WPH 1201

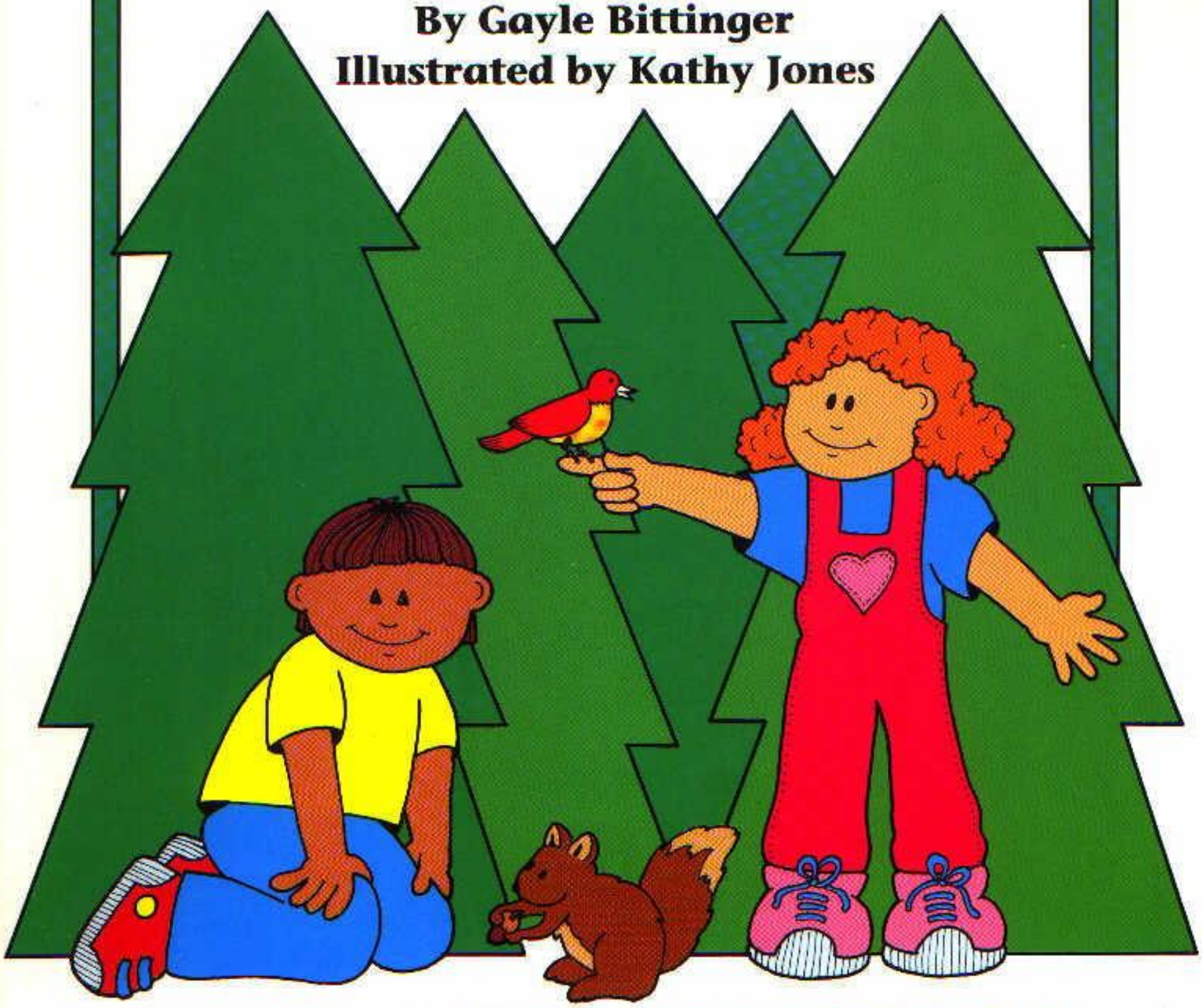
Totline Books

ENVIRONMENTAL AWARENESS:
Ages 3–6

Learning & Caring About

OUR WORLD

By Gayle Bittinger
Illustrated by Kathy Jones



Activities For Helping Young Children Learn And Care About Their Environment

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Introduction

Taking care of the environment is an important but sometimes overwhelming job for adults. The job seems even more overwhelming when you want to teach young children about the environment. Where do you start?

As I sat down to write this book, I had to answer that question for myself. I decided that the following three areas were the best places to begin:

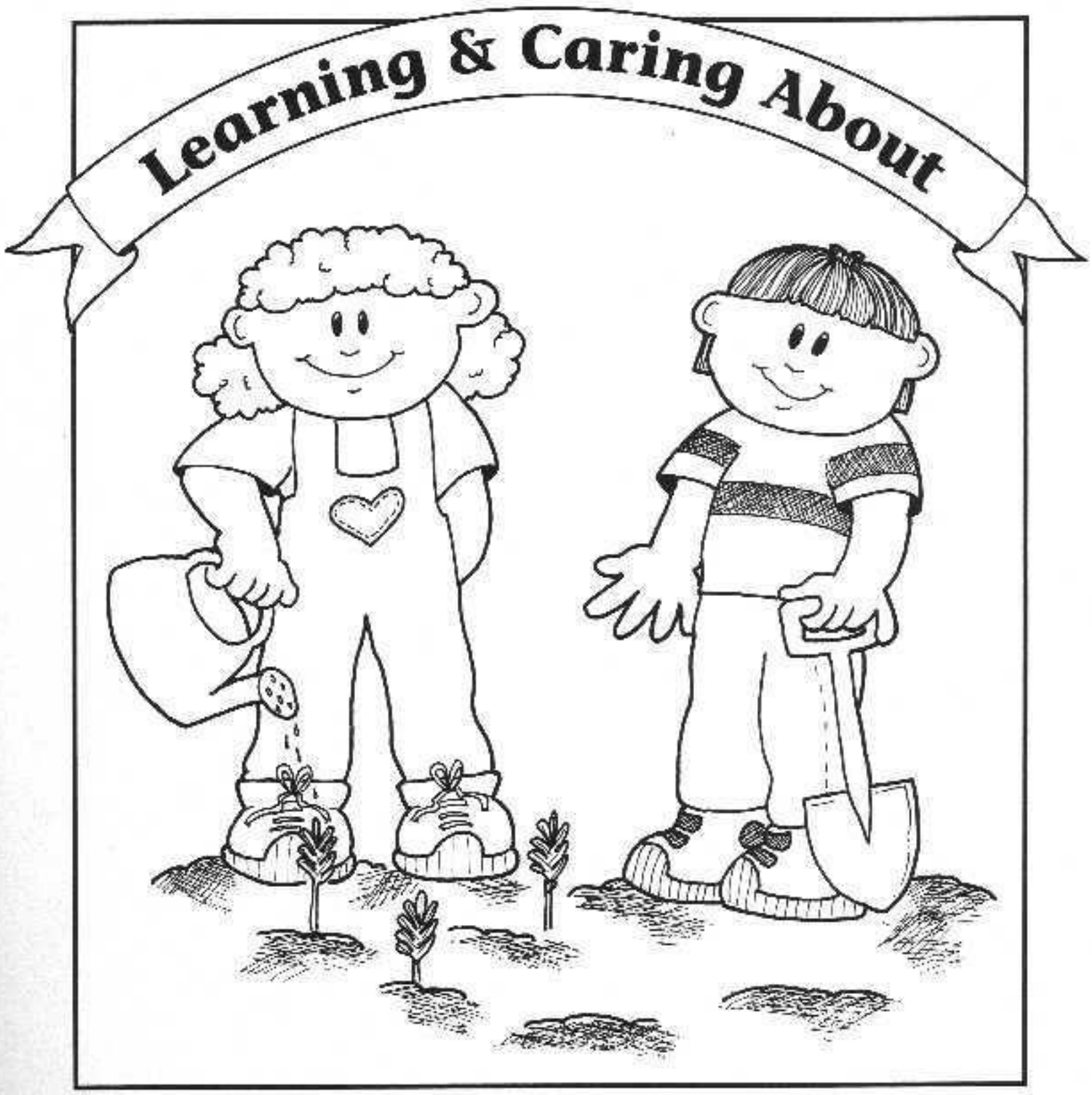
- Teach young children about the environment – land, air and water – at their level and help them develop an appreciation for the world they live in through activities that include hands-on science, art, music, movement and learning games,

- Provide young children with opportunities to contribute to the care and well-being of their world,

- Give parents and children activities to do together to learn about and take care of their environment.

With these starting places in mind, I put together the material you will find in this book: developmentally appropriate activities that help young children explore, understand and appreciate the world around them; ideas for easy but important things that young children can do to help take care of their world; and reproducible parent flyers that are filled with ideas for children and parents to do together.

It is my hope that you will find the activities in this book to be fun and easy ways to encourage your children to learn and take care of Our World.

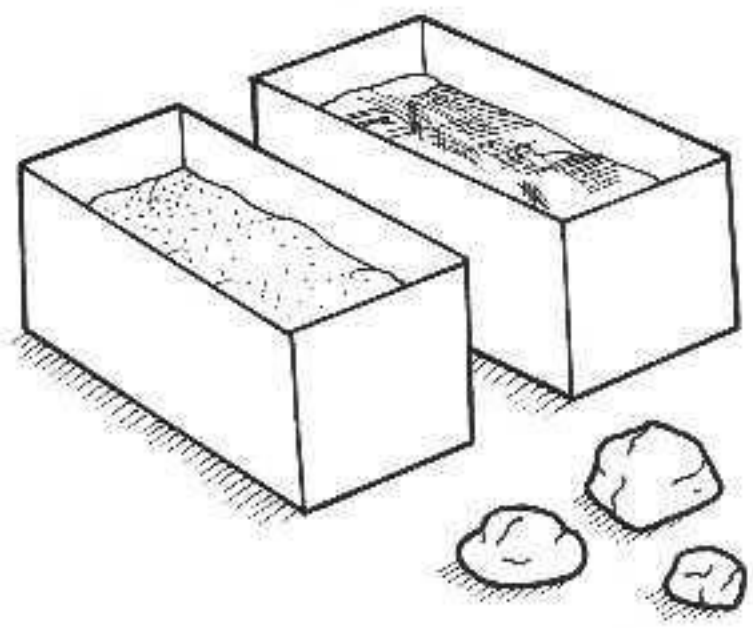


OUR LAND

How We Get Dirt

Materials: Several rocks (granite or sandstone, if possible); a box of sand; a box of dirt.

Preparation: None.



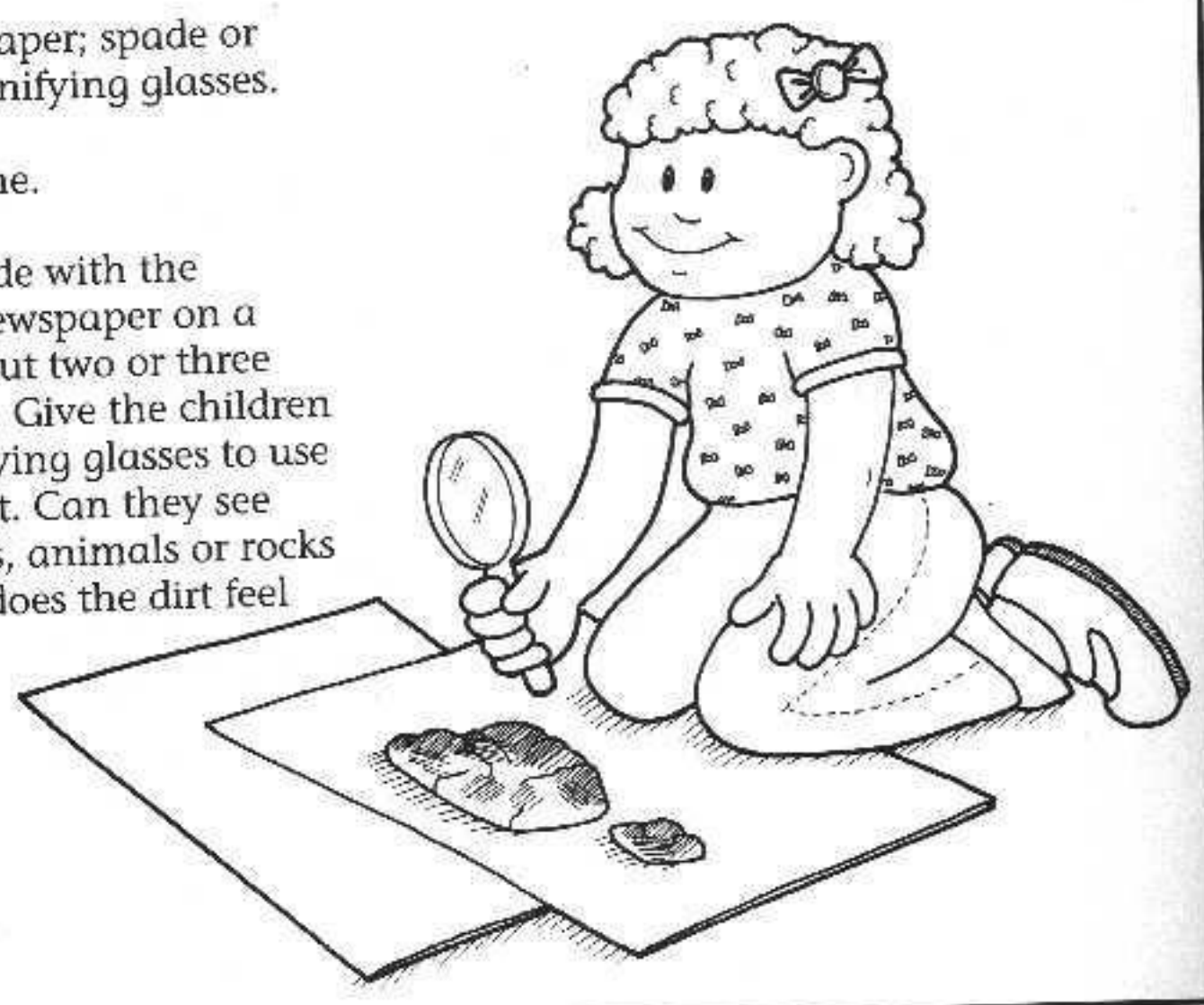
Activity: Explain to the children that dirt, or soil, is made from rocks, plants and animals. First, show them the rocks and the sand. Tell them that after years and years of warming by the sun, freezing by the snow and ice and wearing away by the wind and rain, the rock will eventually break into smaller and smaller pieces until it becomes sand. Then show the children the dirt. Explain that dirt is sand with tiny pieces of decaying plants and animals in it. Let the children take turns feeling the sand and the dirt. How does the dirt feel different from the sand? Does the dirt look different?

