION

Ask children to select a tree they would like to adopt. Discuss why a certain tree was selected. Have the children give the tree a special name of their own creation/imagination. Teacher may need to help with this next activity: have children introduce themselves to the tree. For example: "Hello, Green Needle Tree, I'm Billy and I live in ..." Ask children, "Who else needs the tree? (birds insects mammals) Measure the tree's trunk smell the tree and describe the scent. Does it have a sound? Brothers and sisters? Special coloring? Counts its branches. Ask children to draw its shape and have them describe the shape. Have discussion about the changes they will see the tree undergo throughout the year. Children may try to imitate the tree's shape by lying on their back with their feet up against the trunk. From this position, describe the tree and watch the branches move.

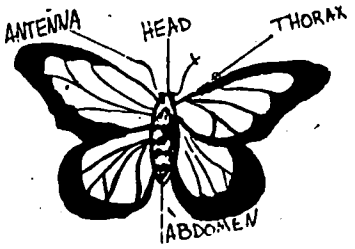
GRASSHOPPER HUNT

Give children a butterfly net to catch grasshoppers. Suggest that two children work together. One walks into a tall grass area and flushes out hoppers, while the other waits with the net to catch the fleeing insects. Allow the children to hold the grasshopper and then watch it hop. Put the insect in a covered glass jar with some grass so that children can watch how it eats and moves on the plants. It spits out a brown tobacco juice.

BUTTERFLY HUNT

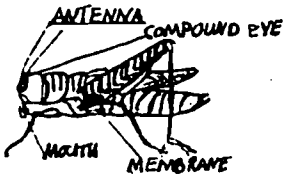
Children may locate butterflies near bright flowers and water sources. Capture one in a butterfly net. Examine it carefully. See the veins in the wings, the antennae, thorax and abdomen. Count the legs. There are two sets of wings: the forewing and hindwing. Ask children to describe the colors of the butterfly wings. Give them outlines of butterfly wings and have children draw in the colors of their favorite butterfly.

Read The Butterflies Come by Leo Polite



CLOSER LOOK

Use a magnifying glass to examine a dead grasshopper. Have children note its eyes (6 sided), hearing membranes (near rear of abdomen), antennae, and other body parts. Note the large, strong rear legs for jumping. Sound from the grasshopper comes from legs or wings rubbing. See if children can detect the "barbs" that make these sounds. Let children imitate the grasshoppers by jumping like "hoppers".

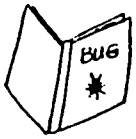


BE A BIRD

Children walk outdoors to observe the flight patterns of birds, butterflies, and moths. Let them imitate and describe the type of path the animal takes. Note how the butterfly lands with its wings up and erect, while the moth lands with its wings out flat. When children imitate the flights, let the rest of the class guess the type of animal that is being copied.

INSECT STORY

Children explore a specific area to find the different insects that live there. After gathering the insects, allow time for the children to determine whether the creatures are crawlers, flyers, or hoppers. Name the insects. Guess how many insects live within the area explored.



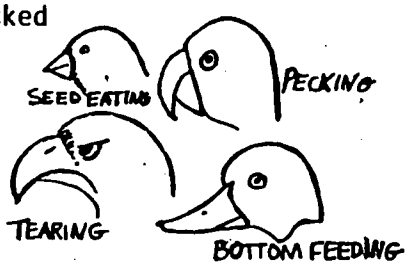
September

BIRDY HIKE

Start early in the morning to listen and watch for birds. Morning is the most active time for birds. Set aside a quiet time for children to sit on the lawn, amidst trees, to listen for birds and watch them feeding. See if they can discover birds talking to each other. Ask, "What do you think they are saying?" Determine a place where only certain bird sounds are heard. (Example: creek or swampy area.) Listen for the bird sounds there and try to sight the bird. Discuss why that type of bird lives there. Let children imitate the bird calls they have heard.

EAT LIKE A BIRD

Using pictures of local birds, children discover how birds are alike and how they are different. Introduce the beak, and point out the many types of beaks - including shape, color, and size. Ask children to describe (or act out) ways the beak is used: food collecting, eating, gathering nesting materials, nest building, preening the body, sometimes as a weapon. Give children samples of bird seed to examine and ask children if their own mouths could chew seeds well. Ask, "What other things do birds eat? (insects, grasses). Have children set seeds outdoors in an obvious, but untrafficked place, and perhaps they will see a bird eat seeds.

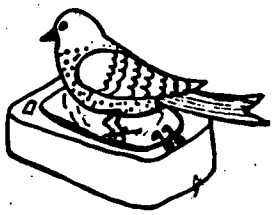


FLY FREE

Children sit quietly in a bird-frequented area to watch birds in flight. Ask them to pay particular attention to how the wings move throughout the flight, and the type of flight pattern (zig-zaggy, smooth, fluttery). Discuss how the wind may help of hinder flying. Let children imitate a bird's flying. Ask "Why can't we fly like a bird?" Have children discuss the difference in body shape. Point out how our bones are heavier than birds', thus we are not capable of flying. Show examples of a beef bone and a chicken bone to point out the differences in bone structure.

BIRD BATH

Children watch a bird clean itself near a pool or puddle of water. Make sure they notice how the bird uses its beak to gather water, then clean each feather and the skin area around its base. Give each child a cup of water. Let children try to clean themselves totally (getting all body parts wet) and also discover water conservation.



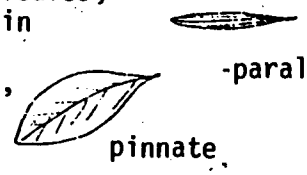
October

MOLE HOLE

Near creeks, there is often evidence of mole homes. A pile of dirt indicates the digging activity of an animal. Find the mole's tunnel. Examine it and the dirt which was dug out. Ask, "How big was the mole that dug this hole?" Show pictures of moles and ask, "Does the mole's shape help it to make tunnels?" "Does the mole need to have good vision?" (No because it is very dark underground. However, their sense of smell is keen.) "What do you think moles eat?" (Insects and underground roots.)

LEAVES

Ask children to describe what happens to leaves in the fall. Explain that leaves change colors because the ingredient (chlorophyll) that makes them green reacts to the cooler nights and shorter days. Using a collection of fall leaves, have children arrange them in color categories - yellows, browns, reds, greens, mixed, etc.; size and/or shape categories - long and thin, tear-shaped (oval), wide open like a hand, tiny, big; or in categories according to their edge type - smooth, many little teeth, big teeth. Read Mr. Tamarin's Trees by Kathryn Ernst.



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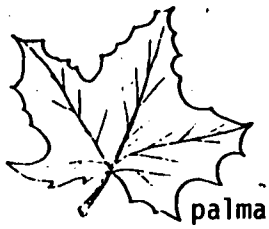
pinnate



palmate

veining arrangements

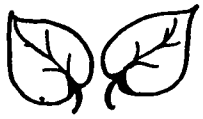
LEAF RUBS

Give each child a leaf that has been pressed flat. To make a rubbing or imprint design, place lightweight paper over the leaf with its veined side up. Child rubs a soft crayon or chalk over the veining to bring out the design. The child may also press the veining into soft clay and examine the imprint.

LEAF PUZZLE

Give the children a variety of leaf shapes. Have them arrange the shapes to represent a human body, an animal, or to form a scene. Decorate with pencil lines. Children may also make a leaf puzzle by selecting a large leaf and tearing out one or two sections. Another child may put the leaf back together correctly.

LEAF MATCH



Give children a sample of leaves from nearby trees. Allow them to match the leaves to the correct trees, making a game out of matching.

WHAT HAPPENS TO LEAVES

Ask children, "What do leaves do for people? For animals, insects, birds, the earth?" Let children imagine the many uses of leaves for all life on earth. Ask, "What would happen if there were no leaves?" Children examine a section of earth under a heavily leaved, uncleared tree or bush. Have them determine the top surface of the soil. What does it contain? What happens to the leaves there over the winter?

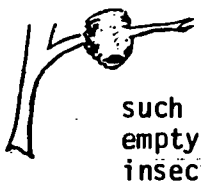
SPIDER WEB

Spider webs are found in shrubs, window panes, rooms where windows are not often opened, corners of rooms near the ceiling, (black widow spiders are only found in dark places). Common web types include the round orb of the garden spider, sheetlike cobwebs of the house spider, funnel shaped webs of the grass spider, and domed webs where the dome spider lurks. Have children watch a spider leave its home by means of a dragline. Observe how it makes it web. Examine the web under a magnifying glass. Children should feel the web and try to touch it without breaking it. Demonstrate how spiders collect food. Let the children drop an insect, such as a dead fly, into a spider web. If there is a spider present, it will soon wrap the prey securely. It is stored for later use, just as people wrap and store foods.

BEE HIVE

On a sunny day, take children to a field of flowers, or near a garden to watch bees feed on flowers. Explain how bees make honey by gathering pollen (tiny powder bits on parts of a flower) and mix it with the nectar from flowers. Obtain a honeycomb for children to examine. Note the six-sided chambers. Let children taste the honey and the comb. Spread honey on a cracker or cook with it. Ask children to describe the taste of honey and compare it to another familiar food. Visit an apiary if possible.

WASP NEST



Read Farewell to Shady Glade by Bill Peet, about how animals are run out of their homes due to progress. Wasp nests are found attached under surfaces of overhanging roofs. To examine such a nest, first make sure that it is empty. Wasps, like bees, collect insects as food, in addition to nectar and pollen. But they do not store honey like bees. Instead they feed the nectar and pollen to their young. Allow children to examine the nest and determine how the wasp entered the nest, and note how it resembles paper. On the inside of the nest, children will see six-sided brood cells, which can be pried out and examined. Nests are made of wood pulp combined with wasp's saliva. Children may examine a wasp in a closed jar. Observe the legs, wings, and stinger in rear.

BIRD'S NEST

Find an abandoned nest (which is usually used a short period of time during feeding of the young). Make sure it has wintered over or let it rest outdoors on a sheet of paper to see if it is infested with mites. If mites are present, leave it outdoors and don't handle it. Children may examine a nest and check for man-made contents. Let them guess the size of the bird that made the nest, and the color of the eggs. Let them take apart the nest carefully and categorize its ingredients. Example: horse hair, root pieces, grass. Moisten the contents and allow to sit in a warm area. Check to see if any seeds sprout from the ingredients.

NESTING

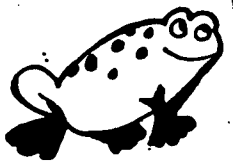
Show the children a bird nest and let them examine its shape and contents. Children may feel the weight and firmness by holding the nest in their hands. Ask children to guess at the size of the bird that made the nest by using their hand as a measuring tool. Discuss how the bird gathered the materials and ways it may have woven the parts of the nest together. Let children gather natural materials to make their own nest. A nest form shaped from clay or mud will help children attach the grasses and weeds.

CREEK BED HIKE

Children walk beside a creek and listen for the different sound (birds, water flowing, crickets). Discover the plant life along the creek, such as cattails and mosses. Ask children to find signs of animal life in or near the water. Look for insects in the water and on the surface of the water. Ask children, "Are plants greener and taller near the creek?" "Why?" Let children look for air bubbles percolating up from the mud in the creek or pond bottom.. Feel and describe wet moss. Discuss how it helps other plants, insects, fish in the creek (provides food and air).

FROG

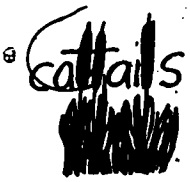
Frogs are fun for children to examine and can be found near water sources. Study a frog's large, round eyes and smooth, slick skin. Observe how its throat is large and how it helps the animal breathe. Look for ears, the flat surfaces (membranes) on the top of the head. Holding the frog, children should compare its front and rear feet, count its toes. Children watch it hop and try it themselves.



October

BOAT RACE

Children make a small boat using available natural substances, such as bark. A leaf may serve as the sail. Ask them to use their boat to discover which way the stream flows, how fast it moves, and what makes a boat get stuck in the stream.



Hike to a place where cattails grow. Let children get as close as possible to the cattails (watch out for muddy feet). Have them feel the downy fur of the cattails and take one apart. Describe the texture, colors, and observe how lightweight it is (it will blow away). The stems and many leaves are worth noting as well as the root, which can be dug up and eaten like a potato. Bring back some cattail samples for use in art experience.

TURTLE

Let children watch how the turtle tucks in its neck and pulls in its legs to protect itself. With its feet wet, or dipped in paint, let the turtle walk across a piece of paper. Note the tail prints, examine prints. Compare mouth, feet and toes with our own. Examine its head and look for its ears (not visible). It has no teeth, but a horny rim instead. Describe markings on the shell. Design a large shell from heavy paper. Let five to six children crawl underneath it to be the legs of a turtle. Ask them to move together as one turtle.

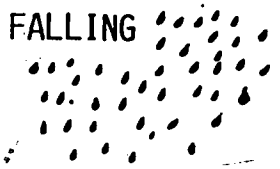
SHADOWS GROWING & SHRINKING

Find a sunny location in early morning and let children outline each other's shadows in chalk. Later in the morning, measure shadows again. The size will be different at different times of the day. Give this demonstration: use two balls, one larger than the other, to represent the sun and the earth. Show how the earth moves away from the sun as the day passes. Use a flashlight and a pencil. Hold the flashlight at different angles and distance to show how the pencil's shadow grow larger or shorter.

WINDY DIRECTIONS

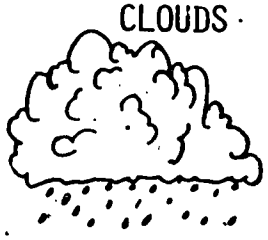
Children will understand how wind moves thing on the earth if they tie paper streamers to their wrists. Have the children stand still and observe the directions in which the streamers move. By running in various directions, they will see themselves as the wind. Say, "A slow wind is blowing; a gusty short wind; a wild, mean wind." Let children react accordingly.

RAINDROPS KEEP FALLING



Observe how and where rain falls outdoors and let children name the many things that are affected by rain: bicycle tires, car tops, flower petals, sidewalks, etc. Have each child choose something to be when it is raining and describe how it feels. If it is raining outdoors, go outside and experience it firsthand with all the senses!