Dirt Safari

Materials: Newspaper; spade or shovel; sifters; magnifying glasses.

Preparation: None.

Activity: Go outside with the children. Spread newspaper on a level surface and put two or three scoops of dirt on it. Give the children sifters and magnifying glasses to use to examine the dirt. Can they see any parts of plants, animals or rocks in the dirt? What does the dirt feel and smell like?

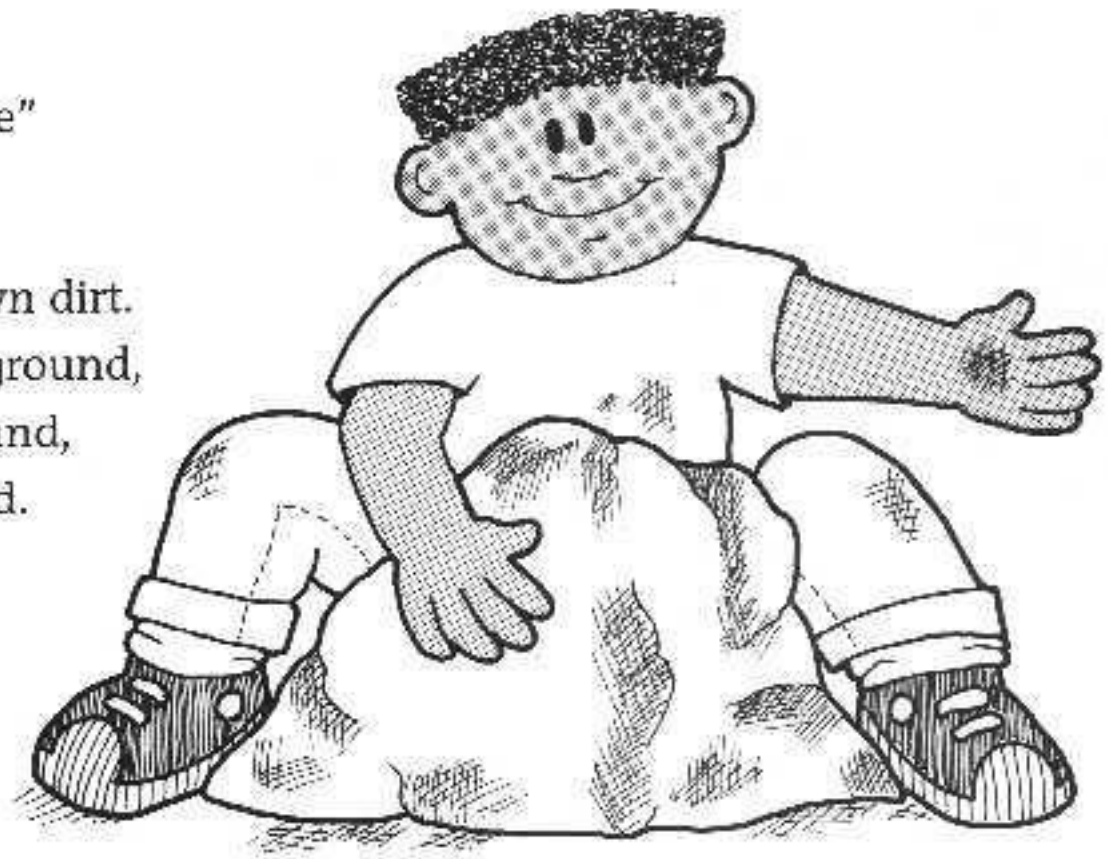


I Love Dirt

Sung to: "Three Blind Mice"

I love dirt, I love dirt.
Fun, brown dirt; fun, brown dirt.
I love to dig down in the ground,
I love to have dirt all around,
I love to pile it in a mound.
I love dirt.

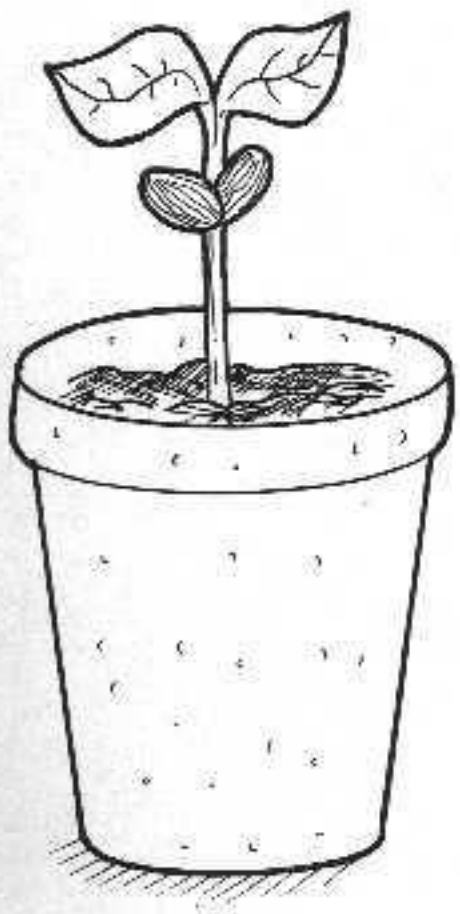
Gayle Bittinger



Making Dirt

Materials: Cut-up fruit and vegetable skins; sand; peat moss; eggshells; bean seeds; pitcher of water; paper cups; spoons.

Preparation: Set out the materials.



Activity: Let the children help you tear fruit and vegetable skins into small pieces and crush eggshells into tiny bits. Then give them paper cups and spoons. Have each child put in his or her cup a spoonful of sand, a spoonful of peat moss, a few pieces of fruit and vegetable skins and some crushed eggshell. Let the children add small amounts of water to their cups before stirring all their ingredients together. They now have dirt. Give each of the children one or two bean seeds to plant in their cups. Have them set their cups in the sun and add water regularly. Why are their seeds growing? What is in dirt that seeds need to grow?

Variation: If desired, let the children make their own sand by wrapping small sandstone rocks in a towel and crushing them with a hammer.

Mud Sculpting

Materials: Bucket of dirt; kitchen basters; dishpans; bowl of water.

Preparation: Set out the materials.

Activity: Let the children use their hands to put scoops of dirt in the dishpans. Have them use the kitchen basters to add water to the dirt to make mud. Let them play and be creative with the mud in their dishpans. What would happen if they added more dirt? What would happen if they added more water? Ask them to describe how the mud feels. Does it feel cold? Warm? Squishy? Slimy? Smooth? Rough?

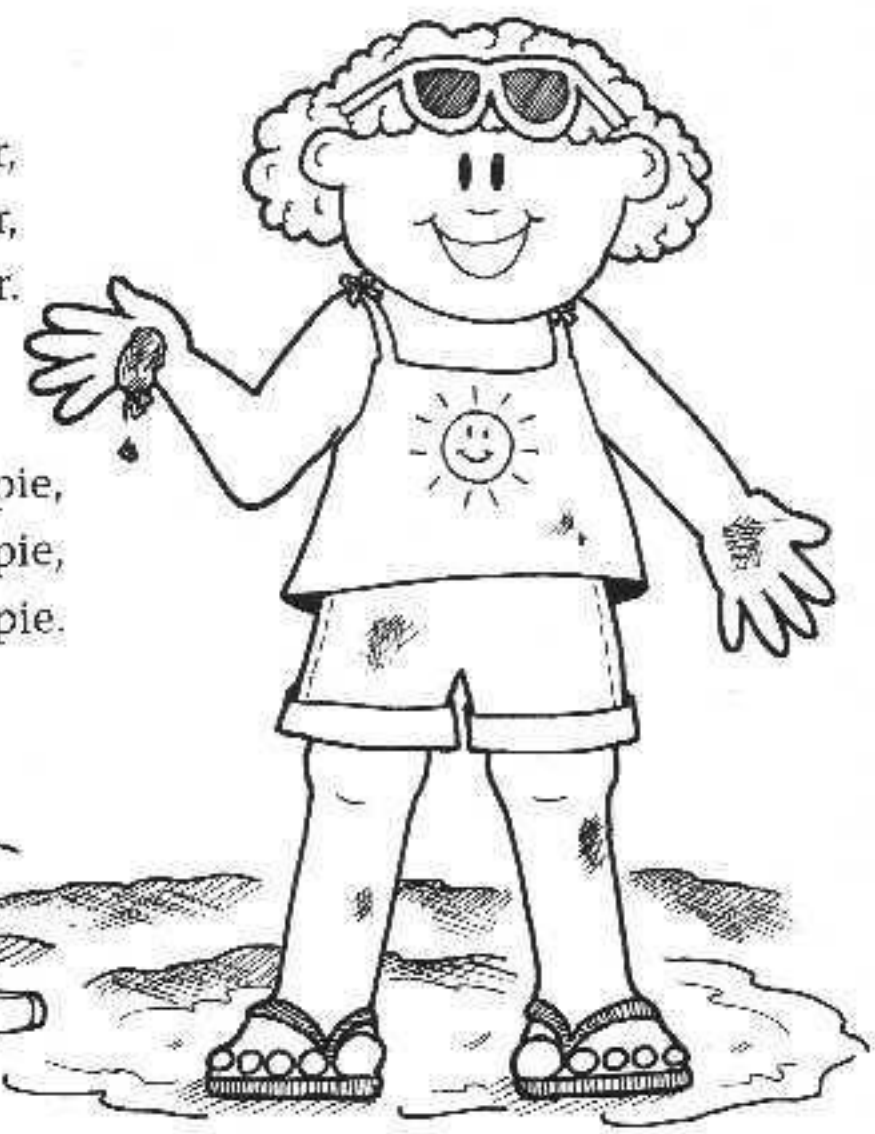
Mud Song

Sung to: "Skip to My Lou"

Scoop up some dirt and add a little water,
Scoop up some dirt and add a little water,
Scoop up some dirt and add a little water.
That's how I make mud.

Squish it with my hands and pat it in a pie,
Squish it with my hands and pat it in a pie,
Squish it with my hands and pat it in a pie.
That's what I do with mud.

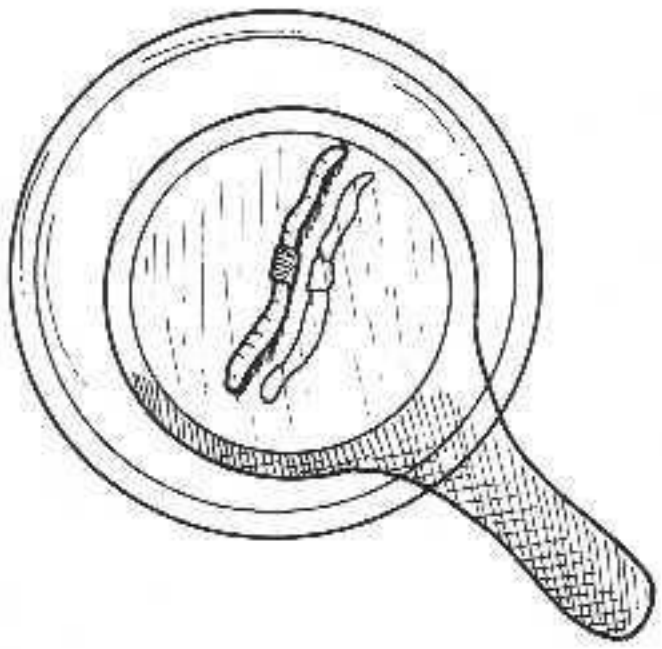
Gayle Bittinger



Earthworm Observation

Materials: Mirror; glass pie plate; earthworm.

Preparation: Place a mirror on a table with a glass pie plate upside down over it. Put an earthworm on top of the pie plate.