CLOUDS



Read It Looked Like Spilt Milk by Charles G. Shaw. Find an open space outdoors. Children lie down, not touching anyone. Say to the children, "Take a deep breath in and slowly let it all out, very quietly, so no one hears. Try it again - take a deep breath and let it out slowly. Start with your toes and let all parts of your body fall asleep. Keep your eyes open. Look up at the clouds. Do you see any clouds that remind you of something else? Pretend you can reach up and grab one of the clouds. Squish it up in your hand till it gets real small and will fit in your tummy. Let it get bigger and bigger until it fills your whole body. How does it feel? Does it make you feel big, little, heavy, light as a cloud? If you are floating in the sky, which way are you going? Let the wind blow you. When I say, "scrunch", scrunch up your body and blow the cloud back to the sky."

SQUIRREL COLLECTION

Read Squirrel by Brian Wildsmith. Children gather outdoors near deciduous trees (trees that decide to change their colors in the fall) and coniferous trees (those that bear cones). Have the children search for a squirrel's winter larder. Discuss the variety of foods a squirrel will collect: nuts, seeds, roots, berries, and show examples of each. Ask children to be squirrels and gather their food for the winter (before the snow falls). "Is it easy to find the foods? What can the squirrel do that we can't do, so that he can find his food better? Where should we (the squirrels) hide the food?" Leave the collection outdoors and check to see if any food has been taken by other animals.

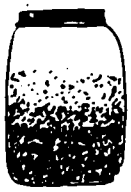
DIRTY COLLECTION

Collect dirt of different colors and textures. Ask children to describe the location where the soil was found (under trees, by a creek, near many rocks, etc.). Allow children to feel the various soils and experiment with their textures by shaping them. Is the soil sticky, sandy, dry? Use a magnifying glass to discover if there are any insects, worm eggs, or leaf particles in the soil. Ask children to find a crayon color that matches each soil sample. Draw a picture with that color.

SOIL RECIPE

Have children examine soil they have scooped from under a bush. Guide them to discover ingredients in the soil that came from the bush. Discuss how soil is made from organic materials, weather and animal matter. Ask children to describe the smell of the soil. Put the soils into glass jars. Leave three inches of space at the top of the jar. Slowly pour water into the jar of soil. Bubbles will percolate up through the soil into the water. Ask, "What's inside a bubble?" "Does this mean soil has air in it?". Put the lid on the jar and shake vigorously (have children take turns on this task). Let the water/soil mixture settle and watch how layers of sand, clay, pebbles, and humus form. Discuss and compare contents of each layer. You can try this experiment with a variety of soils.

WATER IN SOIL



Put different types of soils in jars, half full. Cover each sample tightly with a lid. Set the jar in a warm area. Water droplets will soon form on the glass walls of the jar. Ask children, "Where did the water come from?" "Why is water needed in the soil?" (For plant and animal life, soil conservation.) "How did the water get there?" "What would happen if there was no water in the soil?" Try the same experiment with sand.

TO CHINA

Show children a globe of the earth and point out where they live and where China is located. Discuss what would happen if they dug to China. Select a loose soil area where children can dig a deep hole (12 inches or more). Examine the earth's changes. Discover roots, categorize what is found, discuss color of soil layers, feel differences in temperature. Fill in the hole again, and discuss why all the dirt does not fit back inside.

November

DUST TO DUST

Scoop up a collection of moist soil and place it in a jar. Have children add a leaf or plant section to a visible area. Cover the jar. Ask children to predict what will happen to the leaf. Guess how long it will take for mold to form on the leaf. Record how long it actually takes. Why is mold needed? (Mold breaks down plants which form the soil.)

SEEDY FOOD

Bring a collection of food that is primarily seed to the classroom: peanut butter, raspberry jam, peanuts, sesame seeds, poppy seeds, sunflower seeds, pinto beans, corn, almonds, pepper, popcorn, coffee beans, etc. Discuss what needs to be done to them (if anything) to make them edible. Compare their sizes and textures, and have the children arrange them in various categories - taste, size, color, texture, ready to eat, etc. Taste each seed or prepare an entire meal using only seed food.

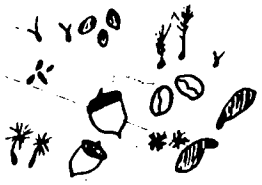
SEED SPROUTING

Sprout a variety of seeds in damp places (set seeds between wet paper towels). Ask children to discuss what is needed to make seeds sprout. Examine the different types of growth from each kind of seed. What happens to the seed to continue its growth: soil, sun, warmth, water. Serve alfalfa and mung bean sprouts for a snack.

PINE CONE SHAKE

Each child finds his/her own pine cone. Discuss what tree the pine cone comes from and what the seed's purpose is (needed to reproduce other trees, food for animals). Examine the individual pine cone petals. Children will find seeds inside. Ask, "Do all the seeds make pine trees?" What would happen if they did?" Shake the pine cones to get the seeds out. Ask, "How does nature get the seeds out of the cone?" (Wind, animals, and insects help pull out the seeds, some just don't leave the cone.) Discover what else seeds do besides reproduction (food for animals and insects, add to soil, possibly help make an animal nest). Plant a tree in a clay pot in the classroom using some of the pine cone seeds.

SEED SEARCH



Have children hike to find seeds under bushes, on flowers, within fruited plant parts or floating in the air. Examine them back in the classroom. Ask children to describe where each seed was found, how it got there and possibly its name. Allow children to categorize them according to the seed's mode of transportation, i.e., floaters (airborne), clingers (stick to fur and clothing), droppers (drop from plant directly to soil). Discuss other ways seeds get moved (by animals, rain, creek flow, wind). Have children experiment with each seed and its method of transportation.

NUTTY HIKE

Discuss with children the types of wild animals that live in the area throughout the winter. Read, Where Does Everyone Go? by Aileen Fischer. On a hike outdoors, children listen and look for evidence of animals that stay all winter (squirrels, gophers, birds). Allow children some time to go gather what they think these animals may need all winter. Discuss why animals do this, and where they keep their food. Also ask if it was an easy task.

ROCK HIKE

As a group, have children collect rocks and pebbles of all sizes. Children describe each rock: size, color, texture, and where it was found. Ask children how the rock got to the place where it was found. "What's the purpose of rocks?" (Rocks provide homes for insects, add minerals to the soil, and help control erosion.) "Do rocks float? Get rusty? Moldy? Dissolve in water?" Experiment to find the answer to each question. "Are rocks alive?" "What do rocks do for animals? For man?"

ROCK TALK

Display rock collections in a line on the floor. Announce a rock description. For example, and adult says, "Find a round rock with pink and gray spots". Ask each child to find a specific rock. Allow time for all to participate at their own speed. Each rock is then set in a special location for its category (color, texture). Combine descriptions: gray and smooth, or sharp and dark.

SIFTING SAND

Let children sift sand through several kinds of strainers. Discuss the many sizes of the grains of sand. With a magnifying lens, examine the sand shapes using words like sharp, angular, smooth. Put sand in a jar. Add water and cover. Children then shake the jar and will see floaters (bits of organic material) in the water. Ask, "Does the sand float?" Observe the settling patterns. Drain off excess water. Children may form balls with the wet sand. Watch it dry and ask children to predict what will happen to the ball when it dries.

ROCK HOME

Locate a large rock (one foot circumference or more), making certain the rock has been in one location outdoors for some time. Ask children to lift up the rock carefully. Under the rock, the surface of the earth is a micro-community where only certain animals, insects, and plants exist. Children will discover a variety of these. Ask, "What color are the plants?" "Why?" (Most plants will be whitish in color due to lack of sunlight.) Feel the temperature of the rock surface, feel the ground under the rock and beside it. Discuss why it is cooler under the rock. Set the rock back in place.

November

WATER
ROCK

Children hike along the creek edge to collect rocks of varying sizes near and in the water. Find a smooth, rounded rock in the creek bed. Ask, "Why is it smooth?" Find a rough rock alongside the creek edge. Ask, "What will make it smooth?" "What do rocks do for the creek?" (Help prevent erosion, provide a survace for plant life or animal eggs.) "What does water do for the rocks?" "How do rocks help the animals in and around the creek?" (Rocks can be homes for animals and insects, add minerals to the water, and provide a surface on which animals may walk.)

WINTER SIGNS

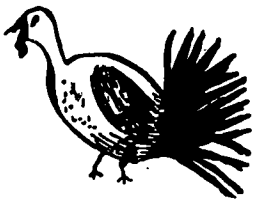
Walk outdoors to discover signs of winter. Children should be encouraged to note things they can and can't see and hear or smell: birds and their sounds, no leaves, grass is now brown, colder temperature. Measure children's shadows and ask, "Are shadows longer now, or in the summer?" Examine a lawn or tree trunk close up to look for insects. Why aren't there any bugs?

Post pictures on a bulletin board of local animals and their foods (include grasses, insects, water). Hang long strands of yarn from animal pictures. Children then use the yarns to connect the animals to their food. When complete, ask, "What food is the most important in this chain?" "What would happen if one food or animal disappeared?" "Why do we have hunting laws?"

LITTLE RED ROUND HOUSE

Tell this story, using the brief idea given here: One day a little boy who was bored, asked his mother what he could do. The mother sent her boy outdoors to search for a "little red house without windows or doors, and a star inside". The boy searched everywhere, and asked different people where he might find such a little round red house, but found no clues. As he walked home through an orchard, he asked the wind to help him. Just then, the wind shook the tree he was under and an apple fell at his feet. The boy quickly picked up the apple, thinking the wind had given him the answer. The apple was little, red, and round. With his pocket knife, the boy carefully cut the apple in half. Sure enough, there was a "star" inside (formed by the seed/core arrangement). The boy ran home to show his mother. While telling the story, show the apple and the star in the center. Discuss halves and quarters. Taste.

GOBBLER



Arrange to visit a live turkey. Point out the wattle - fleshy folds hanging from the throat, and the carruncle - the nob on the beak. Ask, "Can this bird fly well?" "Do you think its dull colors help it in any way?" "Where are its ears?" (Membranes on its head.) Examine each part of the turkey and point out the coloring of its feathers and face. (Turkeys perform a "sun dance" at dawn while the sun is faint in the sky. The birds gather and begin high stepping, flip-flop motions. They jump up and down with wings lifted out, making a "quit-quit" sound. The dance ends as the sun shows above the horizon.) Have children imitate this turkey sun dance.

DISAPPEARING

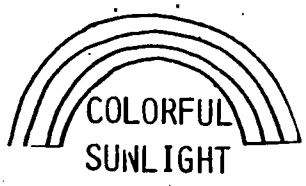
Ask children to describe the colors they see occuring naturally outdoors. Give each child a sample of a color seen outdoors to take home. Have them dress in a matching camouflage color. Play hide-n-seek. Children will experience how animals hide from predators. Ask, "Why is it necessary for animals and insects to be the same color as their surroundings?" Introduce the word "camouflage". Do colors of insects or animals change with the seasons? Why? Example: rabbit.

WATER IN AIR

Fill several glasses with ice water dyed blue. Soon water droplets will form on the exterior surface of the glass. Ask, "Did the droplets come from the ice water?" "Why aren't the droplets blue?" The water on the glass actually came from the air around us as it came in contact with the cold surface. Rain is formed by water vapor condensing on dust particles. Show how frost on the window is formed in the same way.

Children place an empty balloon between two wooden blocks. Blow up the balloon while it's in position between the wood blocks. They will see the "strength" of the air force the block to move up. Think of other examples of air (wind) energy.

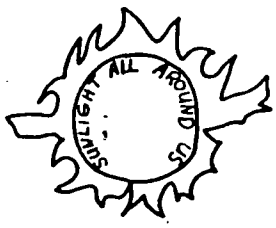
December



On a sunny day, give children glass prisms to experiment with sunlight. Prior to this investigation, give simple safety instructions regarding the use of sharp objects. When a child sees the rainbow of colors within a beam of sunlight, explain that the clear light is actually made up of many colors put together. Ask, "When do we see this kind of color collection in nature?" (Rainbow.) Label the colors and ask the children to match each sun color with one of their crayons. Draw a picture with these colors.

MINI LIGHT

On a sunny day, children find examples of light rays coming between things: cracks, holes, windows. Discuss shapes of the light rays and how they were formed. Name a shape and ask children to create that form using available sunlight and whatever materials they can find in the classroom.



Children find sunlight indoors and outdoors. Shut doors, turn off lights and close the blinds. "Can sunlight still get in?" "How?" "Are there any plants or animals that don't want to be near sunlight?" What would the earth be like if no sun appeared in the morning?" Using a very large ball to represent the sun and a smaller one to be the earth, show how the earth's movement causes night and day. Ask why it is important to have night.

PARAKEET

Children examine a parakeet and discuss its size, color and sounds. Ask, "Can this bird be found outside or nearby?" "How does this bird fly?" "Why can't we fly?" "Is our body shape the same as birds'?" Compare a beef bone (similar to human bone) with a lightweight chicken bone. Discuss how lightweight wings, light body weight, and shape help create flight. Give children opportunities to feed the bird and discuss its needs. Let the children help clean the cage.

RABBIT

Before allowing the children to handle the rabbit, instruct them in the correct way to hold the animal. Let them feel its soft fur. Ask, "Does the rabbit like to be held?" Feel the whiskers. Compare the whiskers' texture to that of the fur. Watch the nose wiggle. Ask, "Why can the rabbit smell well?" Have the children compare the size of the rabbit's ear to their own (use their hands to measure). Note how the rabbit's ear lifts and turns to capture sounds. Have the children count the toes on the rabbit's front paw.

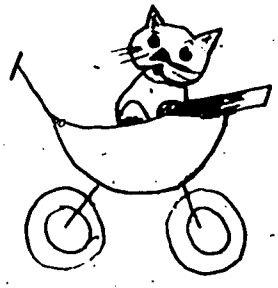
CAT

Select a mature cat that is accustomed to many people. Allow time for the children to pet and feel the cat. Watch it drink milk from a saucer. Ask, "Can we drink that way?" Try it. Have children feel their own tongues (wash hands first), then feel the cat's. Describe the difference. A cat uses its tongue to hold its prey. Fluids held in the tongue clean its fur. The cat's whiskers are long enough to give him information when crawling in tight areas. Note cat's sharp teeth. Are they similar in shape to ours? The cat's ears stand up and move for better hearing. A cat also communicates with its tail. A lashing tail means anger. A cat's purr is enjoyable for children to hear and feel. It indicates contentment. The children will also see the cat's claws move in and out. What's the purpose of claws? Make cat prints with paint on paper.