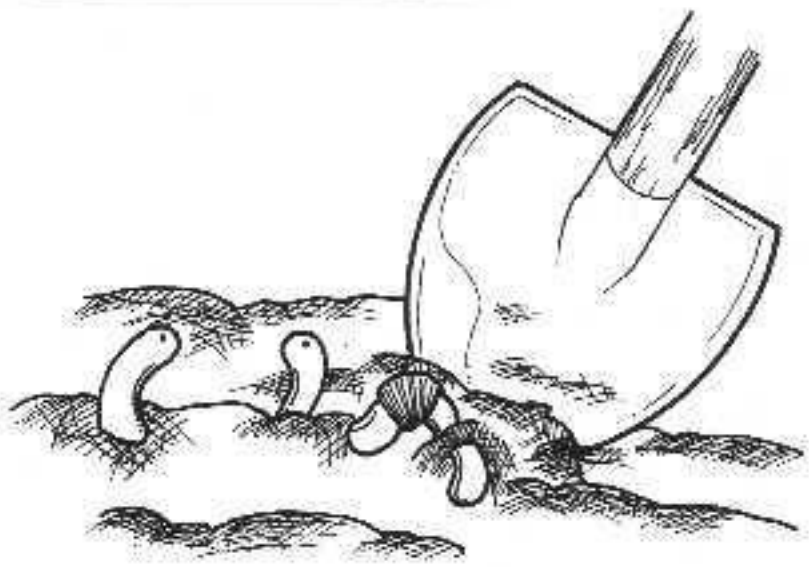
Activity: Let the children observe the earthworm as seen from above and as reflected in the mirror. Ask them such questions as "How does the earthworm move? What color is it? What does its skin look like?" Talk about what earthworms do in the soil. Explain that they hatch from eggs that are inside a cocoon. The worms are very tiny when they are born and many worms hatch from one cocoon. The worms dig tunnels in the dirt to live in. The only facial feature an earthworm has is a mouth through which soil (an earthworm's food) enters. Little piles of an earthworm's digested soil can be found near the opening of its tunnel. These piles are called castings.

Earthworm Hunt

Materials: Spade or shovel; plastic container.

Preparation: Find a spot where there are many earthworms, such as a garden or a compost pile. Or "seed" a small area with worms you have found in other places. (If necessary, check with a sporting goods store to find out where earthworms can be purchased in your area.)

Activity: Take the children on a nature walk to your pre-selected site. Talk about the kinds of places earthworms like to live in, such as gardens or other spots with dark brown soil. When you reach your



site, use a spade or shovel to turn over the soil and let the children look for worms. Put the worms in a plastic container with enough damp soil to cover them. Then take the worms back to observe.

Extension: When your observation of earthworms is finished, let the children help return the worms to a garden or other appropriate place.

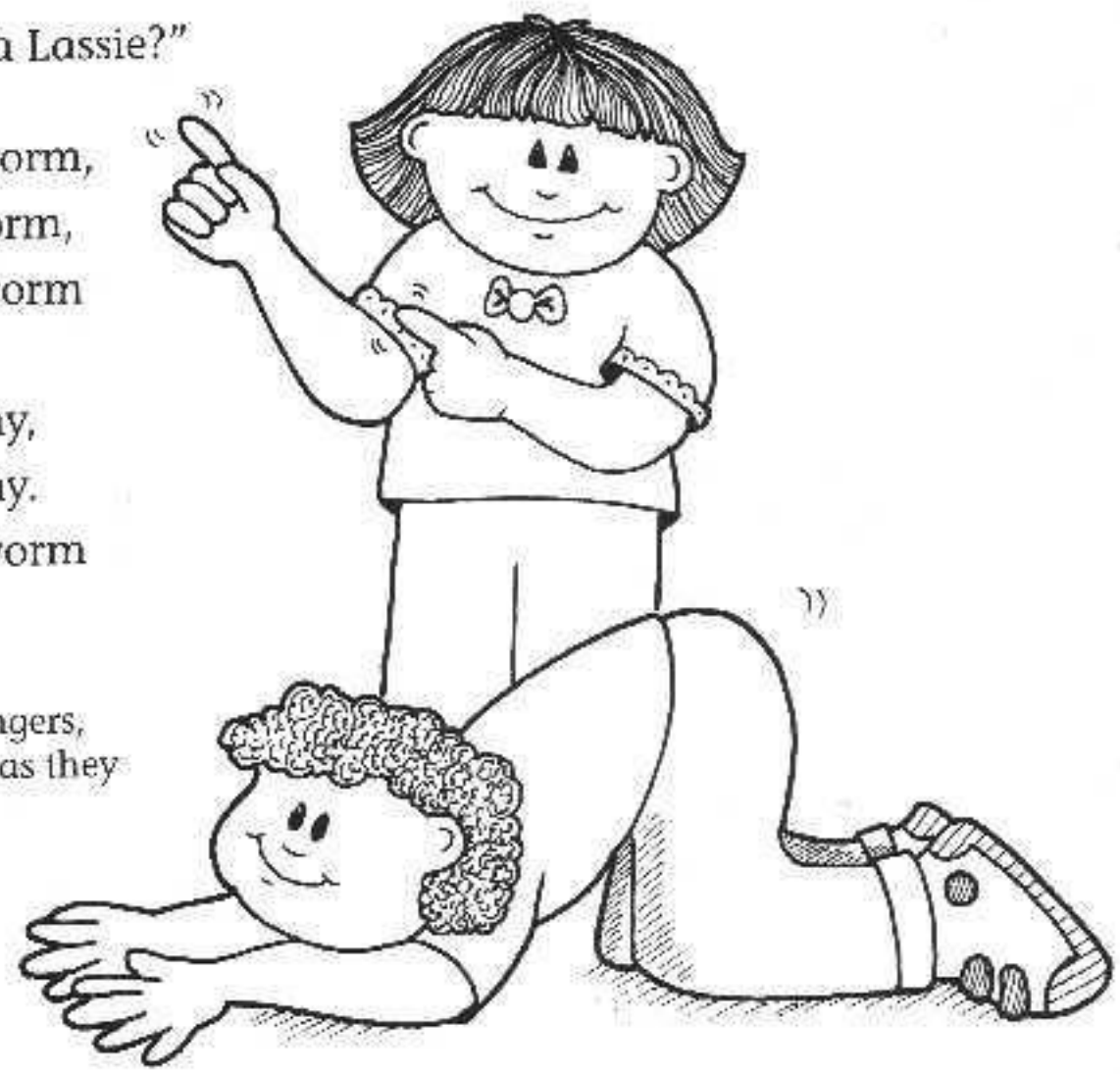
Earthworm

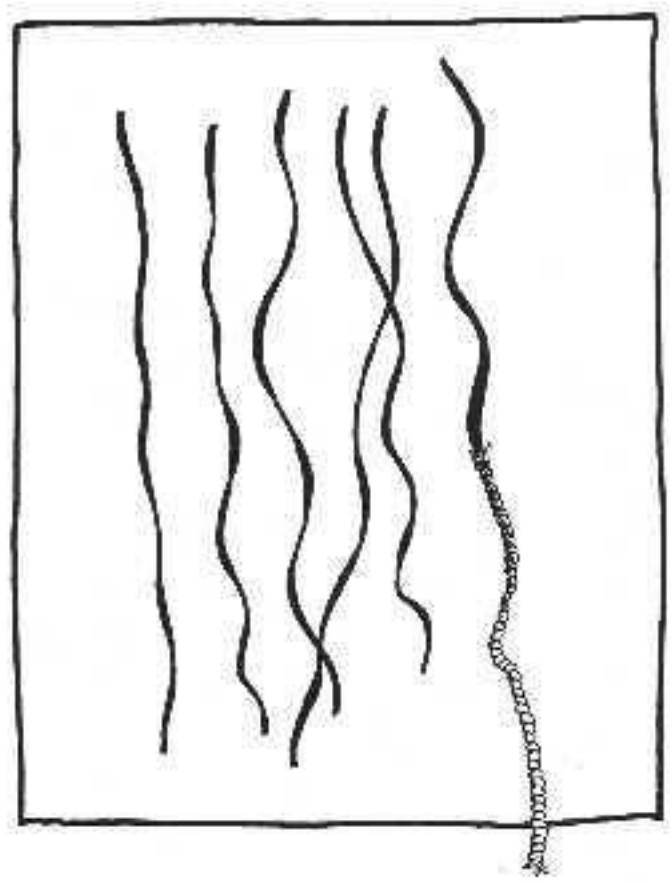
Sung to: "Did You Ever See a Lassie?"

Did you ever see an earthworm,
An earthworm, an earthworm,
Did you ever see an earthworm
Move this way and that?
Move this way and that way,
Move this way and that way.
Did you ever see an earthworm
Move this way and that?

Have the children move their fingers, arms or bodies like earthworms as they sing the song.

Betty Silkunas





Worm Tracks

Materials: Shallow containers; brown termpera paint; string; construction paper; pair of scissors.

Preparation: Pour small amounts of brown tempera paint into shallow containers. Cut string into 6-inch pieces.

Activity: Give each child a piece of construction paper and a 6-inch piece of string. Let the children dip their pieces of string in the brown tempera paint. Then have them pull their strings across their papers to make "worm tracks." Encourage them to make their strings crawl and wiggle like real worms.

Plants Need Water

Materials: Two identical houseplants that need frequent watering; such as a coleus, a peace lily or an umbrella plant; watering can; water.

Preparation: Place two identical houseplants that need frequent watering in a window. Fill a watering can with water.

Activity: Let the children take turns watering just one of the plants. After several days have them compare the plants. Which plant looks healthy? Which plant looks droopy? Can they name one thing that plants need to grow? Now let the children water both of the plants until they both look healthy again.

Hydroponic Gardening

Materials: Short wide-mouthed clear plastic cups; tall narrow-mouthed clear plastic cups; vermiculite (available at garden supply stores); bean or lettuce seeds; liquid plant food; sponge; watering can; water; pair of scissors.

Preparation: Poke holes in the bottoms of short wide-mouthed plastic cups, one hole in each. Put a 1/4- by 3-inch strip of sponge through the hole of each cup. Mix water and liquid plant food in a watering can according to the directions on the plant food bottle.

Activity: Explain to the children that plants can grow without soil. This kind of gardening is called hydroponic gardening. Give each child one of the short wide-mouthed cups with a sponge strip in it and a tall narrow-mouthed cup. Let the children fill their tall cups partway with water from the watering can. Have them carefully place their short cups on top of their tall cups so that the sponge strips hang down into the water. Let them fill their short cups with vermiculite. Give them each several bean or lettuce seeds to plant in the vermiculite. Set the cups in a sunny location. Have the children observe their cups over the next week as their seeds begin to sprout. How can their plants grow without soil? (Soil provides plants with two things: support and nutrients. Hydroponic gardens provide support with vermiculite and nutrients with liquid plant food.) Have the children add the water and fertilizer mixture to their tall cups as necessary.

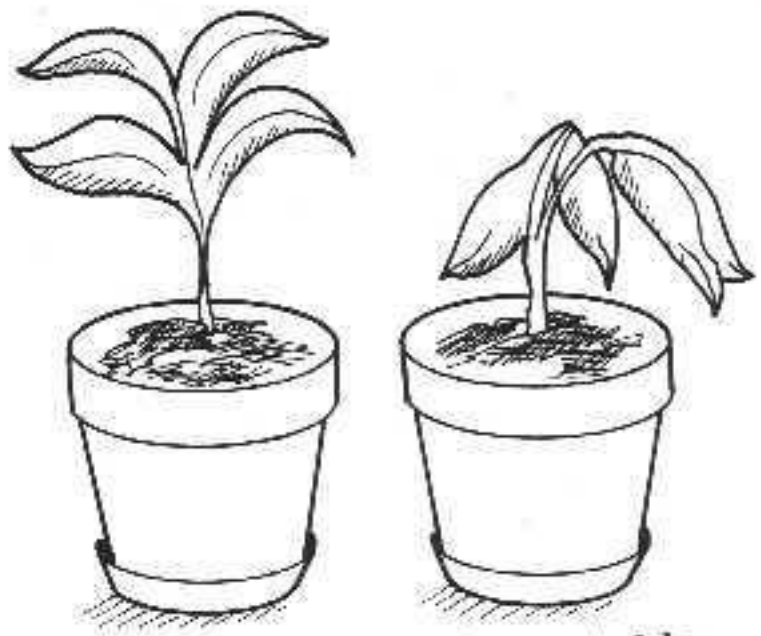
Caution: Children need adult supervision at all times while working with fertilizer.

Plants Need Light

Materials: Two identical houseplants that grow best in a sunny place, such as a corn plant, a rubber tree or ivy; watering can; water.

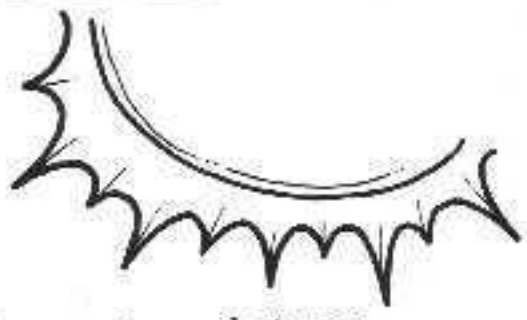
Preparation: Set out two identical houseplants that grow best in a sunny location. Fill a watering can with water.

Activity: Have the children help you place one of the plants by a sunny window and the other plant in a dark place such as a closet or a cabinet. Let the children take turns watering both plants. After a while



set the two plants out on a table. Ask the children to describe the differences in the plants. Why does one of the plants look unhealthy? What could they do to make it look healthy again? What is something plants need to grow?