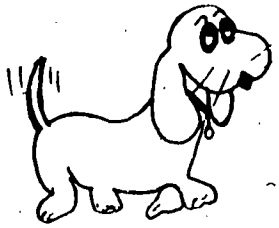
DOG

Select a mature dog that is accustomed to people. Initially let the children play with the dog, stroking its fur. Ask the children what a wagging tail means (friendly, happy, excited). What a still tail means (anger), tail between its legs (ashamed or sad). Children may feel the dog's wet nose which indicates good health. Ask if a dog is a good smeller. Watch the nose's movement for picking up smells. The dog's ears, which are large, are also very sensitive. Let children compare the difference between their own and the dog's ears. Watch the dog's ears move. The dog's legs are designed for running. The cat's legs bend for stalking. Dog prints can be made by allowing the dog to step in tempera paint. Claw prints show up because a dog's claws do not go in like a cat's Carefully examine a dog's teeth and note their size. Discuss how the teeth are used differently than the children's own. Dog language can also be discussed; a whine indicates fear, yelp means pain, growls are for anger, barks show excitement. Let children imitate. Discuss the proper care of a pet dog. Ask children to share a story of their own about a dog.

PETS



Let children choose to be the pet they desire - dog, cat, bird, rabbit. Let two different pets be in the middle of a circle of children. Have them behave like the two pets would in normal circumstances - chasing, fighting, playing.



Add another pet, and another. Regain order. Discuss why the pets fought, how did it feel to fight, what can be done to prevent the battles. Also discuss laws concerning ownership of a pet, including innoculation and other health precautions.

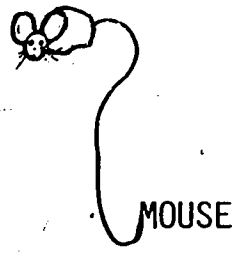
SQUIRREL

Children watch for squirrels outdoors. Discuss the colors of squirrels and why they have a long tail (for warmth, balance, communication). Ask "Do squirrels have a good memory?" "Do you remember where we left the nuts we found in the fall for squirrels?" "Should we pet a squirrel?" (no, might bite). Pin a blanket or coat on a child's back at the waist and let him imitate how a squirrel uses its tail.

HAMSTER

Children may pick up a hamster by holding the loose skin at the neck. Children may note its color, large ears and dark brown eyes. Count toes on fore and hind feet. "Is it similar to a squirrel or rabbit?" "In what ways?" Make prints by having the animal walk on paint and then on paper. Children will enjoy watching a hamster eat. He packs food into his cheek pouches. "Can we do that?" "What does the hamster do with the food in his cheek?" Imitate how the hamster moves. "Can it hop like a rabbit?" "Look at its rear legs. Why can't it hop?"

Allow children to nestle mice in their cupped hands. Describe its size, shape, and body parts. Compare it to a hamster. Note mouse's whiskers and how they wiggle. Discuss value of mice in a natural environment. Children may make a clay model of a mouse.



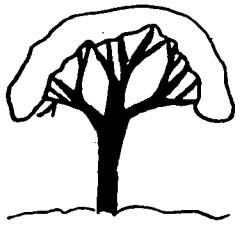
Collect samples of various kinds of evergreen branches. Compare needle shapes by having the children roll the needles between their fingers. Smell the branches and compare the different odors. Count needle clusters. Children may paint with a pine needle set as the brush.

Collect pine cones of different sizes. Have children pack peanut butter between the pine cone bracts and then sprinkle with seeds. Attach a length of red yarn to top of the pine cone and hang outdoors as food for the birds and rodents.

CHRISTMAS FOR BIRDS AND SQUIRRELS

WINTER WONDERS

Children hike outdoors and discover the elements of winter: smell snow, ice and tree trunk, taste the snowflakes. Listen to the quiet and the noises associated with walking in the snow. Ask them to experiment with different styles of movement through the snow: hopping, skipping, running. Look for signs of animal life and count how many they find.



SNOWFLAKES

On a snowy day, give children the opportunity to imagine they are snowflakes. Begin by having them watch and describe the movement of snow as it descends. When they are ready to relax, ask them to lie on the floor and watch the snow through the window. It is not necessary to have snow falling in order to role play snowflakes. Softly suggest: "You are a snowflake, beautifully white and delicately light, floating, gracefully dancing quietly in the air, touching other snowflakes drifting carelessly in the air. Now you are resting on a big tree branch. Say hello to the tree by introducing yourself, in a quiet snowflake voice. Listen to the tree say goodbye to you as you float to the ground. Now you have just landed softly on a rabbit's ear. Again, in a snowflake voice, tell the rabbit who and what you are. Remember what he says to you. The sun is now shining bright and warm. you have melted into a raindrop and you are now the water that feeds the dandelion's roots. Rest." When the children have awakened from their snowflake fantasy, begin by asking, "How did it feel to be a snowflake? What did the tree say to you? The rabbit? Did you like being a snowflake? How did it feel to feed a dandelion plant? Why is snow good for our earth?"

SNOW MELT

Give children the opportunity to feel snowflakes on their skin outside, or bring a bucket of loose, fresh snow inside. Children experience and describe how snow feels on various parts of their bodies: arm, little finger, big toe nail, eyelid, belly button, etc. Ask, "Why did the snow turn into water when it was on your skin?" Divide the remaining snow into equal parts and place in similar sized jars. Set containers in various places throughout the room and some outside. Ask children to predict which ones will melt first? Why? Discuss with children ways of staying warm in the winter: extra warm clothing, lots of body movement, and staying close to other bodies. Ask each child to describe when he/she was coldest and why.

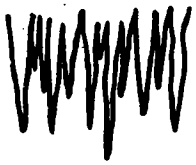
WINTER PAINTING

Add tempera paint to an empty squirt can to be used as a winter paint brush. The canvas to use is a field of snow. Children can pretend they are winter artists.

SNOW ICE CREAM

This snowy treat is created by mixing 1 cup whipping cream, ¼ cup sugar, and 1 teaspoon vanilla. Whip all this together, then fold together with 2 quarts fresh fluffy snow, quickly and gently. Children will enjoy measuring the ingredients for this recipe. A real maple syrup topping is ideal.

ICICLE



Select an icicle to bring inside for this lesson. While children hold it (as if it were hanging from the roof edge), ask them to observe how the ice melts and flows along the icicle's edge. Ask children to describe how the icicle becomes longer, fatter. "Can an icicle be made indoors. "Can an icicle ever hurt us?" "Do icicles ever form on trees?" Taste and feel the icicle.

HOT ICE CUBES

Ask children to be "scientists". Assign them to discover which freezes first - hot or cold water. Let them predict which will freeze faster. Have them outline the procedure and materials to be used in this experiment Make sure the same amounts of hot and cold water are used in equal conditions. When they have discovered that hot water freezes first, ask why. Explain that hot water consists of tiny droplets that are moving apart very fast. Because these droplets are moving and not held tightly together, they are easily caught by the cold air and thus frozen. To re-enact this theory, let the children be cold water droplets hovering close together. One child will be the cold air trying to move in to catch the cold water droplets. But can one cold air capture the entire strong cold water bunch? To be hot water droplets, children skip about the room while one cold air child catches each hot water drop individually. As each drop is caught, it freezes.

GROWING ICE

On a cold day during the evening when temperatures drop below zero, children may experiment with the properties of water when it freezes. Fill equal amounts of water in two glass jars, one covered, the other uncovered. Set outdoors during a cold night (below zero) or in freezer. Children guess what will happen to each jar of water. When the contents are frozen, the uncovered jar will appear as if ice is growing from it. The other jar will have cracked and burst as the ice grew. (Children must not touch this jar.) Explain that when ice forms, the water droplets mix with cold air droplets, making a larger frozen mass. Children may re-enact this theory in a manner similar to "hot ice cubes".

EAT A SNOWMAN

Children will enjoy making this edible snowman. Prior to shaping the snow into body parts, ask the children to describe the snowman's features and his clothing.

Also, have them think of the kinds of food winter animals might like. Create the snowman's eyes by using peanut butter in bottle caps, apple slices for the mouth, raisin toast for buttons, a string of popcorn for a necklace, sunflower seeds for hair, and of course, a carrot for the nose.

When the snowman is being made, make sure the children relate the snowballs to body parts. After decorating, check later to see which food decorations were best liked by the animals.

FROZEN WATERWAYS

Children hike along the creek bed (or pond) to observe winter's effect on the waterway. They may look for signs of life, describe the colors they see, examine ice formations and its variations.

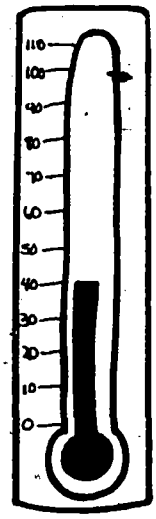
Ask children to locate the fish. "Where do the fish go in the winter?" "Do they all die?" Explain that most fish hibernate all winter, migrate, or die before the season ends.

EVAPORATION

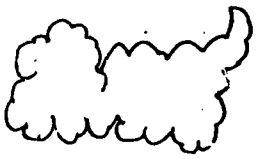
Wet four equal sized, thin cloths. Place one cloth in the sun indoors, one in the sun outdoors, one in the shade indoors, and one in the shade outdoors. Ask children what will happen to each cloth. Predict which cloth will dry first. Explain evaporation - when water evaporates, its droplets join with the air. Water never goes away completely, but changes from visible drops to a wet feeling in the air (vapor). Check the dryness or dampness of each piece of cloth.

GROWING

TEMPERATURE



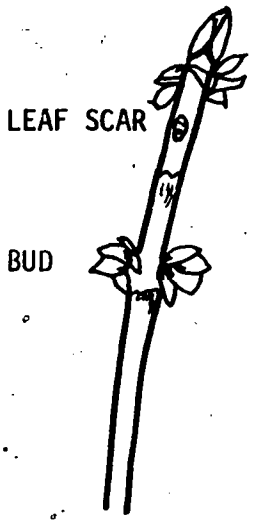
Use an outdoor thermometer with visible mercury for the children to experiment with temperature changes. Take temperature outside in the morning in the shade and in the sun. Make sure that children understand that the higher the mercury line, the warmer the temperature. Let children predict temperature in several different locations. Measure the temperature of water indoors. Use hot and cold water. Take the children's temperatures with a clinical thermometer. Ask, "What is a fever?" Explain that high temperatures mean that the body's molecules are moving faster to fight infection or sickness in the body (relate to "hot ice cubes" - January). Let children feel each other's temperature by touching the forehead. Let them describe how they felt when they had a fever.



CLOUD DREAMS

Have children watch the clouds. Ask them to describe their shapes, colors, and direction of movement. Let them imagine a special something they see in a cloud. It may help to suggest several: "Does anyone see a furry animal in the clouds?" "A hamburger or hot dog shape?" "A tree?" Discuss the purpose of clouds. Do they always signal rain? Paint cloud pictures using white paint on construction paper.

BARE TWIGS

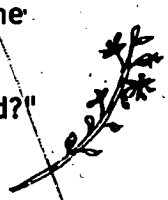


On a hike outdoors, collect a variety of small bare branches from bushes and trees. Ask children to examine and compare the twigs, noting the position of buds, distance between each node, the size and form of each bud. With a magnifying glass, have children look at a cut section of bud to see the small leaves folded away, "hibernating" for the winter. Children can use the budded end of a twig as a paint brush, or can glue the twig on paper and create their own fully opened, flowered bud which they paint near each real bud.

HURRY UP SPRING

Gather a bunch of twigs from live flowering bushes. Place in water indoors. Soon the buds will swell and flowers and leaves will appear.

Children will enjoy watching the bare twigs' rapid changes and look forward to the daily changes. Ask, "Why aren't the buds blooming outside now?" "What have we done to the twigs inside to make them bud?"



T W O in N E

Choose a white carnation or stalk of celery. Split it down the center, keeping the top intact and attached. Set each half of stalk or stem in a separate glass of water, one with plain water in it, the other water dyed red or blue. Children may predict how the plant will react. The color of the flower will indicate to the children that plants take in water through their tubes. Examine the tubes of a plant with a magnifying glass.

FEEL THINGS

Gather an assortment of items, some manmade, some natural. Place all the items in a cloth bag and tie shut. Have children feel the items in the bag and try to determine whether what they feel is natural or has been made by man. After the children have felt the bag, remove the items. Identify and categorize them. Suggested items for the bag: pine cones, pebbles, balls, real and plastic leaves, hard boiled eggs, cotton balls.

BIG SNAKE

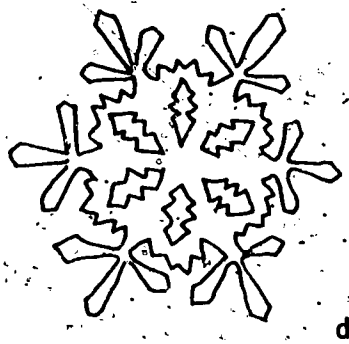
Have children pretend to be snakes. Let one child be a snake, then have another child attach himself to the first. Continue to add children until the snake is long. Have the snake move up a mountain, climb a tree.

SOUND NAMES

On a quiet hike, children walk softly to listen to sounds. Listen for birds, wind rustling the leaves, motors running, water dripping, snow crunching, ... By giving them opposite sound descriptions, children can choose the appropriate category of sound, e.g., high or low, loud or soft, crackly or smooth, tiny or big. Let them describe the sound they hear using their own descriptive words and comparisons.

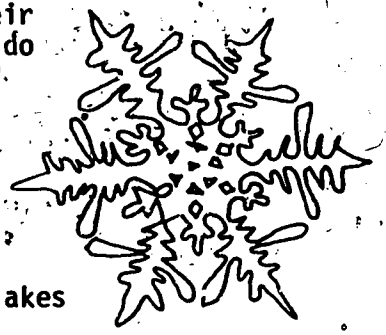
SMELL MEMORY

Children gather up a collection of natural smells from items like bark, leaf rubbings, wet soil, cinnamon sticks, apple slices, lemon wedges, rocks, flower petals, garlic, onion, etc. Let children smell and identify them. Then, using blindfolds while children are smelling, check their smell memory by asking them to identify the smell. Follow up with a taste of any edible samples.



NO TWO ALIKE

Children walk outdoors during a snowfall. Have them examine one individual snowflake as it falls on the dark surface of their jacket sleeve. Ask "What do the snowflakes look like?" "Count all the points of the flake." "Do you see any two flakes exactly alike?" When indoors, give children white chalk and construction paper on which to draw large snowflakes like the ones they saw.



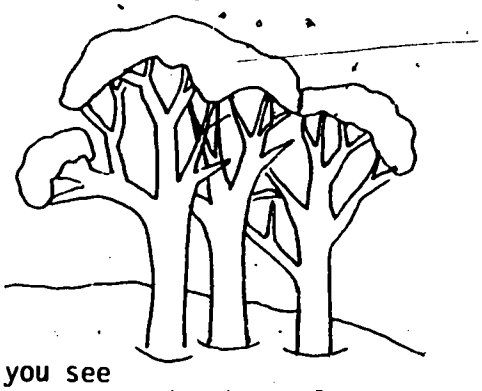
SEEDS IN SNOW

Ask the children, "What animals do you see in winter?" "What kinds of food do you think they eat in winter?" Gather a variety of seeds, crumbs, dry fruit, and corn as food for the animals. Children may determine the best location to put the food. Make certain it is in a quiet, non-trafficked spot where animals travel (an open spot between trees and bushes). Sprinkle the food on the snow. Later, check which food was liked the most and what animals frequented the feed area (check animal tracks).

SNOW PAINT

Children create a snowstorm on paper, using finger paint and real snow.

SNOW BLANKET



Have children discover how the earth appears under its blanket of snow. Dig into the snow to the ground. "How does the earth feel?" "Are there any green plants growing there? Why not?" "Do you see any insects?" Discuss how the snow gives plants, animals, and insects a chance to take a nap. Follow up in the classroom with a nap as children imagine the snow blanket being pulled out.

PURE AS SNOW

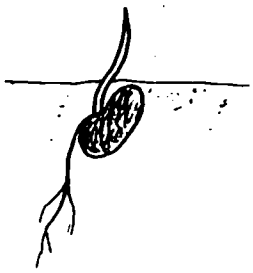
Collect snow from various places, making sure some is from heavily trafficked areas. Allow the different samples to melt and look for impurities. Discuss what the impurities are, where they came from, why some locations had more than others. Introduce pollution and how it affects the earth and all that lives on it.

PLANTS NEED WATER

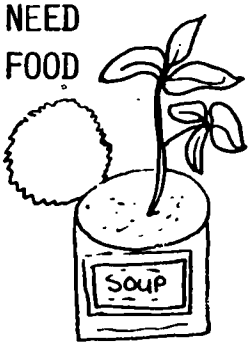
Choose two plants of the same variety that show results of not having water. (Plant may be limp or withered.) Petunias, impatiens, or coleus are good to use for this. Ask children to tell how they know the plant is thirsty. Water each plant a different way. Liberally water one plant through the soil surface and to the roots. Spray the leaves of the other plant until they are very wet, thus watering the plant through its leaves. Ask the children to predict how the plants will react. (The root watered plant will pick up and fill out, while the other one will remain wilted.) Explain that plants need water through their roots. Children can experience this by putting water on the skin of a thirsty child. Does this quench the thirst?

PLANTS
NEED
AIR

Soak alfalfa seeds overnight, then allow them to sprout. Rinse and drain the seeds once each day for the next two or three days. Keep in a warm, dark place until the sprouts are an edible size. Cover one jar of sprouts tightly. Leave another jar open. The sprouts in the closed jar will wither in one day. Let the children examine sprouts from each jar and compare appearance and taste.



PLANTS
NEED
FOOD



Select a branch about to bud from a flowering bush. Put the branch in water indoors. It will bud within a short time. Ask children why the branch budded after it was brought indoors. After budding has occurred, no further growth will take place because the plant has used all the food stored in its stem. To continue growing, the branch would need food from the roots and soil it has been separated from. Compare this experiment to the needs of people: warmth, sunlight, air and water provide most of the necessities, but food is essential. Ask children to consider how they would endure a similar situation.

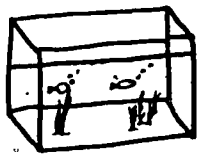
PLANTS NEED SUN

Set sprouted alfalfa seeds in a glass jar. (Choose white sprouts from a home-grown, non-refrigerated batch. Place covered jar on its side in the sunlight. Within the day, green leaves will appear on the sprouts giving them a green cast. Let chidren examine and taste the difference between the greened sprouts and those still white. Explain that the green comes from chlorophyll, a special plant food made with help from the sun. Ask, "What do you think is better for you to eat, the green or white sprouts?" The green plants provide more nutrients.

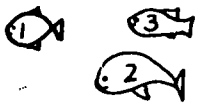
Choose an appropriate, fast-growing floral bulb at the florist shop. An amaryllis is an ideal choice for this experiment. When given the necessary ingredients for growth - air, food (from soil), water, sunlight, and warmth, the bulb will begin showing rapid growth. Have children measure and record growth (a large chart is useful here). When the plant has bloomed, examine its parts and describe each part and function.

AQUARIUM INVESTIGATION

Have children examine a complete aquarium. Ask them to name the shape of the tank, to guess the number of fish, the different kinds of plants, and snails. Feel the temperature of the water. "Is it warm or cold?" "How do the fish breath underwater?" Fish get air from the water as it passes through the gills. Ask children to describe how fish move, and what body parts they use. Watch the snails move on the surface of the glass. Ask, "How does the glass stay clean?" Snails and fish clean the water and glass surface by eating the debris. Examine a snail, noting its hard shell and soft fleshy head. Children can watch a fish's reaction when a hand is placed on the glass surface. Discuss why the fish reacts as it does.



FISH COUNT



An accurate fish count can be made without taking the fish out of the tank. Count the yellow fish, oval ones, etc.

FISH PARTS

Children may examine a fish while it remains in the tank. (Holding fish disturbs their protective mucous membrane.)

Using a fish from the market, children can more closely examine body parts. The scales may be observed under a magnifying glass. Growth rings can be seen on the scales, similar to tree rings. The age of the fish can be established by counting the rings. The gill can be opened and examined. Have the children open the fish's mouth to see what kind of teeth it may or may not have. By spreading open the fins, the children see how fins aid the fish in swimming. Children may make fish using modeling clay.

FISH DANCE

Do a fish dance, recreating the movements of fish swimming. Pretend to swim among the plants in the pond, or down to the bottom. Read Fish is Fish, by Leo Lionni.

CLEAN TANK

Cleaning a fish tank can be a fun group learning project. Prior to cleaning the tank, a similar quantity of water should be set aside so it will warm to room temperature. Use a dipper net to transfer the fish from the tank. Next, remove any plants from the gravel bottom and rinse them. Eliminate any dead or dying plants. Scoop up the gravel and place in a fine strainer. Rinse the gravel with a water spray to clean it. Wash the tank walls and any other tank parts. Replace gravel and plants. Add water and place fish in tank. Children may then feed the fish.

GROCERY STORE VISIT

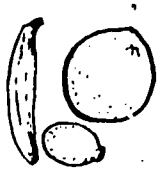
Have children volunteer the names of foods they eat especially during the summer months (watermelon, grapes, peaches, etc.) Then ask them to name fresh foods that are common during the winter time (potatoes, apples, carrots, onions, squash, grapefruit, oranges). It would be helpful to bring samples of these fresh foods to the class. Follow this discussion with a trip to the produce section of a grocery store to show children the fresh food that is available now. Use a map to show where non-local vegetables and fruit came from and how they got here. Ask, "Were people in our town always able to eat oranges in February?" "Why can't we eat fresh peaches in January?" Taste a variety of not-so-common winter food items.

WINTER FOOD

Prepare a snack, using food commonly associated with your area and the season. Example: pinto bean dip. Explain where and when the food was grown and discuss why it can stay fresh during the winter months. Show samples of the product before it's prepared for cooking, and discuss how it is stored until use. Perhaps a sample of elk or deer meet would be available to taste. Discuss with the children why and how this meat was obtained and the rules governing hunting. Children will enjoy taking part in snack preparation.

SUN MEAL

Children create a sunshine salad using many fresh fruits available during the winter months, e.g., apples, bananas, pineapple, grapefruit, oranges. Point out how each fruit has a protective out coating - the skin that helps it withstand the rigors of travel. Ask, "How do you feel after you've traveled for a long time in a car?" "Oranges and bananas have protective skins so they can trave for a while." Use a map and discuss with the children where these fruits are grown. Have children locate where they live on a map and ask where Florida is, or Hawaii. Ask children to describe how the fruits got here. Enjoy the salad, describe the taste and colors. How are they like the sun?



DRYING FOOD

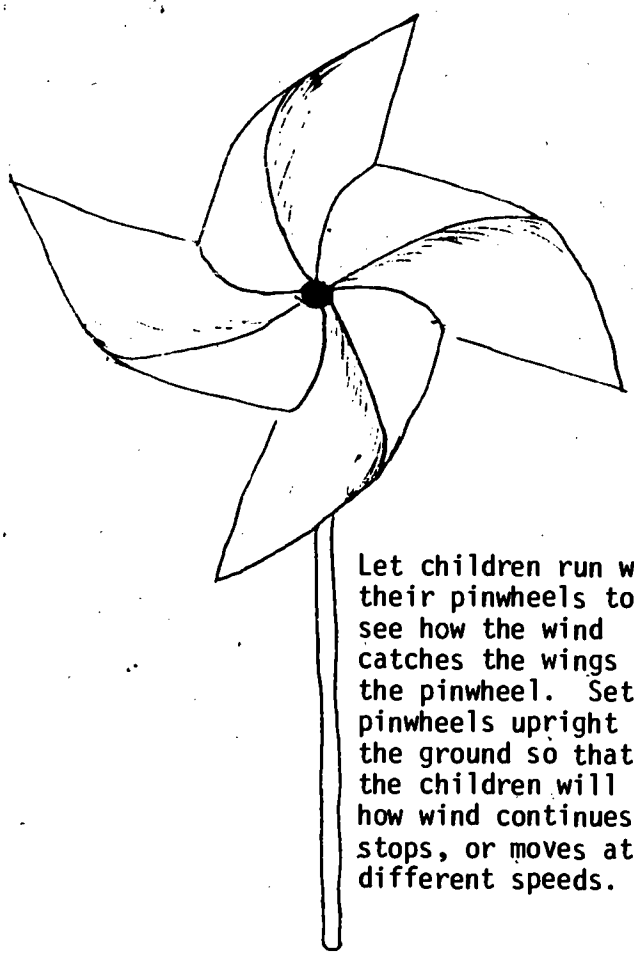
Collect fresh fruits and vegetables appropriate for drying, such as bananas, apples, thin pumpkin slices, spinach, onions. Have children slice foods thin and set in a dehydrator or warm oven for a period of time long enough to dry. Sample dried food and compare their tastes and textures with the same items fresh. Ask children to bring to class other examples of ways our food is preserved for the winter - commercial and home canning, freezing. Compare human food habits for the winter with animals' winter food methods.

SNOWY PICNIC

Read The Winter Picnic by Robert Wilber, about a little boy whose play in the snow convinces his mother that winter can be time for a picnic. Plan a picnic at a snowy spot. Children discuss what they need to wear, things to bring, and the foods they would like to have at their picnic. During the picnic, some children may shape a plate or bowl out of snow. Make sure a sunny location is picked and all litter is picked up.

PINWHEELS

Children construct colorful pinwheels using a ten-inch square of construction paper.



Let children run with their pinwheels to see how the wind catches the wings of the pinwheel. Set pinwheels upright in the ground so that the children will see how wind continues or stops, or moves at different speeds.

March

WINDY DANCE

On a fairly windy day, take children outdoors to create their own wind. Place a large piece of lightweight paper in front of children. Have them run, forcing the paper to stay in place. Also, tie paper streamers or thin strips of cloth to their wrists as they re-enact wind forces. Ask children to describe what is happening to the paper when they run. What direction is the wind coming from? Tell children to find a way to capture the wind. Ask them to explain why they can, or can't, catch it.

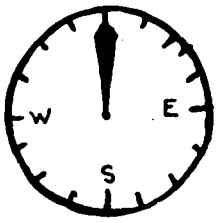
INDOOR WIND

Children will see that air indoors moves slowly, if a stream of sunlight with dust particles moving within it is pointed out. Give children a balloon or feather to keep aloft in the room by blowing. Discuss: what wind is, the purpose of wind (helps clean up dust, carries seeds, helps birds fly, moves clouds). Read Follow the Wind by Alvin Tresselt. Ask children to draw a picture of the wind.

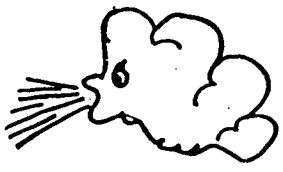
WIND MOVES

Watching from the window, seeing smoke from a chimney and trees swaying, children can determine which direction the wind is moving. Ask them to look at the clouds overhead and compare the direction of travel. Blindfold children outdoors and have them point in the direction the wind is moving. Read Gilberto and the Wind by Marie Hill Ets.

WINDY DIRECTIONS



Explain that directions outdoors are often called North, South, East, or West. Show how a compass works and then move the group outdoors. In a clear, open location, use the compass to find North. Point out a familiar spot to mark the direction. Do the same with each direction. Ask children to point to the direction from which the wind is coming. Does the wind seem to always come from that direction? Name the wind after the direction from which it comes. Ask children to describe the wind as mild, gusty, brisk, gentle. Find other examples of outdoor movement due to the wind. Show pictures of other wind items: kites, sailboats, windmills.



Introduce children to a robin by showing a picture. Have them name the colors of a robin. Use a map to show where birds migrate for the winter months. (Robins generally head south, although a few brave ones stay in cold climates throughout the winter. Explain that when robins return, it means spring is near. Have a contest for children to spot the first robin to arrive in your immediate area. Have him/her describe when and where it was seen. Children draw pictures of robins.

SPRING BIRD HIKE

Children walk outdoors to listen and look for signs of birds. Have them describe when the bird was seen and what it was doing. Include size, color and actions, like hopping, walking, zig-zag flight, and posture on tree as part of the description. Children then give each bird its own descriptive name. Let children imitate bird movement. Others try to name the specific bird being imitated. Watch for birds feeding.

NESTING

Read It's Nesting Time by Roma Gans. Prior to walking outdoors, discuss where nests should be located for protection against weather, people, and animals. Ask, "What is used to make nests?" Children look for places outdoors to put their own nests, while collecting materials to build one themselves. Try building a nest outdoors. A mud or clay nest form provides a sticky surface for the twigs and grass.

BIRD USES

Children discuss the uses of birds in a natural environment and in the home. Ask children to tell what birds do outdoors that helps plants and animals. (They eat insects, carry seeds. Some birds are food for other animals, such as the coyote and large rodents.) Discuss how birds are used by people. (People eat their meat and eggs and use their feathers for decorative purposes.) Obtain fertile eggs so the children may observe the hatching process.