What Do Plants Need?



Sung to: "The Mulberry Bush"

Little plant, oh, what do you need,
What do you need, what do you need?
Little plant, oh, what do you need,
To grow up big and strong?

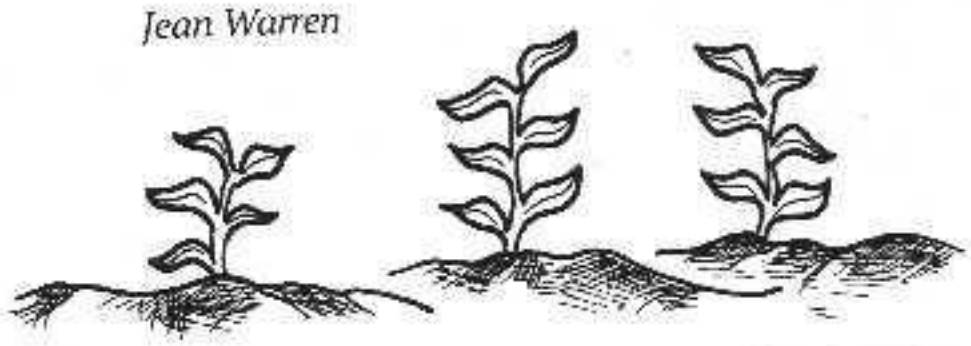
I need water to stand up tall,
Stand up tall, stand up tall.
I need water to stand up tall,
To grow up big and strong.

I need sun to make my food,
Make my food, make my food.
I need sun to make my food,
To grow up big and strong.

I need support for roots and stems,
Roots and stems, roots and stems.
I need support for roots and stems,
To grow up big and strong.

I need nutrients to keep me healthy,
Keep me healthy, keep me healthy.
I need nutrients to keep me healthy,
To grow up big and strong.

Jean Warren



Seed Transporting

Materials: A pair of old white socks for each child.

Preparation: None.

Activity: Help the children each put on a pair of old white socks over their shoes. Then take the children on a seed-collecting hike. If possible, hike through a park or the woods. As you walk along, have the children look at their socks every now and then. Do they see any seeds on them? Where did the seeds come from? What will happen when they shake the seeds off their socks when they get back? Explain to them that this is one way that seeds get moved, or transported, to new areas where they fall to the ground, get covered with dirt and begin to grow. Could animals transport seeds? How?

Extension: Have the children carefully shake some of their seeds into a tray of dirt. Place the tray in a sunny place and add water regularly. Let the children observe any seeds that sprout.

When Animals Walk Around

Sung to: "My Bonnie Lies Over the Ocean"

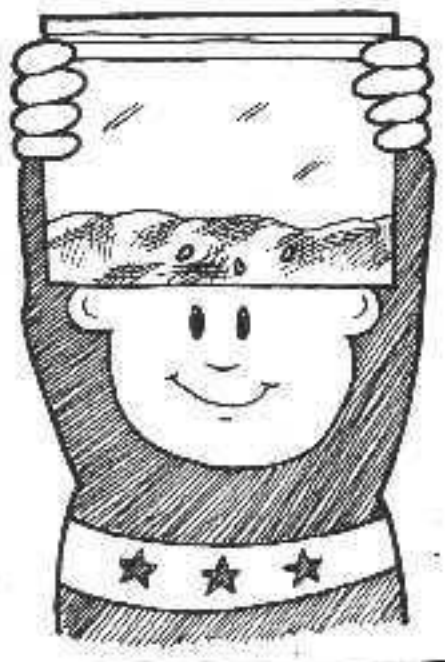
When animals walk around,
Past flowers and grass and trees,
The animals' fur and feet
Pick up the plants' seeds.
Seeds, seeds, seeds, seeds,
Their fur picks up the seeds, the seeds.
Seeds, seeds, seeds, seeds,
Their fur picks up the seeds.

Now later the seeds fall off,
And drop right down to the ground.
That's one way seeds for flowers
And grass and trees get 'round.
Seeds, seeds, seeds, seeds,
That's one way they get around, around.
Seeds, seeds, seeds, seeds,
That's one way they get around.

Jean Warren

Sprouting Seeds

Materials: Recloseable plastic sandwich bags; popcorn kernels; small kitchen baster; pan of dirt; bowl of water; spoon.

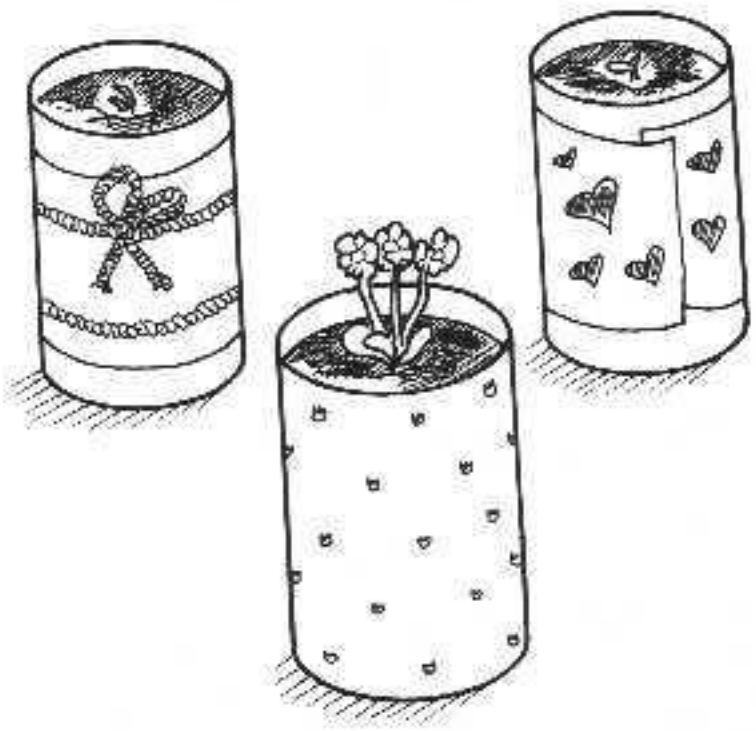


Preparation: Set out a pan of dirt with a spoon in it, a bowl of water, popcorn kernels and a small kitchen baster.

Activity: Give each child a recloseable plastic sandwich bag and have him or her put a spoonful of dirt in it. Then let the children each add two or three popcorn kernels to the dirt. Have them add water to their bags with the kitchen baster. Help the children seal their bags. Then hang the bags in a sunny window. The popcorn kernels will begin to sprout in about a week.

Planters

Materials: Tin cans; can opener; small rocks or gravel; dirt; flower seeds; watering can; water; various decorating materials such as yarn, fabric scraps, self-stick paper, construction paper, crayons; glue; masking tape.



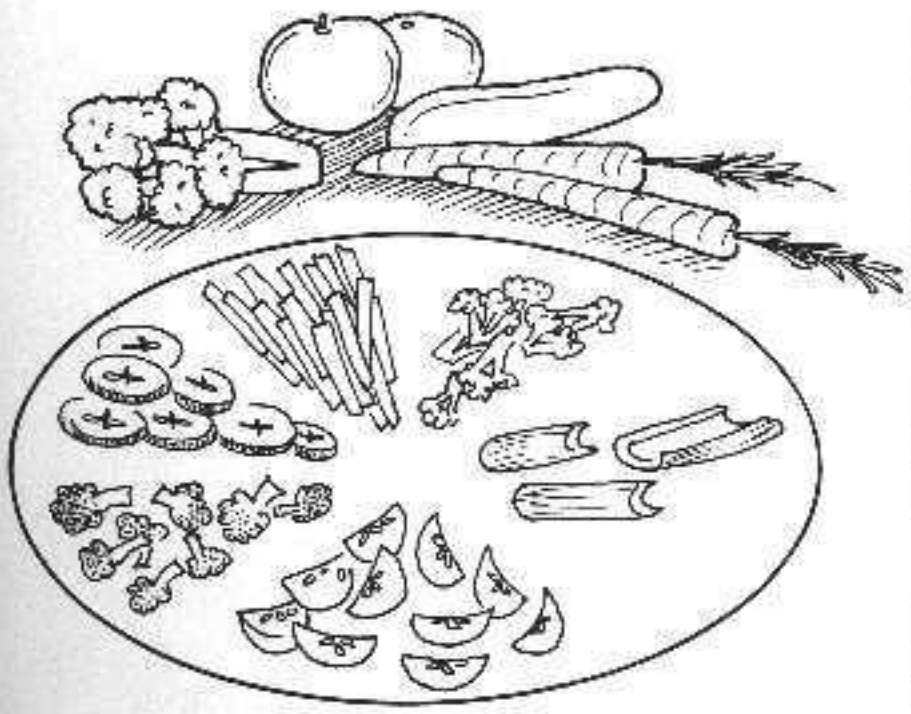
Preparation: Use a can opener to completely remove one end completely from each of several tin cans. Check the rims of the cans for rough edges and cover them with masking tape if necessary. Set out the cans, glue and the decorating materials. Fill a watering can with water.

Activity: Let the children use the decorating materials to decorate their cans any way they wish. When they have finished, have them each put a layer of small rocks or gravel in the bottoms of their cans. Then let them add dirt. Give each child several flower seeds to plant in his or her planter. Set the planters by a sunny window. Have the children use the watering can to water their seeds as needed. Encourage them to check regularly for signs of growth.

Vegetable Snacking

Materials: A variety of vegetables; peeler; knife; serving tray; plates; one or two vegetable dips (see recipes below).

Preparation: Prepare a variety of vegetables for snacking, setting aside a whole vegetable of each kind. Place the vegetables on a serving tray. Set out vegetable dip.



Activity: Have the children sit down at a table. Show them the prepared vegetables. Hold up the whole vegetables, one at a time, and ask the children to point to the matching prepared vegetables. Then give the children plates and let them choose the vegetables they would like to try. Put a spoonful of dip on each child's plate. Have the children tell you which vegetables they like best.

Cottage Cheese Dip — Combine ranch dressing mix with cottage cheese to taste. Stir well. If desired, place in a blender container with a small amount of milk and process until smooth.

Mustard Dip — Combine equal parts of plain yogurt and mayonnaise. Add mustard to taste.

Yogurt Dip — Combine yogurt, lemon juice and Italian dressing mix to taste.

Vegetables Are Plants We Eat

Sung to: "Mary Had a Little Lamb"

Vegetables are plants we eat,
They're so good, what a treat.
Carrots, beans and broccoli,
They help us grow so healthily.

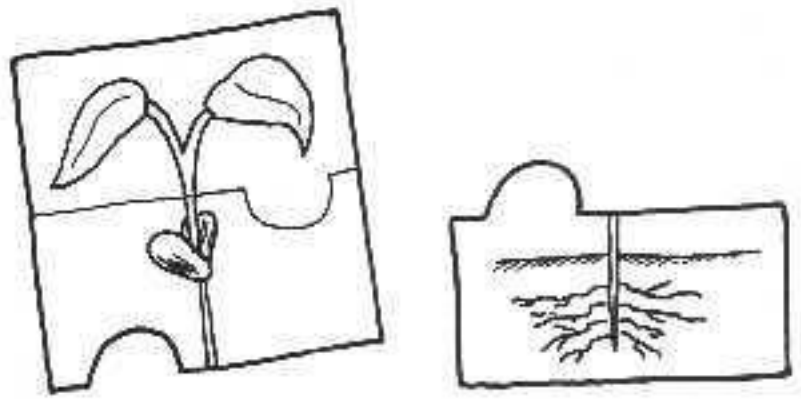
Gayle Bittinger

Parts of a Plant

Materials: Clear plastic cup; bean seeds; dirt; water; index card or posterboard; felt-tip markers; pair of scissors.

Preparation: About a week before doing this activity, fill a clear plastic cup with dirt and plant a few bean seeds in it, close to one side. Water the seeds as necessary. On an index card or piece of posterboard, use felt-tip markers to draw a picture of a bean plant with its roots, stem and leaves. Cut the picture in three puzzle pieces, each one with a different plant part on it.

Activity: Show the children one of the bean plants growing in the cup.