DOWN FEATHER

Bring a collection of down insulated clothing: jackets, vests, and sleeping bags, to the classroom. Have the children put them on to feel the warmth of the down. Examine individual feathers. Note how the barbs of each feather stick together. Observe how light a feather is. Show pictures of geese and explain that they are the main source of down feathers. Down feathers are generally located on the underside of wings, close to the body. Most birds have some form of down feather. Ask children to share camping stories about sleeping outdoors. Ask if they used a down sleeping bag.

March

GREEN TOUR

Children examine places outdoors where green is showing the promise of spring. Collect various samples of green plants and arrange them in sequences of light to dark, or small to big. Find examples of spring's first flowers.

BUDDING SPRING

Locate a flower in the bud stage. Make sure no other open flowers are near it. Children examine the bud. Leaving it in its natural habitat, encourage children to imagine what the flower will look like when it is open - its color and size. Note the shape of its leaf. Return to the classroom to draw a picture of the flower as they imagine it when open.

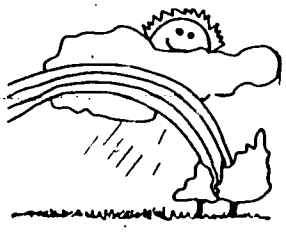
SPRING IS HERE

Return to see the flower bud completely open. Children can compare it with other flowers nearby, noting its color, size, leaf shape, and distribution. Children count petals and examine stamen, anther, and pistil. Discuss where bees may find the nectar on the flower.

TREE ART

Children find two trees near each other, but of different shapes. From a distance, have the children trace in the air the shape of each tree. Start from the ground up. Describe the shape of the tree. Ask, "How do the branches go out from the tree - up, out, down?" Have them demonstrate branches with their hands. Get close to the trees and have children examine its buds. Ask, "How long until a full size leaf will be seen?". Examine the trunk of the tree. "Any insects crawling on it?" Have children sit in a comfortable spot on the grass. With paper and crayon they draw the shape of the tree. Add color to the tree by rubbing green grass on paper. Repeat exercise with the other tree.

SPRING COLORS



Children find samples, outdoors, of spring colors - yellow, green, pink, white, etc., and samples of winter's remaining colors - gray, brown, tan. Discuss what happens to the winter color items. Put the spring color examples to use in an art project.

LITTER TOUR

Hike around the school yard looking for signs of spring and bits of litter. Each child should carry a collection bag to keep the litter that is found. Discuss where the trash is found and why it is there. Examine how it has weathered the winter. When all litter is collected, have children decide on the largest and the smallest pieces of litter. Ask children to explain how they feel about litter and what they think can be done to prevent it.

Nature's Music

Children create a rhythm band using natural objects they collect outdoors. Sticks and a variety of surfaces (rough, smooth, large rocks, thick and hollow sticks) can be a part of the rhythm section, while seeds and pebbles can be placed in a "shaker" can to create another sound. Conduct rhythm to a favorite class song.

NATURE DETECTIVE

Collect samples of plants. Give one to each child and have the child search for a plant that matches this sample. Ask the child to label his/her plant (if the real name has been discussed in class) or to give it his/her own descriptive name.

OWL'S EARS

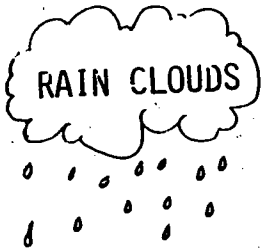
This listening game can be played indoors or out. One person, blindfolded, stands in the middle of a circle of children. A pointer chooses someone to make a "hoot hoot" sound. The person in the middle, the owl, listens and tries to point to the noise maker. If he is wrong, he is the pointer; if he is right, he does it again. Discuss owls and their keen ability to hear. Note how owls can turn their heads completely around in response to sounds.

BALANCE SCALE

(for a natural balance scale)

Use a rock as a fulcrum, and a wide stick for the arm. Allow children to contribute various natural objects to compare weights. Make sure they understand that when the arm is level, the objects measured are equal in weight.

Look out the window on a cloudy day and ask children to describe the kinds of clouds they see. Ask if they can predict rain from the clouds today. A flat layer of clouds (stratus) usually indicates rain. High, wispy, hairlike clouds (cirrus), or puffy cumulus clouds (great for imagination play) are seen on clear days.



Point out how shade is formed whan a cloud goes in front of the sun. Demonstrate how rain is formed by boiling water in a pot. The water ~~dimishes due to evaporation.~~ When a lid is put on the pot (similar to the dust particles within a cloud), condensation occurs, forming raindrops on the under surface of the lid. Shake the pot lid to demonstrate rain. Children can make a rain and cloud picture by gluing cottonball clouds and small silver sequin raindrops on paper.

April

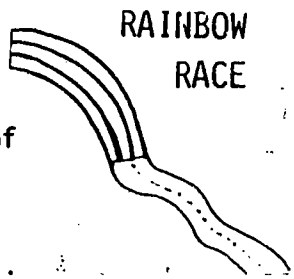
RAINDROP RINGS

Children observe raindrops outside as they hit a surface. Notice where each drop makes the biggest splash: on pavement, soil, grass. Watch the rings in a puddle as they are formed by raindrops. Indoors, this observation can be carried out by children shaking a very wet brush over various surfaces: box of soil, a plant, linoleum. Children may simulate the feel of rain on their skin by wetting their hands and shaking water on their classmates. Let the children smell the air outdoors after the rain. Describe it.

CREEK MAKING

Children will understand how rainfall and earth contours help form waterways by the following experiment. Fill a sprinkling can with water (several cans, if available). Have children shake their rainfalls over various surfaces similar to the earth: a level cement block (street), a slanted block (street on a hill), a dry level sponge, and a wet slanted sponge (all representing various conditions of the earth's surface). Place all surfaces on a table top. Children vigorously shake water on each surface on a table top, noting how each surface reacts to the "rain". Ask children which type of earth contributes the most to the creek formation. Are there any other ways creeks are formed? (Underground springs, running from ponds or lakes.) How did rocks get into the creek? Read Where the Brook Begins by Mary F. Bartlett.

April

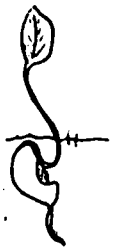


Show children examples of rainbows in photographs. Ask "When do we see a rainbow?" "Does the rainbow last a long time?" "What are the colors of the rainbow?" Give children samples of each rainbow color and have them collect natural examples of the color outdoors. Let the children arrange the nature color samples they found in the usual sequence of rainbow colors: red on top, yellow, green, blue, with related shades in between.

Read When the Wind Stops by Charlotte Zolotow. Create a dance having children demonstrate rain, wind, snow, sun, etc.

April

SEEDLING STARTING



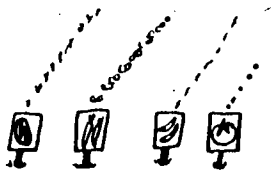
Collect a variety of seeds planted in a home garden, such as radish, lettuce, peas, zucchini. Have on hand the full grown vegetables of each seed. Have the children find the seeds in the full grown vegetables. Compare fresh seeds with planting seeds. Discuss differences in color, shape and texture. Taste each vegetable and compare flavor, size and color of each.

GARDEN BEGINNING

Select a sunny location for your preschool garden. Plan portions of several days for the children to prepare the soil for planting. Use small size garden tools that children can handle, and teach proper use of tools. Have the children dig up the area to be used. Turn over shovelfulls of soil to loosen earth. Remove weeds. Help children note and identify weeds, so they will know them when the garden needs weeding later. Rake the area until it is smooth.

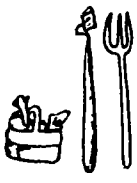
VEGETABLE ROWS

Allow children to determine where to plant each vegetable. Mark off each row by attaching a string to two sticks, one at each end of row. Smooth the ground with hoe or rake after placing the row markers.



Children return to the classroom and draw a picture of each vegetable to be planted. Use these drawings to identify the vegetable rows by attaching the drawings to the sticks at the end of rows.

PLANTING



Introduce each child to an individual seed. Show what it will produce and where in the garden it is to be planted. Using children's hands and fingers as measuring devices, show the distance apart the seed is to be planted. Give each child a turn to plant and cover the seeds with the appropriate amount of soil. Repeat procedure with other types of seeds. Ask, "The seeds are planted now. What needs to be done to make them grow?" Children take turns watering using sprinkling cans.

Children will pretend to be sprouts and create their own dance:

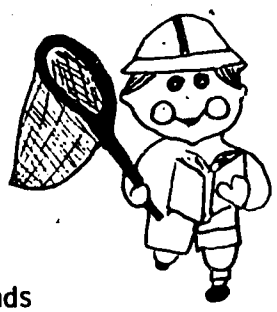
"I Am A Sprout"	Actions
Wet ground Warm sun My life as a tree or radish Has just begun.	Tell children to make themselves as small as possible. Feel the ground with one hand while maintaining the squat position.
I'm so sure, I have no doubts because my shell is cracked and I have a sprout.	Maintain seed position, lift head up. Become an even smaller sprout.
It's growing up and growing out and growing up and growing out. Upsee hooray I am a sprout!	Suddenly, break the seed position, slowly rise. Suddenly rise completely, spread arms. Open and extend arms widely.

from Billy B. Sings About Trees, Do Dreams Music, 1978. Used with permission.

April

BUG COUNT

Children carry a wide-top container with a screen lid and a fine mesh net to capture insects. Locations to find many insects will be in shrubs, cracks of tree trunks, on lawns, along walls outdoors, and in gardens. When children have collected their 'finds' ask them to count the insects, their legs and body parts. Name the insects according to their appearance or sound. Decide if the insect is a flyer, hopper, or crawler. Describe the colors and the sounds of each insect. Follow up with a role play where children imitate a particular insect. Other children try to guess which one it is.



SPIDER

Spiders can be found in corners near the ceiling, in dark locations and also outdoors near walls and in gardens. Keep spiders in a large glass container with a screen lid. A bit of water and a few insects will provide food for the spider if confined over a period of time. Have children count the legs of a spider and its body parts. Try to find the place where silk is emitted for the web.

79

SPIDER WEB

Spider webs, when found, are not easily moved, but try using a large piece of paper set behind the web to hold it together as it is removed. If a spider in a web is available for watching close up, have the children look at the spider as it leaves its web carrying a dragline for a quick return. Watch the spider make its web. Examine a web with a magnifying glass and ask the children to describe the feel of the web and its purpose (home, place to snare food). Allow children to be a spider making a web. Use a roll of yarn and have children sit in various locations in the room. One spider, a child with the yarn, crawls from child to child, trailing the yarn behind him, creating a web.

ANTS

Ants will be found crawling in the lawns or trees, or enticed with a bit of sweet, moist food set on the ground surface. An anthill (usually near dry, loose soil) is a good location where children can observe the work of ants. Watch how the work is often shared with other ants. Note the size of the carried item and compare it to the size of the ants. Place an ant on a child's arm to have him experience the feel of an ant crawling and observe how the ant doesn't seem to be affected by the angle in which the arm is held. Examine and count the ant's body parts. Ask, "What do ants do to help the earth?" "Are they food for other animals?" "Which ones?" Children may then create very large ants with clay.

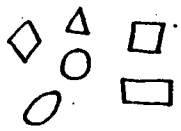
FLY

Along window wells is the most likely place to find flies. Collect a variety of dead flies and place on a display surface for children to examine. Ask questions regarding size, color, number of wings. Examine flies with a magnifying glass, paying special attention to the large compound eyes. Ask, "What do flies eat?" (plant and animal fluids). "What animals eat flies?" (lizards, birds, fish, spiders). "Are flies good for our environment?" (provide food for animals, insects).

MINI-ZOO

Ask children to describe a zoo, its animals and plants, and how they are kept at the zoo. By placing a plastic hoop (about hoola-hoop size) on the lawn surface, each child has a "mini-zoo" of her own. Make sure each hoop is in a different location: under a bush, in the shade, in the sun, near a tree. Ask children to count the live animals in their "zoo" and describe the place where each animal lives. Also watch for animals in the air above the "zoo". Ask each child to gather three different samples of plants at his zoo. Collect all the samples and then ask children to match plants from different zoos. Discuss how and why plants and animals from various locations are different and how they are similar.

YARD SHAPES



The school yard is a good location to discover the differences of size and shape in living plants. Show the children a circle shape and ask them to locate a very large plant that has that shape (a big, full, round tree trunk), and a small example of that shape (a section of a clover leaf). Try finding medium sized examples of that shape. Repeat this process with various shapes.

LAWN BEDS

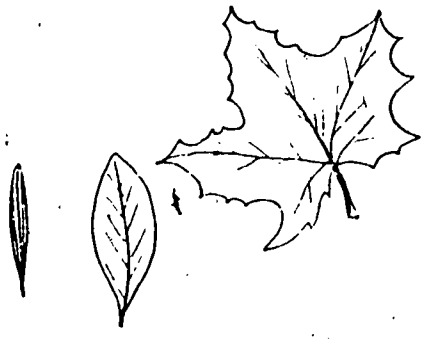
Explain to the children that the purpose of the hike is to find a comfortable place for a nap. Children stop to try various places for a soothing sleep. When they have found their favorite spot, ask them to describe it and how it feels. Write down these descriptions and share them with the class. Let each child try his sleep spot for a nap.

LAWN LOOK

Shovel up a cross section of lawn (about 12" in diameter and 12" deep). Show it to the children and ask them to follow the roots of individual grass blades. Encourage an understanding of the lawn's purpose by asking a child to be a grass plant. Ask, "What would happen to the earth, other plants, insects, and animals if there was no grass?" "What happens to the grass that is cut?" "Where does it go?" "Where is it now?" "Does it help the soil?" Return the earth/lawn sample to its original location. Children water it and later watch to see it continue growing.

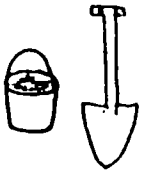
GREENFIELDS

Children gather as many different shades of green plants as they can find in the yard around school. Collect the samples. Children can then arrange them in color sequences - light to dark green; size sequences - thin to thick; or texture sequences - smooth to rough.

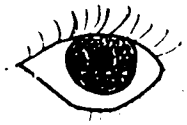


WORM DIG

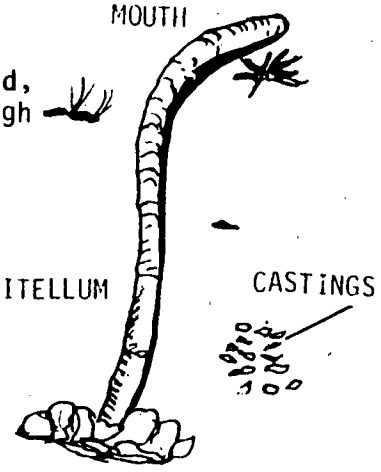
Ask children to describe the best place where worms might be found (steer responses to include moist areas near decomposing plant materials). Using shovels, allow children to dig for their worms. While digging, the children can be asked to talk about the location where the worms are, the temperature of the soil (is it warm, cool?), and if the ground feels very wet. Set all the worms and soil in a wide, open box lined with an oilcloth or plastic, for children to observe and handle the worms. Keep the soil damp.



EYEING A WORM



Children examine an earthworm under a magnifying lens and identify its mouth and clitellum (where fertilization takes place and mucus-producing glands are located), and the setae (hairlike structures on the underside to aid its movement). Note the absence of eyes. Watch it move on various surfaces, including one slightly oiled, a smooth surface, and a rough textured surface. Have children try to move like a worm, not using their hands and feet.

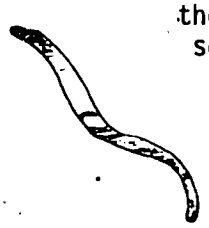


WORM TUNNELS

Set a worm in a narrow jar that is filled with four inches of moist soil that is topped with one inch of sand. Set a worm on the surface of the sand. Over a period of time, the worm will work its way through the sand to the soil where it can process food, leaving a trail of sand bits in the soil. Explain that the worm gets its food by eating the soil as it tunnels through soil, expelling it out as it moves. Go outside after a rain to find "mud castings" (expelled mud from the worm as it digests food from the soil) on the soil surface. Ask children to describe how worms are necessary for soil as well as for animals.

NEW WORMS

Cut a worm in half and place both sections in separate dirt-filled containers. In time, the children will see that one half of the worm has continued to grow and live - called "regeneration", and the other half has died. Ask them to find the clitellum on the live one. Then see if the dead one has the clitellum.



ROBIN FOOD

During morning hours, robins will most likely be seen on the lawns feeding. Have children sit very quietly to watch a robin find its food. They will notice how it stands motionless (freezing) while trying to locate a worm. It is believed that robins see the grass move as the worm crawls among its roots or that birds can hear worms moving. Then when a robin spots a worm he quickly lunges for it and flies off. Introduce the idea of interdependence of living things by asking children to explain how the soil needed the earthworm, how the earthworm needed the soil, and how the bird needed the earthworm to survive. Let children imitate the robin and worm during a bird's feeding/hunting time.

DANDELION OPENINGS

In the morning shade, children find unopened dandelion flower buds. Have them carefully tear these apart to examine how the florets are folded inside. In a sunny spot, open flowers will be found. Ask the children to fold up a flower like the bud. Point out that each floret is a flower. The dandelion is really many flowers in one. Can the florets be counted?

DANDY SEEDS

Children find examples of four stages of dandelion development: 1) the enclosed bud; 2) the opened flower; 3) the white, downy seed head; 4) the bare flower base. Explain that each is a part of the life of one plant. Ask children to name the animals that eat or rely on each part of the dandelion's life cycle: 1) rodents, rabbits; 2) bees for nectar; 3) birds for seed. Allow children to blow on the head of a seeded dandelion. Watch how and where the seeds land - examine and individual seed closely. Discuss how more dandelions are formed. Plant dandelion seeds on a spot of bare soil.

LEAVES AND STEMS

Children collect dandelion stems and leaves. Placing leaves over one another, children try to match leaves of the same shape.

Using a large dandelion leaf glued on paper, children trace around the shape and then create a body from that form. Tear the leaf stems to examine the milky fluid and note how it turns brown on their skin. Children may then peel off thin sections of the stem and watch them curl up.

WILD SALAD

Using the young tender leaves of dandelions, create a wild salad, adding fresh parsley and spinach (it is not suggested that children collect the greens, due to safety precautions.) Ask children to describe the taste of dandelion leaves, and to compare it to the taste of lettuce.

ROOT-N-AROUND

Ask children to pull up a dandelion plant, root and all. This is a difficult task unless soil is very moist and loose. Uproot a dandelion with a shovel and allow children to examine the root and its hairs. Slice the root and look at its profile. Discuss how the dandelion's "stubbornness" helps it to grow.

Children create a dandelion dance with their feet firmly planted, arms outstretched waving back and forth. Children may then imagine their feet and legs as the roots when they sit on the floor and their classmates attempt to "uproot" them.

SPRING CREEK

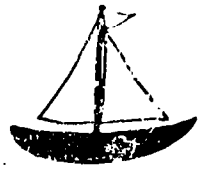
Children hike along the water's edge listening to the sounds of the creek. Ask them to identify the source of the sound and then imitate what they heard. Children decide if the sound is only heard near a creek. Discover plant life found along the creek and have children give each variety a characteristic or descriptive name.

May

TADPOLES

Take children to a creek. Carry along nets, two buckets, and shovel. Fill one bucket with mud and plants. Top with water from the creek. Children gather tadpoles using the nets. Hold tadpoles carefully in their hands. Let children examine and tell how it breathes, describe its tail and mouth. Compare its appearance and swimming style with those of a fish. Collect tadpoles in various stages of metamorphosis. Prior to tadpole inspection, explain the frogs' life cycle of egg to tadpole to adult. Ask children to differentiate between tadpoles.

BOAT RACE



Using natural materials available (tree bark, leaves, moss, etc.), children create their own boat to float in the creek. Create situations in the creek in which the boats become lodged. Discuss why some natural materials do not work well in boat construction.

CREEK FOOD

Springtime cattails produce a tender asparagus-like treat which can be eaten. Peel back the outer stem of a young cattail and cut out sections of the inner stem. This can be eaten raw or fried. Allow the children to taste and describe this delicacy.

MESSY MOSS

Moss can be found nearly any place along, and in, a creek, on stones, treebark, or on the ground. Children collect samples of different kinds of moss, describing the place where it was found. Use a magnifying glass to examine and compare.

CATERPILLAR HUNT

In the spring, caterpillars will be found crawling along stems and twigs and in the grass. Children carry a milk container with a few leaves to hold the caterpillars they find. Showing pictures of caterpillars before the hunt may be helpful to the children. Children will naturally enjoy the caterpillar if it is allowed to crawl on their hands. Examine caterpillars with a magnifying lens looking for sharp spines or tree legs which are used for holding objects and clinging. Look for legs, false legs, mouth and anntennae. Discuss how caterpillars are the larvae (babies) of moths and butterflies. Caterpillars will soon make cocoons (moth) or chrysalis (butterfly) using the silk they make, or a leaf. During this period the adult moth or butterfly forms. Let children observe and imitate how a caterpillar moves. Children can draw imaginary pictures to show how a caterpillare will look when it becomes a butterfly or moth.

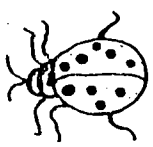
COLORFUL DAYS

Children explore a nearby area in an effort to match colors in nature with colored clothing they are wearing.

Collect various nature samples such as flower petals, leaves, moss and dirt. Bring these indoors and have the children create a nature drawing by rubbing the colors from these items on white paper.

LADYBUG

This beetle got its name in England where legend says it was a gift from the Virgin Mary. Because this bug eats the aphids which destroy the farmer's plants, the ladybug is welcome in most gardens. The beetle goes through a metamorphosis (change): egg, larvae and adult. In winter it hibernates. Children may gather ladybugs around shrubs infested with aphids (tiny white insects), and on unsprayed rosebushes. Keep ladybugs in a covered jar with leaves and a few aphids. Have children count the dots on the back of a ladybug, or see how it "plays dead" when put on its back. Use a magnifying glass to examine the shape of the mouth (used for piercing and sucking). Watch the ladybug fly. She has two sets of wings. Have the children draw ladybugs.



TREE DOCTOR

Use a stethoscope to listen to a tree's heartbeat (the sound of fluid flowing in the tree). Choose a young tree, about six inches in diameter, with thin bark. Place stethoscope on tree trunk in various places until sound is heard. Allow children to hear and compare with the sounds of their own heartbeat. Explain to children the source of the tree's heartbeat sound and ask if the tree is alive. "Are all plants alive?"

SPRING SINGS

A morning listening hike introduces children to the new sounds of spring. Let children identify the sound source and ask children to guess what the animal or insect may be "saying". Do any sounds come from plants? Locate other signs of spring by smelling and feeling.

BELLY HIKE

Children lie on their stomachs
to investigate a small section
of the lawn or yard. Ask them
to describe all the living things
they see (name, color, shape, size).
Then all the non-living things.
Leave the area. Ask the children
to describe what they remember.

PICTURE FEEL

Choose a large, simple drawing and lay it flat on a table. Have the children gather tiny objects of varying textures, such as grass, sand, pebbles, weed tops, ...

Arrange the objects within the lines of the drawing and secure with glue. Let dry and have the children feel the different textures.

Key Experiences

The daily sensations are keyed to a cognitively oriented curriculum. These particular abilities are focused in each sensation.

Active Learning
- Sensory exploration, involving the use of uncommonly used senses for learning
- Body awareness and movement using large muscles, tools and equipment; recognizing and comparing body parts
- Choosing materials, activities and purposes

Language
- Visual skills - memory and discrimination
- Auditory skills - memory and discrimination
- Expression - feelings, values, beliefs concerning oneself
- Describing events, materials

Representation of Ideas and Feelings
- Role playing - imaginative acting of an idea, object, material
- Artistic expression - using a variety of art forms to express oneself

Logical Reasoning
- Classification - noting same and different, sorting, labeling attributes
- Seriation - comparison, arranging items in order
- Number concepts - counting, comparing amounts
- Color concepts - labeling colors, comparing similar colors

Understanding Time and Space
- Spatial relations - fitting together and taking apart, observing from different viewpoints, experiencing and describing in relation to position and movement
- Time - describing past events, anticipating future events, noting the order of things by using concepts like today, morning, yesterday, etc.

Children's Books to Accompany Sensations

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Harlan, Jean D., Science Experiences for the You Child

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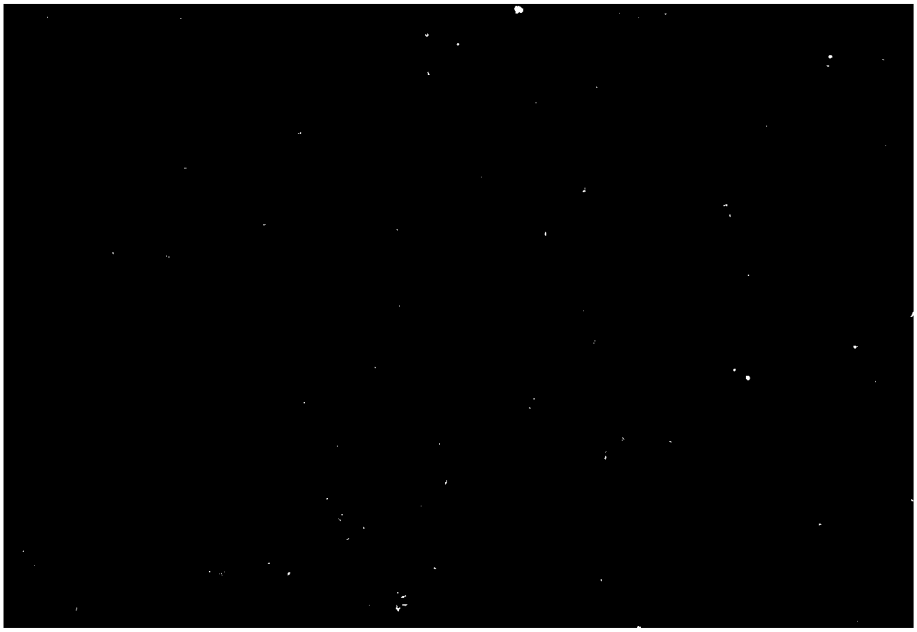
1983-84 school calen