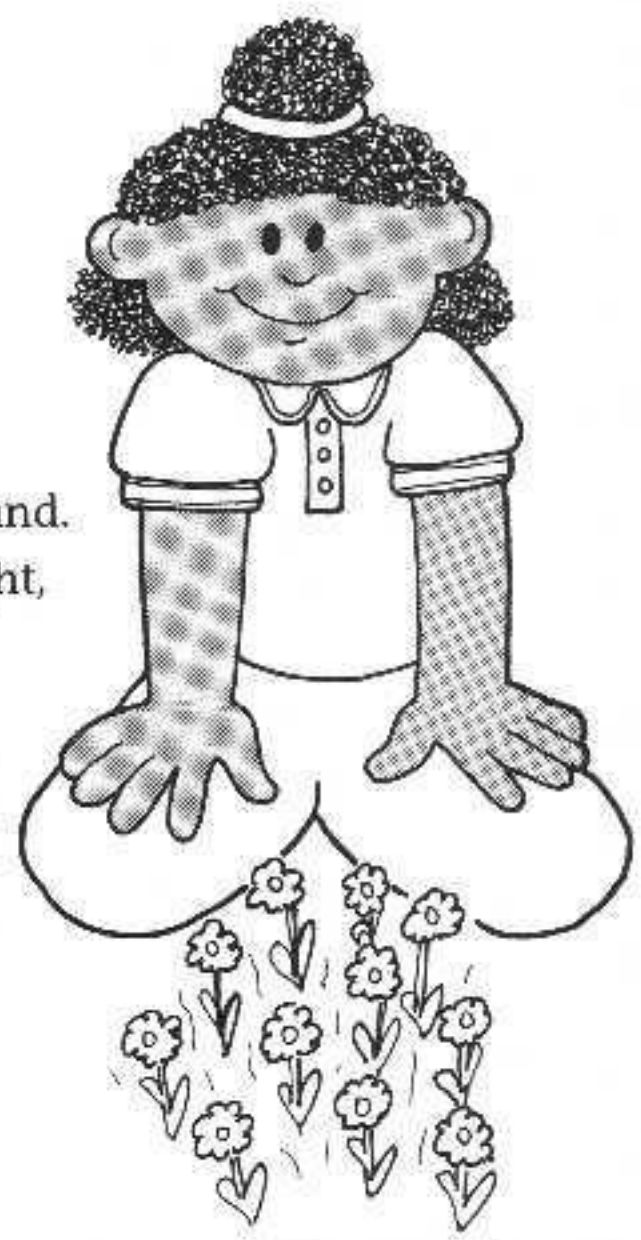
Help them name the different parts of the plant, including the roots, which should be visible through the side of the cup. Then set out the puzzle pieces and let the children take turns putting the puzzle together and identifying the different plant parts.

Hint: If the roots of the plant do not show through the side of the cup, gently remove the plant for the demonstration and replant it later.

My Garden

This is my garden, I've raked it with care,
And planted my tiny brown flower seeds there.
I patted the earth, smoothed over the bed,
While the warm yellow sun shone high overhead.
Soon raindrops came pattering over the ground,
And warm spring winds blew with a soft gentle sound.
The little seeds woke and pushed up toward the light,
Up, up they grew slowly by day and by night.
And now see my garden, so lovely and gay,
With all of the flowers that blossomed today.

Author Unknown



Additional verse: Repeat the poem, substituting the words "vegetable seeds" for "flower seeds" in line two and changing the last line to read: "With all the ripe vegetables growing today."

The Trees Are Growing

Sung to: "The Farmer in the Dell"

The trees are growing tall,
(Raise arms above head, fingers touching.)
The trees are growing tall.
With soil and rain and sunny days,
The trees are growing tall.

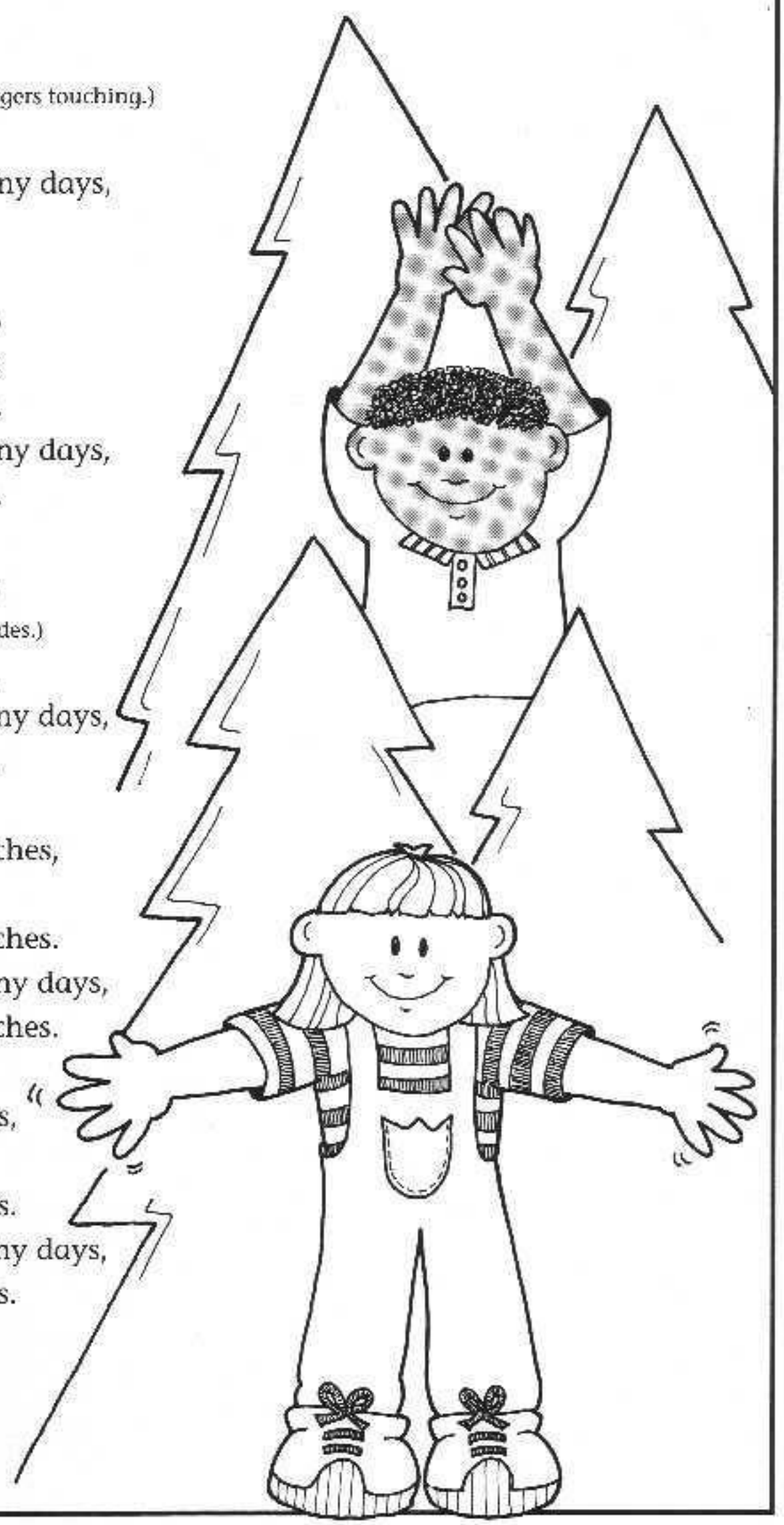
The trees are growing roots,
(Bend over and touch floor.)
The trees are growing roots.
With soil and rain and sunny days,
The trees are growing roots.

The trees are growing bark,
(Run hands up and down sides.)
The trees are growing bark.
With soil and rain and sunny days,
The trees are growing bark.

The trees are growing branches,
(Stretch arms out.)
The trees are growing branches.
With soil and rain and sunny days,
The trees are growing branches.

The trees are growing leaves,
(Wiggle fingers.)
The trees are growing leaves.
With soil and rain and sunny days,
The trees are growing leaves.

Susan Peters



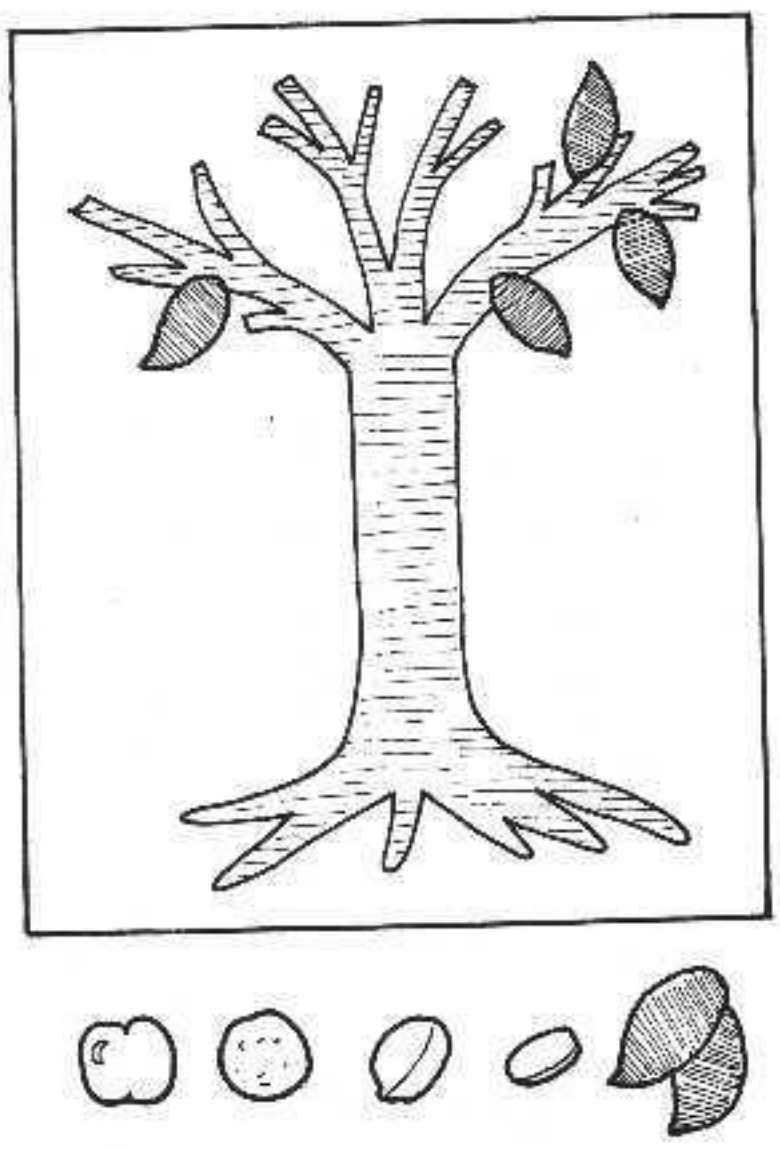
Adopt-A-Tree

Materials: As needed (see below).

Preparation: None.

Activity: Have the children choose a nearby tree to adopt. Visit the tree regularly and try to incorporate it into activities throughout the year, such as the following:

- Play circle games, such as Ring Around the Rosie or Duck, Duck, Goose, around the tree.
- Make leaf and bark rubbings.
- Pick up litter around the tree.
- Talk into a tape recorder and describe what the tree looks like in a particular season.
- Observe the animals that live in or near the tree.



Parts of a Tree

Materials: Brown and green felt; various colors of felt scraps; flannelboard; pair of scissors.

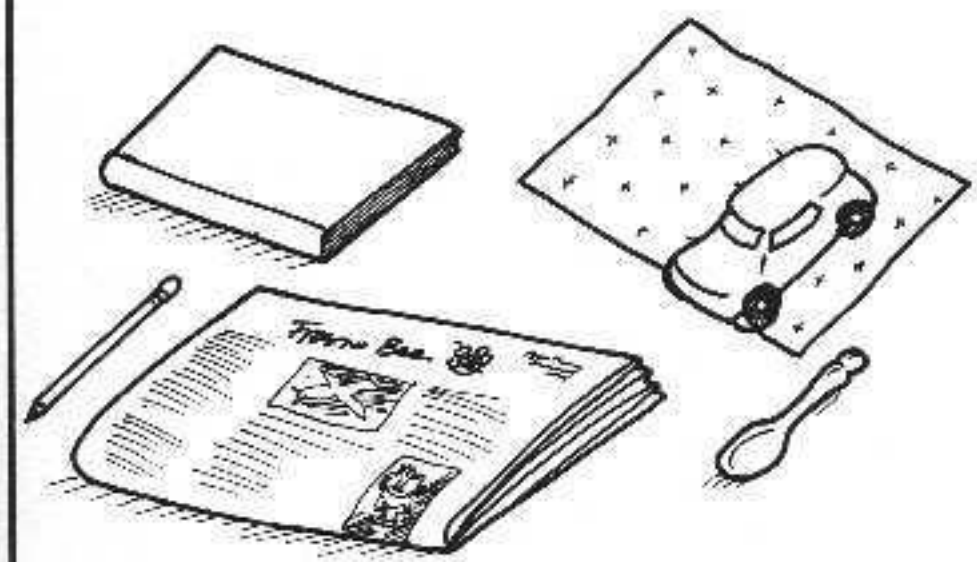
Preparation: Cut out a brown felt tree shape that includes roots, a tree trunk and branches. Cut leaf shapes out of green felt. Cut several different kinds of fruit and nut shapes, such as apples, oranges, walnuts and almonds out of felt scraps.

Activity: Place the tree shape on a flannelboard. Point out the different parts of the tree. Then show the children the felt shapes. Talk about the different kinds of fruits and nuts that grow on trees. Then let the children take turns putting the leaf, fruit and nut shapes on the felt tree.

Made From Trees

Materials: Objects that are made from wood; objects that are not made from wood.

Preparation: Set out objects that are made from wood, such as a newspaper, a book, a toothpick, a pencil and a block. Set out other objects that are not made from wood, such as a plastic toy car, a cotton towel, a crayon, a metal spoon and a mirror.



Activity: Explain to the children that many of the objects we use every day are made from trees. Show them the objects you collected. Let them help you sort the items into two piles. Ask them if they can think of other things that are made from trees.

Extension: Have the children go on a tree hunt around the room to search for other objects that are made from trees.