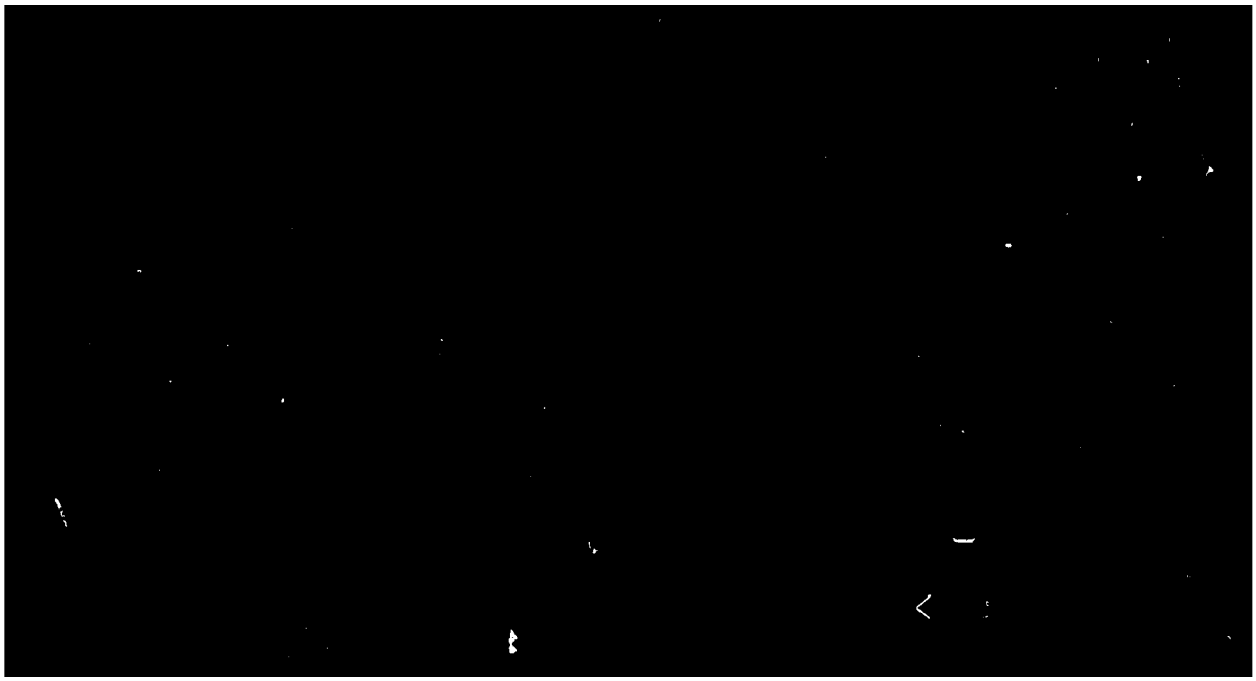
Sensations

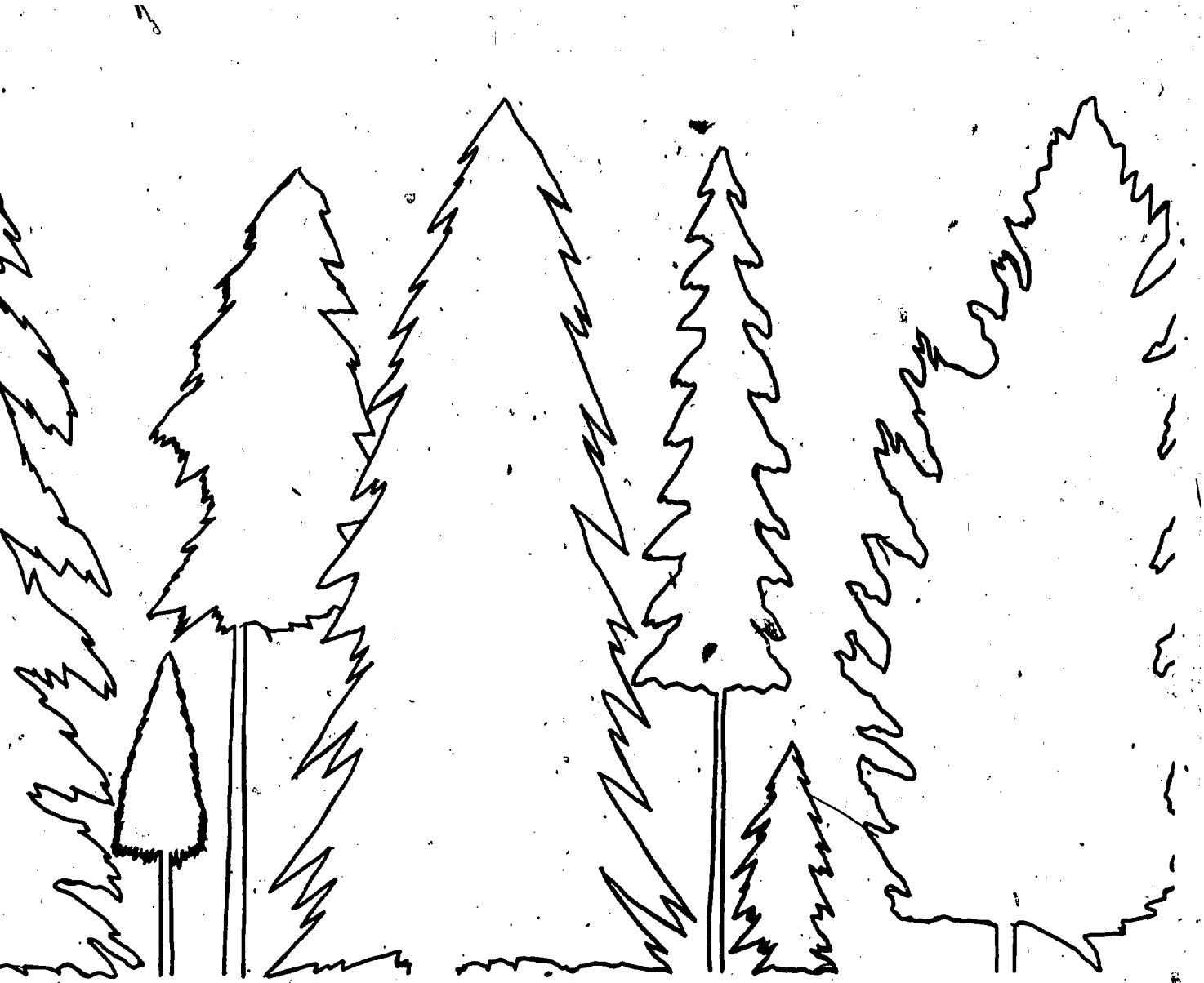
multi-sensory learning for young children

Maureen Keilty Carpenter



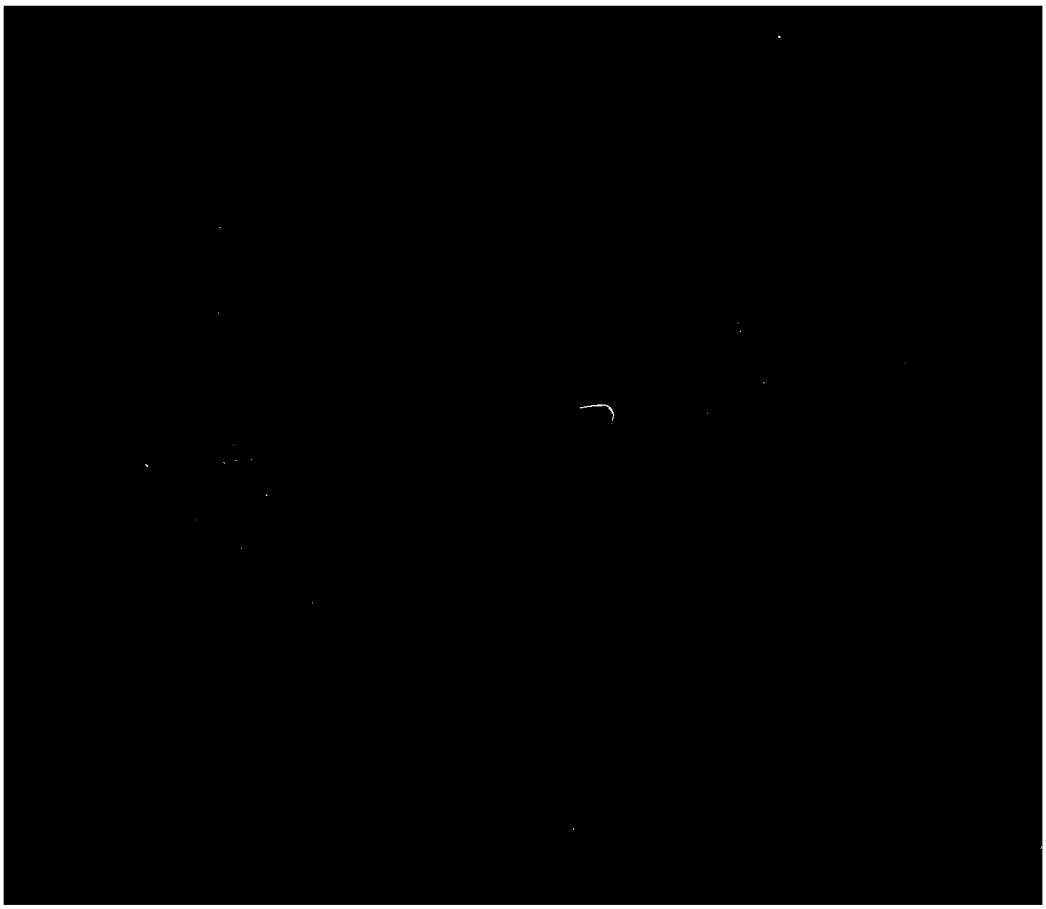
	Monday	Tuesday	Wednesday	Thursday	Friday	Reminders
	October					1.
	LEAVES 3.	LEAF Rubs 4.	LEAF Puzzle 5.	LEAF MATCH 6.	WHAT HAPPENS TO LEAVES ? 7.	8.
	10. SPIDER WEB	BEE HIVES 11.	WASP NEST 12.	BIRD'S NEST 13.	NESTING 14.	15.
	CREEK BED HIKE 17.	18. FROG	BOAT RACE 19.	cattails 20.	21. Turtle	22.
	31 Shadows GROWING & Shrinking 24.	WINDY DIRECTIONS 25.	RAINDROPS KEEP FALLING 26.	CLOUDS 27.	SQUIRREL COLLECTION 28.	29.

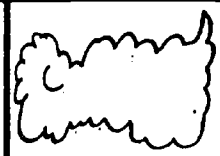
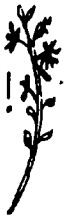
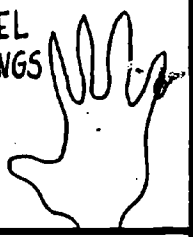


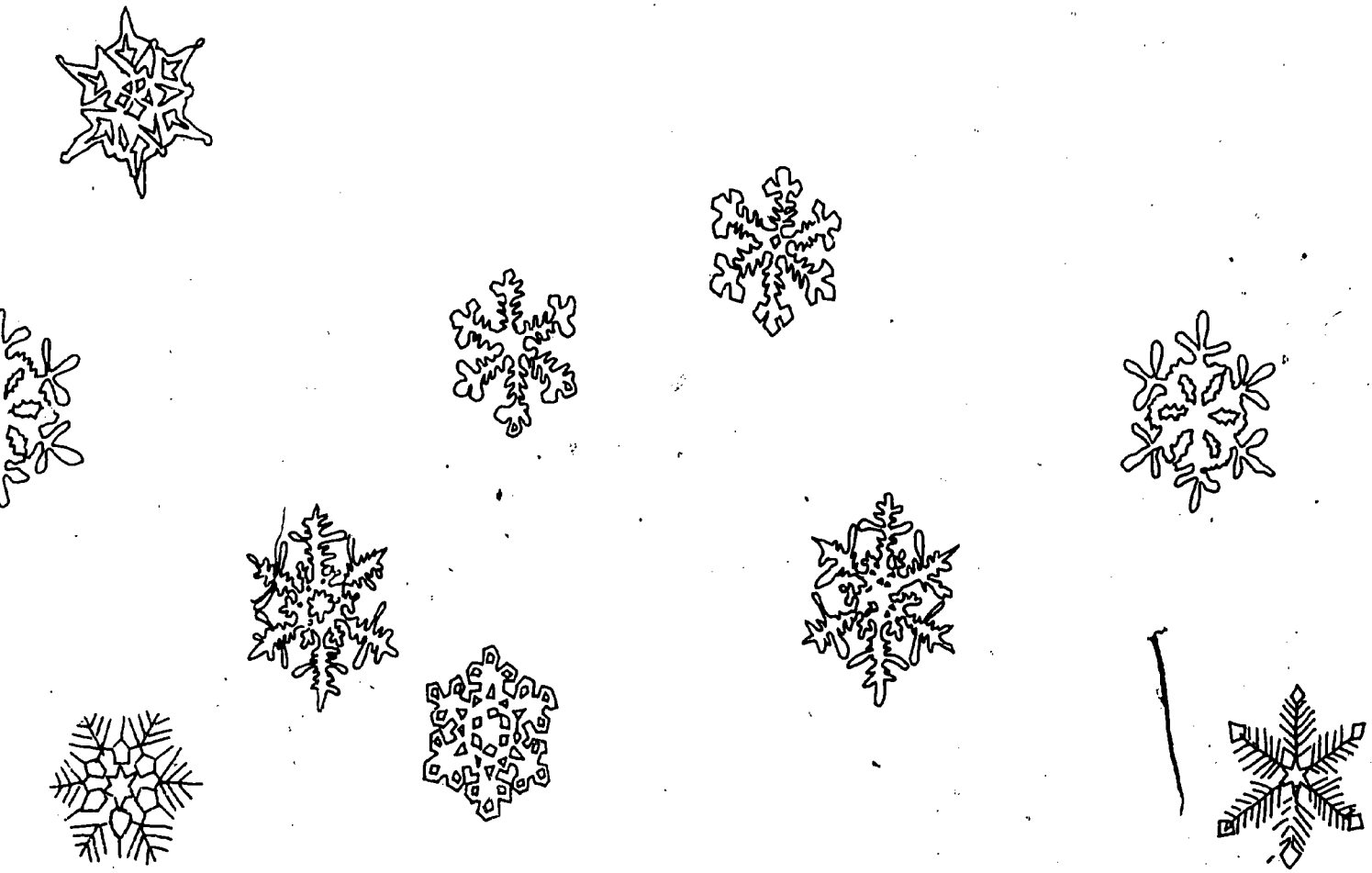


DECEMBER

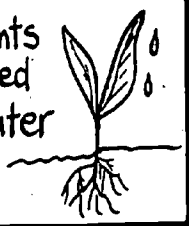
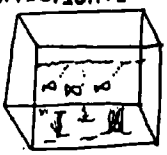
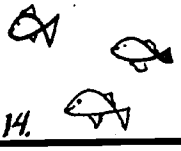
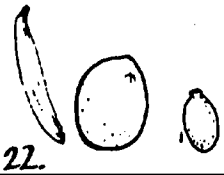
Monday	Tuesday	Wednesday	Thursday	Friday	Reminders
	December	COLORFUL SUNLIGHT	MINI LIGHT 1.	SUNLIGHT ALL AROUND US 2.	3.
PARAKEET 5.	Rabbits 6.	CAT 7.	DOG 8.	PETS 9.	10.
Squirrel 12.	Hamster 13.	MOUSE 14.	CHRISTMAS TREE FOREST 15.	CHRISTMAS, for Birds & Squirrls 16.	17.
19.	20.	21.	22.	23.	24.
26.	27.	28.	29.	30.	Happy New Year 31.

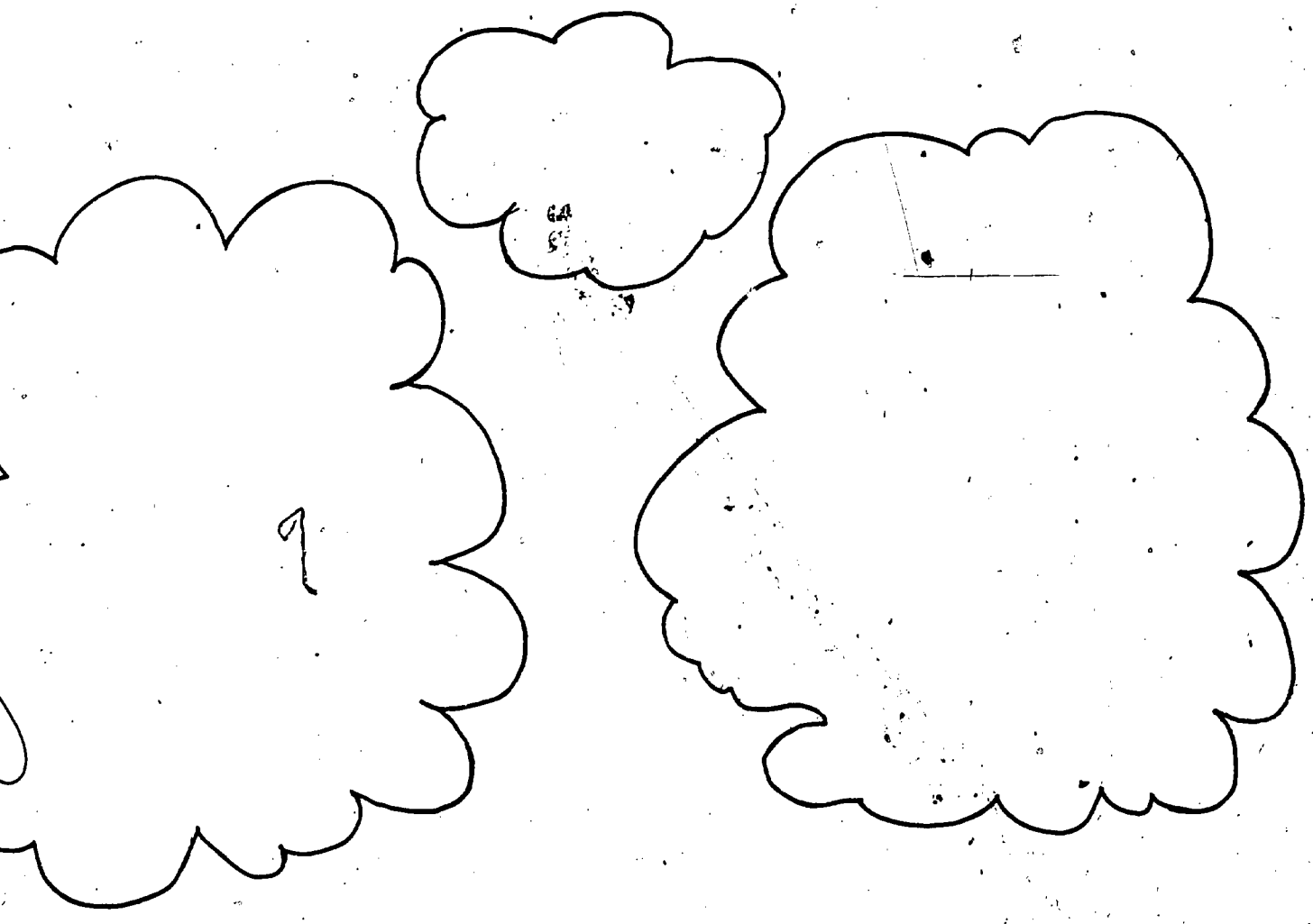


	Monday	Tuesday	Wednesday	Thursday	Friday	Reminders
	WINTER WONDERS ! 2.	SNOWFLAKES 3.	SNOWMELT 4.	Winter Painting 5.	Snow Ice Cream 6. 	7.
	 ICICLE 9.	Hot Ice Cubes  10.	GROWING ICE 11.	 Eat a Snowman 12.	FROZEN WATERWAYS  13.	14.
	Evaporation 16.	Growing Temperature  17.	 CLOUD DREAMS 18.	Bare Twigs 19.	Hurry Up! Spring  20.	21.
	TWO in N E 23.	FEEL THINGS  24.	 BIG SNAKE 25.	SOUND NAMES 26.	Smell Memory 27.	28.
	No two Alike 30.	31.		January		

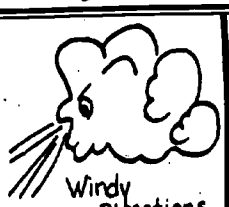
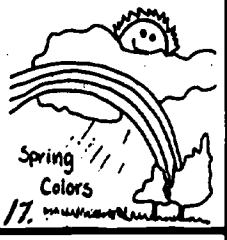


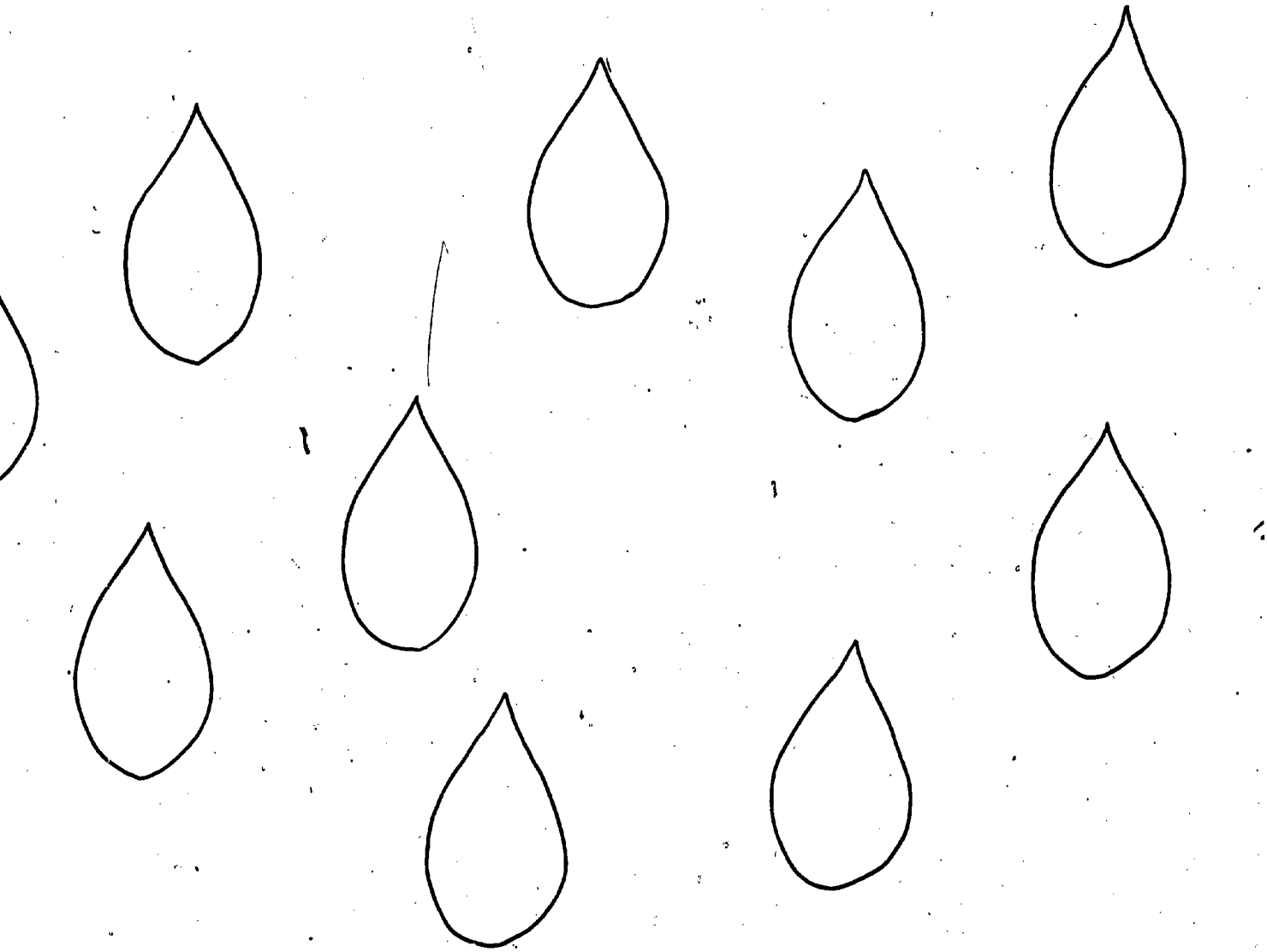
FEBRUARY

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Seeds in Snow 	SNOW PAINT  1.	Snow Blanket 2.	Pure as Snow 3.	4.
Plants need Water  6.	Plants Need Air 7.	PLANTS NEED FOOD 8.	Plants need Sun 9.	GROW  10.	11.
AQUARIUM INVESTIGATION  13.	FISH COUNT  14.	Fish Parts  15.	Fish Dance 16.	Clean Tank  17.	18.
Grocery Store Visit 20.	Winter Food  21.	Sun Meal  22.	Drying Food  23.	SNOWY PICNIC  24.	25.
Pinwheels  28.	29.	February			



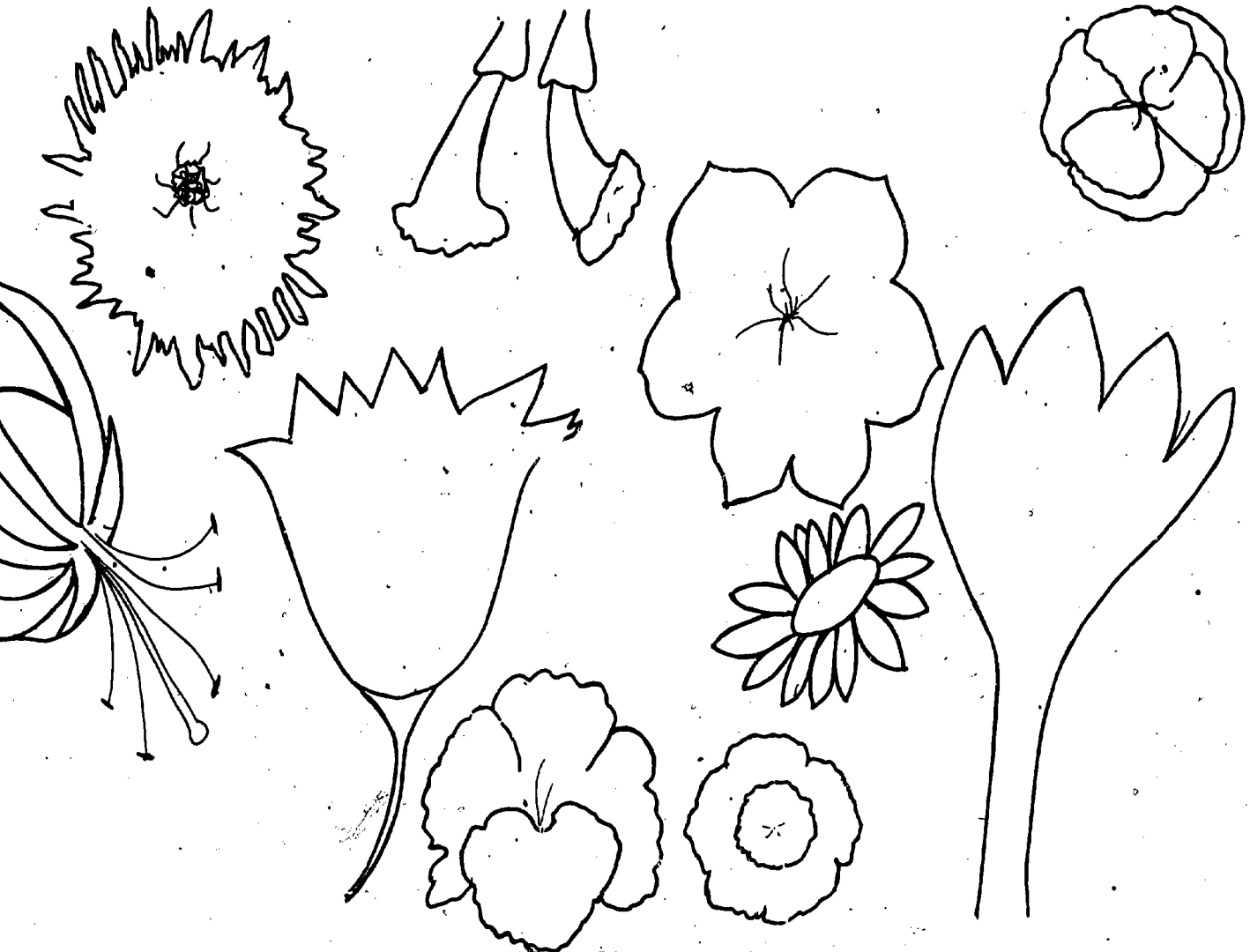
MARCH

Monday	Tuesday	Wednesday	Thursday	Friday	Reminders
	March Windy Dance	Indoor Wind 1.	Wind Moves 2.	 Windy Directions 3.	4.
 SPRING SIGN 6.	Spring Bird Hike 7.	 Nesting 8.	 Bird Uses 9.	Down Feather  10.	11.
Green Tour 13	Budding Spring  14	Spring is Here! 15	 Tree Art 16	 Spring Colors 17.	18.
20.	21.	22.	23.	24.	25.
Litter Tour  27.	Nature's Music 28.	 Nature Detective 29.	OWL EARS  30.	Balance Scale  31.	

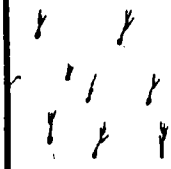
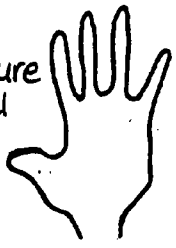


APRIL

Monday	Tuesday	Wednesday	Thursday	Friday	Reminders
	April				1.
3. RAIN CLOUDS	4. RAINDROP RINGS	5. CREEK MAKING	6. Rainbow Race	7. Rain STOP	8.
10. SEEDLING STARTING	11. Garden Beginnings	12. Vegetable Rows	13. Planting	14. SPROUTING	15.
17. BUG COUNT	18. Spider	19. Spider Web	20. ANTS	21. FLY	22.
24. Mini-Zoo	25. YARD SHAPES	26. LAWN BEDS	27. Lawn Look	28. Greenfields	29.



MAY

	Monday	Tuesday	Wednesday	Thursday	Friday	Reminder
	WORM DIG  1.	EYEING A WORM  2.	WORM TUNNELS  3.	NEW WORMS  4.	ROBIN FOOD  5.	6.
	Dandelion Openings  8.	DANDY SEEDS  9.	LEAVES STEMS  10.	Wild Salad  11	 Root-N-Around 12.	13.
	Spring Creek 15.	Tadpoles  16.	BOAT RACE  17.	Creek Food 18.	MESSY MOSS 19.	20.
	Caterpillar Hunt  22.	Colorful Days 23.	 Lady Bug 24.	 Tree Doctor 25.	Spring Sings 26.	27.
	Belly Hike 29.	Picture Feel  30.	31.		May	