Tree Snacks

Materials: Foods that grow on trees (see below); plates.

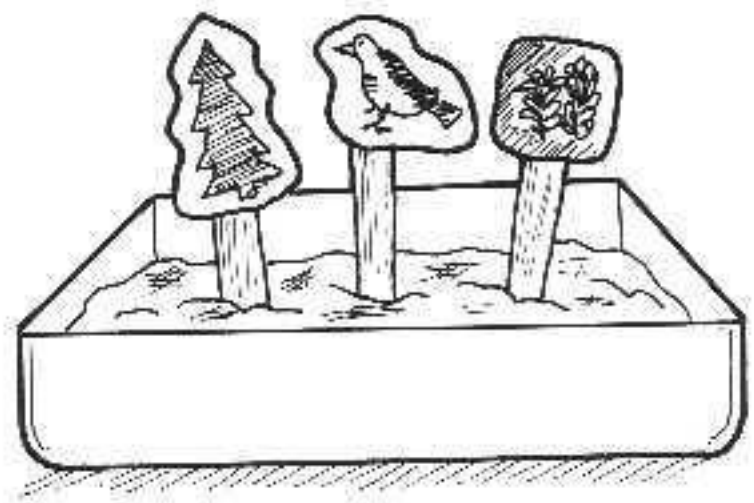
Preparation: Prepare for eating, foods that grow on trees, such as fruits (apples, oranges, bananas and pears), nuts (walnuts, almonds and pecans), olives, and chocolate (which is made from the seeds of the cacao tree). Arrange the foods on plates.

Activity: Show the children the different foods that come from trees. Ask them to name each one. Give each of the children a plate. Let them each choose several different "tree snacks" to put on their plates that they would like to taste.

Plant-A-Forest

Materials: Rectangular cake pan; brown playdough; nature magazines; tongue depressors; glue; pair of scissors.

Preparation: Cut pictures of things you would find in a forest, such as trees, plants, berry bushes, squirrels, birds, raccoons and bears out of nature magazines. Glue each picture to a tongue depressor. Fill a rectangular cake pan part way with brown playdough. Set out the pan and the tongue depressors.



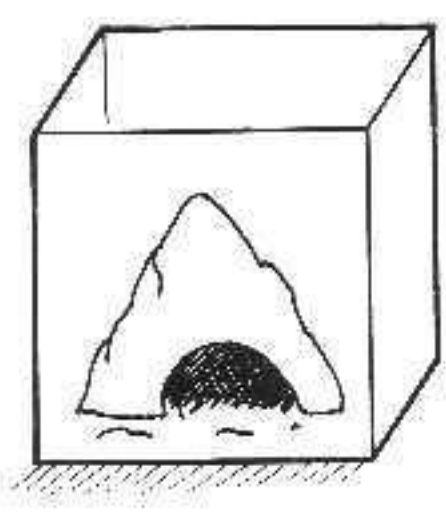
Activity: Let the children take turns planting their own forests by sticking the ends of the tongue depressors into the playdough. Encourage them to name each item as they plant it.

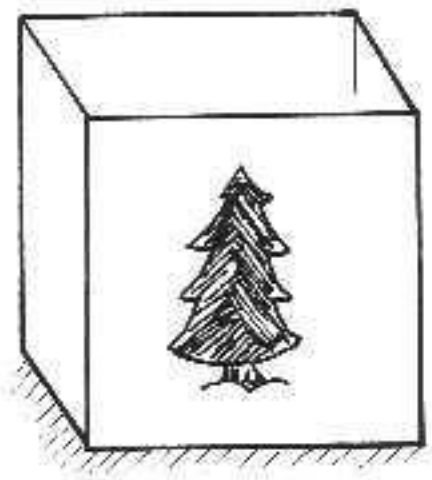
Forest Animal Homes

Materials: Three boxes; nature magazines; felt-tip markers; pair of scissors.

Preparation: Collect three boxes. Use felt-tip markers to draw a picture of a cave on one box, a picture of a burrow on another box and a picture of a tree on a third box. Cut pictures of forest animals out of nature magazines.

Activity: Explain to the children that forest animals live in several different kinds of homes. Some animals live in dens or caves, some live in burrows in the ground and some live in trees. Set out the animal home boxes. Give the children pictures of the forest animals. Have each child name the animal in his or her picture, tell where it would most like to live and put the picture in the corresponding box.





Animal Signs

Materials: None.

Preparation: Plan a walk through an area where you would be likely to find signs of animals, such as tracks, feathers, fur, nests and burrows. Take the walk by yourself beforehand and make notes of places where you find animal signs.

Activity: Take the children on your planned walk. Stop at the places where you found signs of animals and ask the children to look around carefully. Can they see any animal signs? Ask them to look for animal tracks, fur, feathers, nests and burrows. When they find a sign, ask them if they can guess which animal left it.

Extension: Let the children use magnifying glasses to examine the animal signs they find.

Through the Forest

Materials: None.

Preparation: None.

Activity: Have the children pretend to be different forest animals. Encourage them to fly like birds, scamper like chipmunks, leap gracefully like deer, lumber along like bears and be sly like foxes.

In the Forest You Will Find

Sung to: "If You're Happy and You Know It"

In the forest you will find great big trees,
In the forest you will find great big trees,
Growing oh, so very tall,
It's so hard to see them all.
In the forest you will find great big trees.

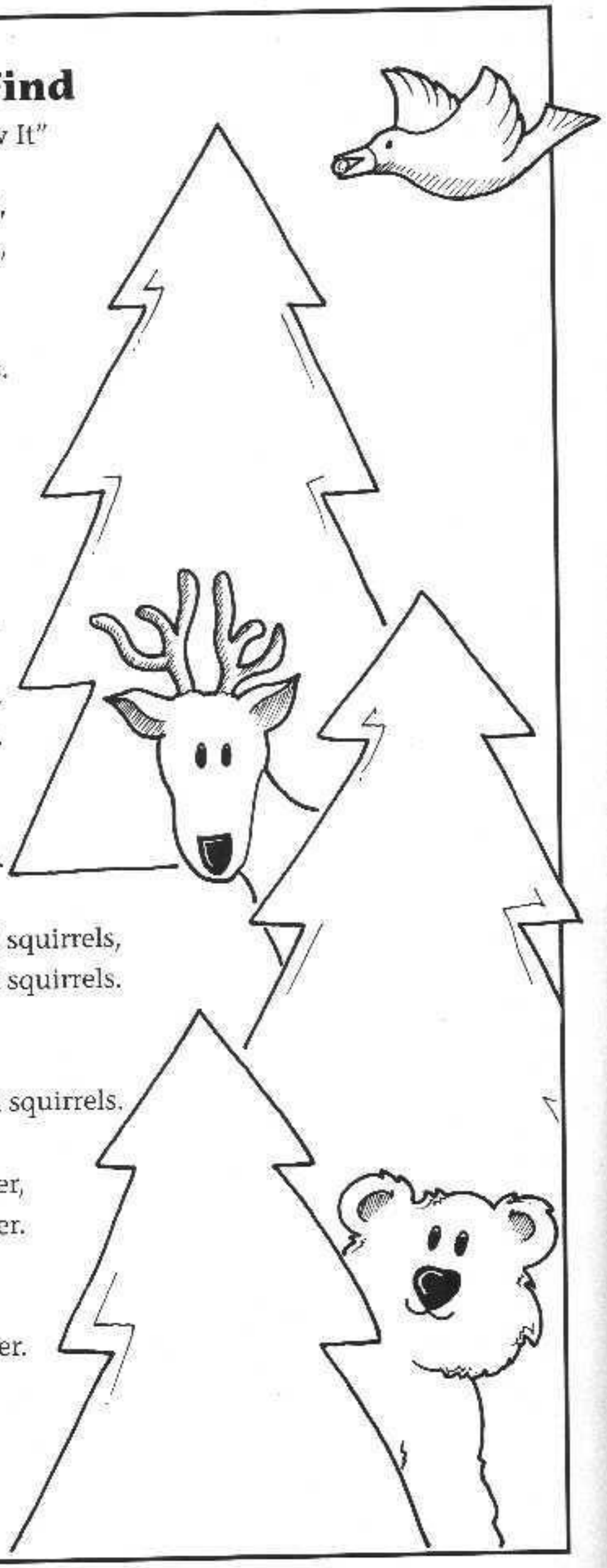
In the forest you will find bushy plants,
In the forest you will find bushy plants,
Growing red and growing green,
There are so many to be seen.
In the forest you will find bushy plants.

In the forest you will find bright berries,
In the forest you will find bright berries.
The birds do love them so,
'Cause the berries help them grow.
In the forest you will find bright berries.

In the forest you will find raccoons and squirrels,
In the forest you will find raccoons and squirrels.
Scampering here and all around,
Picking nuts up off the ground.
In the forest you will find raccoons and squirrels.

In the forest you will find bears and deer,
In the forest you will find bears and deer.
With their babies close at hand,
They love to roam across the land.
In the forest you will find bears and deer.

Gayle Bittinger



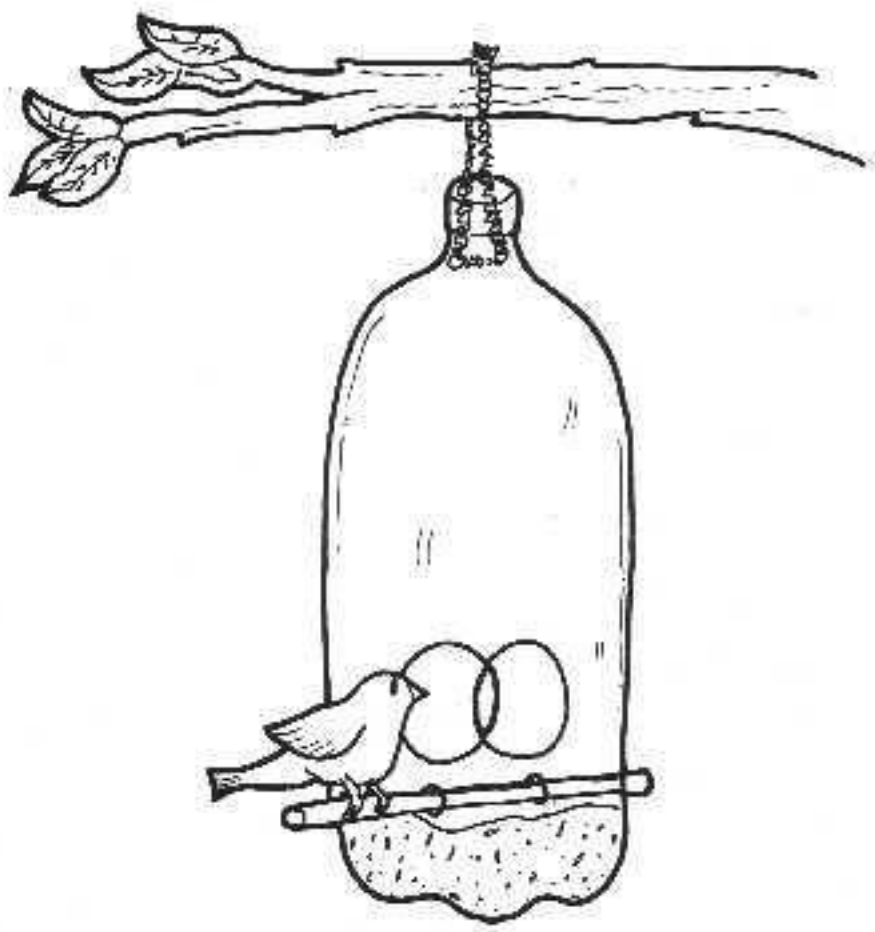
Gathering Up Nuts

Materials: Nuts; four baskets.

Preparation: Put nuts in two baskets.

Activity: Tell the children that many animals, such as squirrels and chipmunks, gather nuts to eat during the cold winter when food is hard to find. Then divide the children into two groups and have the groups stand at one end of the room. Give each group an empty basket. Place the two baskets filled with nuts at the other end of the room. Have the child in the front of each line scamper on all fours (like a squirrel) to a basket filled with nuts, take one of the nuts out with his or her hand and bring it back to his or her group's basket before the next child scampers off. Continue until each child has had a turn bringing back one of the nuts. Together, count the nuts in each group's basket.

Observing Birds



Materials: Plastic soft drink bottle; birdseed; 7-inch piece of 1/4-inch wooden dowel; twine; nail; craft knife; hole punch.

Preparation: Use a craft knife to cut two 2- to 3-inch holes directly across from each other in a plastic soft drink bottle. Use a hole punch to make a small hole 1 inch below each larger hole. Insert a 7-inch piece of 1/4-inch wooden dowel through the two small holes. Use a nail to poke two holes across from each other near the top of the bottle. Thread a piece of twine through the holes to make a hanger.

Activity: Let the children help you fill the bird feeder with birdseed. Hang the feeder outside in a place that the children can see from a window. Have the children watch for birds to come visit the feeder. Encourage them to describe the birds that come to the feeder. What color are their feathers? Are they big or small? What sounds do they make?

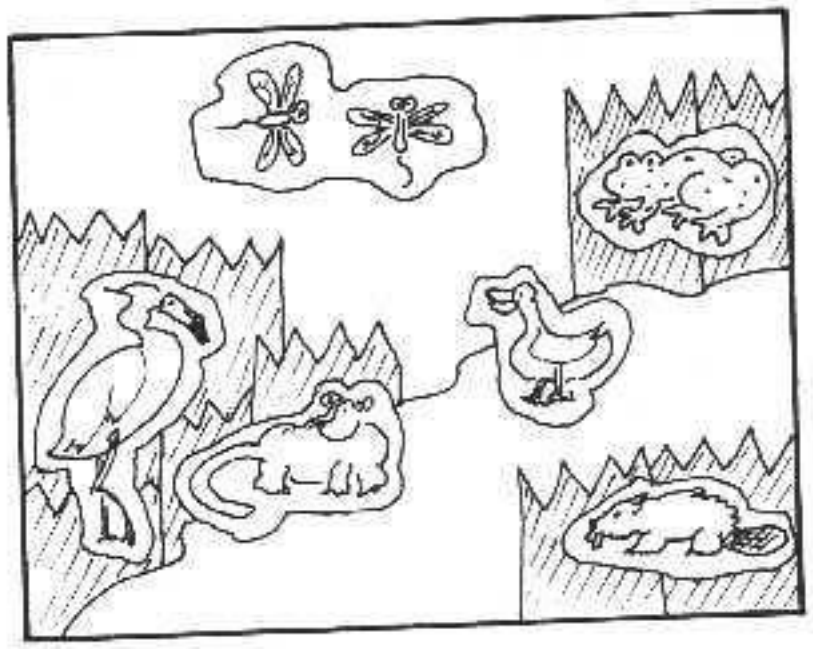
Extension: Hang a chart near the window and help the children keep track of the number of birds they see.

Wetlands Mural

Materials: Nature magazines; brown butcher paper; blue and green construction paper; tape; pair of scissors.

Preparation: Attach a piece of brown butcher paper to a wall at the children's eye level. Add a blue construction paper stream. Cut pictures of wetlands animals, such as ducks, frogs, otters, beavers, herons and dragonflies, out of nature magazines. Cut pieces of green construction paper as shown to make grass.

Activity: Have each child tape a piece of the construction paper grass to the brown butcher paper to create a wetlands scene. Then let the children select wetlands animal pictures



to add to the mural. Encourage them to place the animals where they would be found in the wetlands. For example: ducks swimming in the water, beavers hiding in the grass and dragonflies flying in the air. Name and discuss the different animals with the children. Why do they think those animals like to live in the wetlands?

Wetlands Snack

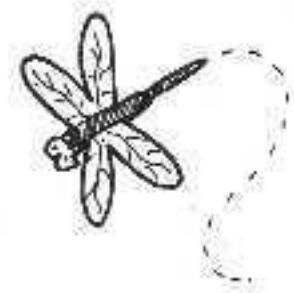
Ingredients: 2 cups unsweetened apple juice (separated); 1 cup cranberries; extra cranberries for tasting (if desired); 1 envelope plain gelatin; measuring cups; mixing bowl; spoons; blender; clear glass bowl; strainer; gelatin mold; saucepan; stove; refrigerator.

Preparation: Set out the ingredients.

Activity: Tell the children that cranberries grow in wetlands, or bogs as they are sometimes called. Show the children the cranberries. Let them taste the berries, if desired. (Cranberries are very tart when eaten by themselves.) Then let the children help you make cranberry gelatin. Heat 1 cup of apple juice in a saucepan. Pour 1 envelope of plain gelatin a mixing bowl. Add the heated apple juice. Stir the juice until the gelatin is dissolved. Pour the remaining cup of apple juice into a blender container and add 1 cup of cranberries. Whirl the juice and berries together. Set a strainer on top of a glass bowl and pour the juice and berry mixture into it. Add the cranberry liquid to the gelatine mixture. Stir until the mixture is combined. Then pour the liquid into a gelatin mold and refrigerate until firm.

Down in the Wetlands

Sung to: "Down by the Station"



Down in the wetlands
Early in the morning,
See all the ducklings
Swimming in a row.
See the mother duck
Keeping them in line,
Quack, quack, quack, quack,
Off she goes.

Down in the wetlands
Early in the morning,
See all the dragonflies
Flying in a row.
See the mother dragonfly
Flying here and there,
Flit, flit, flit, flit,
Off she goes.

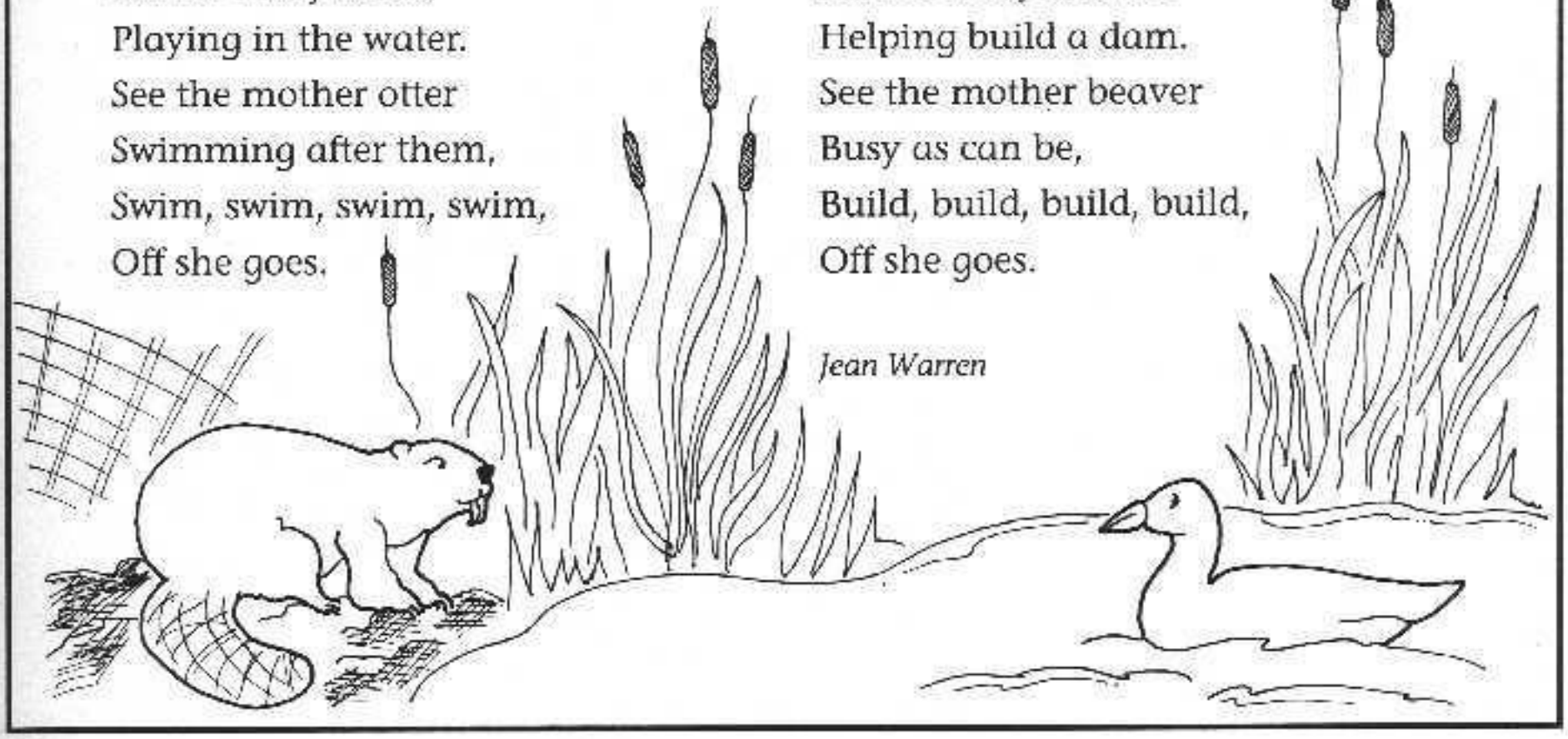
Down in the wetlands
Early in the morning,
See all the tadpoles
Swimming in a row.
See the mother frog
Sitting on a lily pad,
Croak, croak, croak, croak,
Off she goes.

Down in the wetlands
Early in the morning,
See the baby herons
With their long necks.
See the mother heron
Fishing for their food,
Fish, fish, fish, fish,
Off she goes.

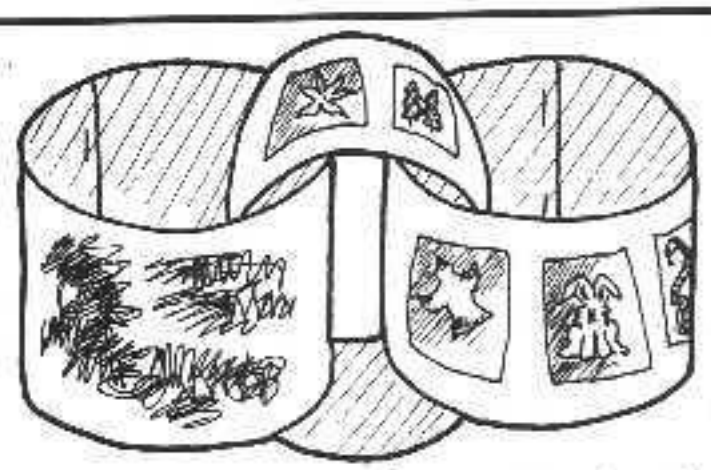
Down in the wetlands
Early in the morning,
See the baby otters
Playing in the water.
See the mother otter
Swimming after them,
Swim, swim, swim, swim,
Off she goes.

Down in the wetlands
Early in the morning,
See the baby beavers
Helping build a dam.
See the mother beaver
Busy as can be,
Build, build, build, build,
Off she goes.

Jean Warren



The Food Chain



Materials: 9- by 12-inch pieces of construction paper; magazines; brown felt-tip markers; glue; pair of scissors.

Preparation: Cut pictures of plants and animals out of magazines. Cut pieces of 9- by 12-inch construction paper lengthwise into thirds.

Activity: Give each of the children three strips of construction paper. Have them decorate one of their strips with brown felt-tip markers to represent the soil in the food chain, glue pictures of plants on another of their strips to represent the plants in the food chain, and glue pictures of animals on their last strips to represent the animals in the food chain. Talk about the food chain and its parts while the children are decorating their strips. Tell them that every living plant or animal depends on other plants and animals to survive. This is the food chain. Soil contains parts of decayed plants and animals that nourish seeds and help them grow into plants. The plants are food for animals, and some animals are food for other animals. Then the plants and animals die and decay, making the soil rich for new plants to grow and begin the cycle again. After the children complete their strips, hook the strips together in a large chain. Be sure to keep the strips in order: soil, plants, animals; soil, plants, animals, etc. Hang the chain on a wall or a bulletin board.

Food Chain Song

Sung to: "The Bear Went Over the Mountain"

See the dark brown soil,
See the dark brown soil,
See the dark brown soil,
It's part of the food chain.

See the green healthy plants,
See the green healthy plants,
See the green healthy plants,
They're part of the food chain.

See the hungry animals,
See the hungry animals,
See the hungry animals,
They're part of the food chain.

The food chain needs all three,
The food chain needs all three,
The food chain needs all three,
To make it go around.

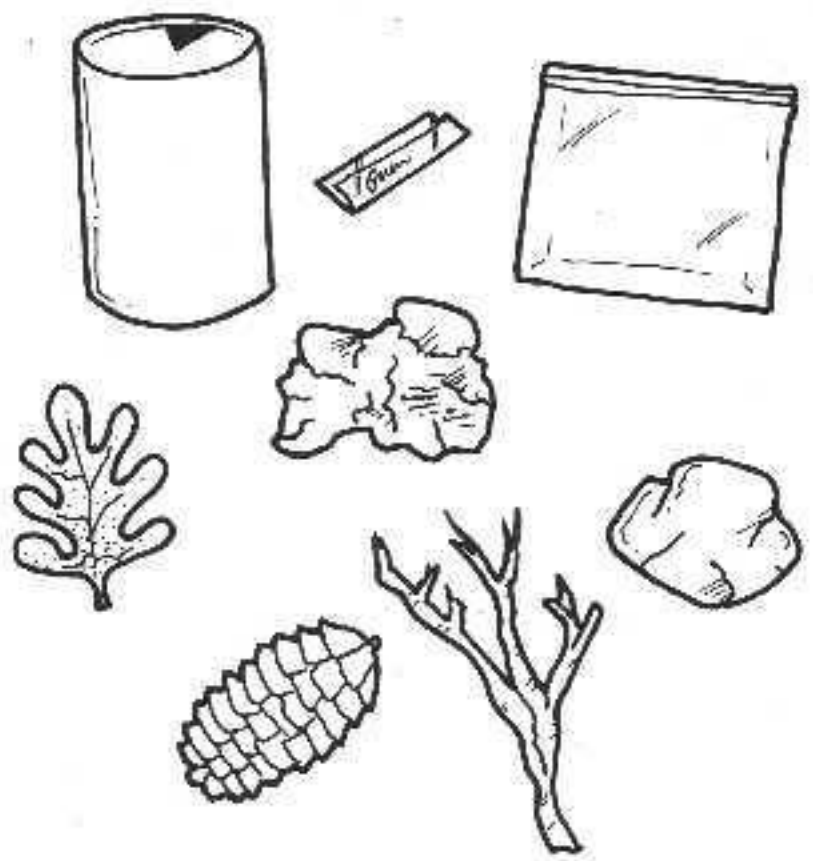
Gayle Bittinger

What Is Litter?

Materials: Various kinds of litter, such as a pop can, a gum wrapper, a plastic bag and a piece of paper; objects you would find in nature, such as a leaf, a pine cone, a branch and a rock.

Preparation: None.

Activity: Set out the litter and the nature objects. Tell the children that litter is garbage that someone did not put in a garbage can. Ask them to point to the objects that are litter. How do they know those items are litter? What should they do with them now? Then take other pieces of litter and hide them around the room. Give each of the children a sack and let them hunt around the room for the litter and put it in their sacks.



Extension: Take the children and their sacks outside. Let them pick up litter and throw it away in their sacks. Make sure the children understand that they should not pick up glass or anything else that might hurt them and that they should point those things out to you.

Litter Is Garbage

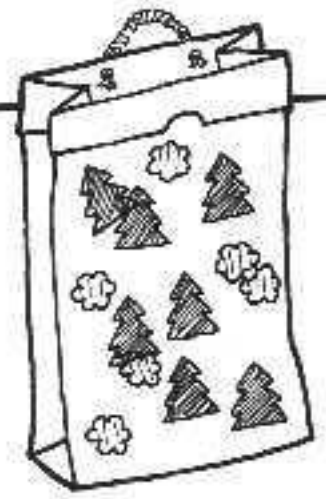
Sung to: "The Wheels on the Bus"

Litter is garbage that wasn't put away,
Wasn't put away, wasn't put away.
Litter is garbage that wasn't put away,
In the garbage can.

I put my garbage in the garbage can,
The garbage can, the garbage can.
I put my garbage in the garbage can,
I'm not a litterbug.

Gayle Bittinger

Litterbags



Materials: Brown paper lunch bags; sponges; craft knife; shallow containers; tempera paint; yarn; hole punch.

Preparation: Open up brown paper lunch bags and fold down the tops about 1 inch. Use a hole punch to punch two holes on one side of each bag and thread a piece of yarn through them to make a hanger. Close the bags so that they lie flat. Use a craft knife to cut sponges into simple tree and flower shapes. Pour small amounts of tempera paint into shallow containers.

Activity: Give each child one of the paper bags. Have the children use the sponge shapes and paint to print trees and flowers all over their bags. While the children are working, talk about what happens to our land when we litter and why we want to keep our land litter-free. Allow the paint to dry. Open up the bags. Let the children take their litterbags home to use in their rooms or in their families' cars.

Litter-Free Picnic

Materials: Picnic lunch.

Preparation: None.

Activity: Take the children to a park and have a picnic lunch. When the lunch is over, have the children carefully gather up all of their garbage and throw it away in a garbage can. While they are working, let them sing the following song:

Sung to: "Skip to My Lou"

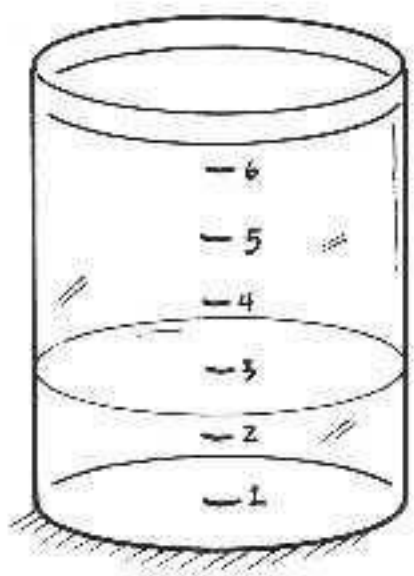
We're not litterbugs, no siree,
We're not litterbugs, no siree,
We're not litterbugs, no siree.
We pick up our trash, you see.

Elizabeth McKinnon

Rain Gauge

Materials: Clear glass jar; permanent felt-tip marker; ruler.

Preparation: Make a rain gauge by using a permanent felt-tip marker and a ruler to mark inches or centimeters on the outside of a clear glass jar.



Activity: Show the children the rain gauge. Explain to them that when it rains, drops will fall into the jar, allowing them to measure how much rain fell. Have the children help you select a place outside for the rain gauge. Make sure the gauge is positioned securely. Then after the next rainfall, take the children outside to check the gauge. How much rain fell? What does the rain look like? Leave the gauge outside to collect the rain that falls over a period of time such as a week or a month.

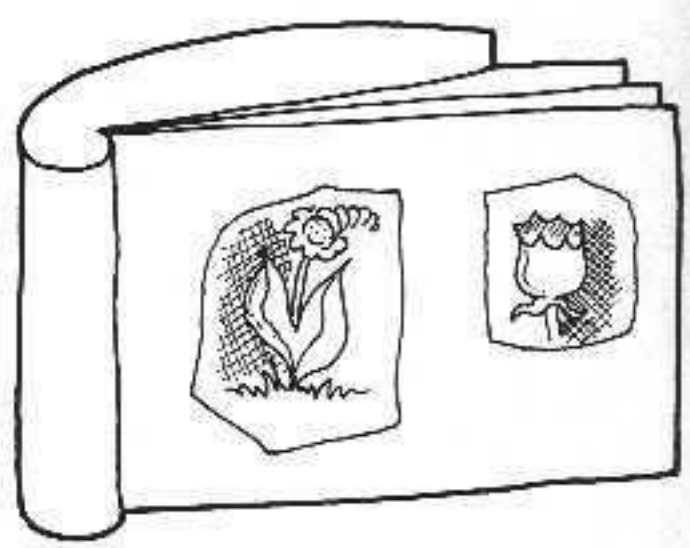
Extension: Make a graph and keep track of the amount of rain that falls each time.

Rain Book

Materials: Magazines or seed catalogs; white paper; felt-tip marker; stapler; glue.

Preparation: Staple four to six pieces of white paper together for each child. Use a felt-tip marker to write the words "Rain Helps Things Grow" on the first page of each book.

Activity: Let the children look through magazines or seed catalogs and tear out pictures of things that need rain to help them grow, such as trees, flowers and other plants. Then have the children glue the pictures in their books. Let the children "read" their books to you by naming the things in the pictures.



Rain Painting

Materials: Paper plates; food coloring or powder tempera paint.

Preparation: None.

Activity: On a rainy day give each child a paper plate. Let the children sprinkle drops of food coloring or small amounts of powder tempera paint on their plates. Have them put on raincoats, walk outside, and hold their plates in the rain for about a minute. After they bring their plates inside, talk about the designs created by the rain.

Rain Song

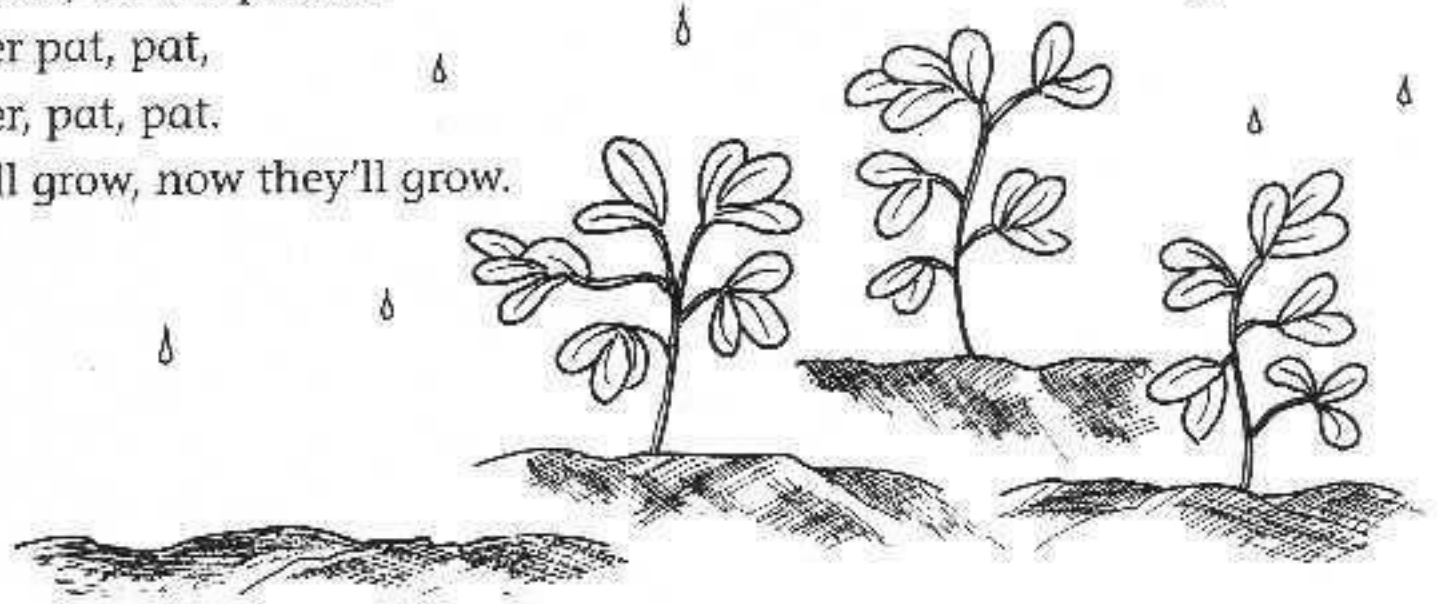
Sung to: "Frere Jacques"

It is raining, it is raining,
On my head, on my head.
Pitter, pitter, pat, pat,
Pitter, pitter, pat, pat.
Now I'm wet, now I'm wet.

It is raining, it is raining,
On the plants, on the plants.
Pitter, pitter pat, pat,
Pitter, pitter, pat, pat.
Now they'll grow, now they'll grow.

It is raining, it is raining,
On the dirt, on the dirt.
Pitter, pitter, pat, pat,
Pitter, pitter, pat, pat.
Now there's mud, now there's mud.

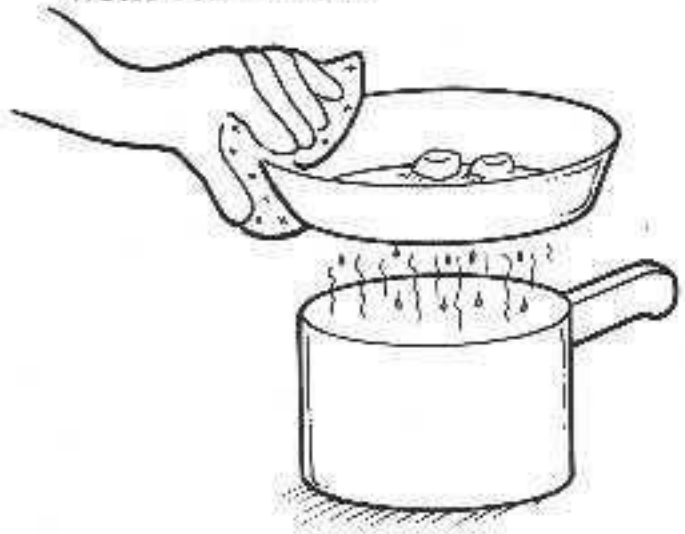
Gayle Bittinger



Making Rain

Materials: Saucepan; stove or hot plate; pie pan; hot pad; ice cubes; water.

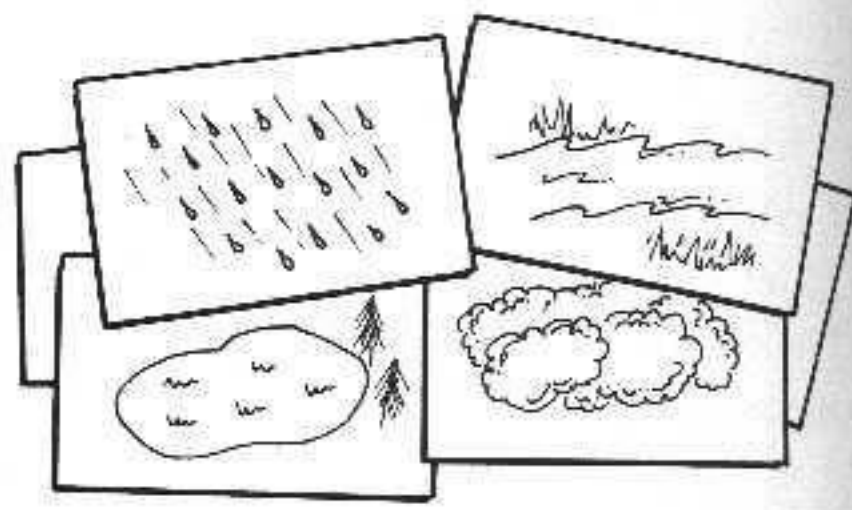
Preparation: Fill a saucepan with water and bring it to a boil over a stove or a hot plate. Fill a pie pan with ice cubes.



Activity: Have the children stand or sit where they can see the pan of boiling water and the steam that is forming above it. Use a hot pad to hold the pie pan filled with ice cubes over the steam "cloud." Have the children observe that when the steam comes in contact with the cool air from the pie pan, drops of water form and fall back into the saucepan like rain. This is similar to the way rain is really made.

Caution: Adults should always supervise activities that require electrical appliances.

The Rain Cycle



Materials: Index cards; felt-tip markers.

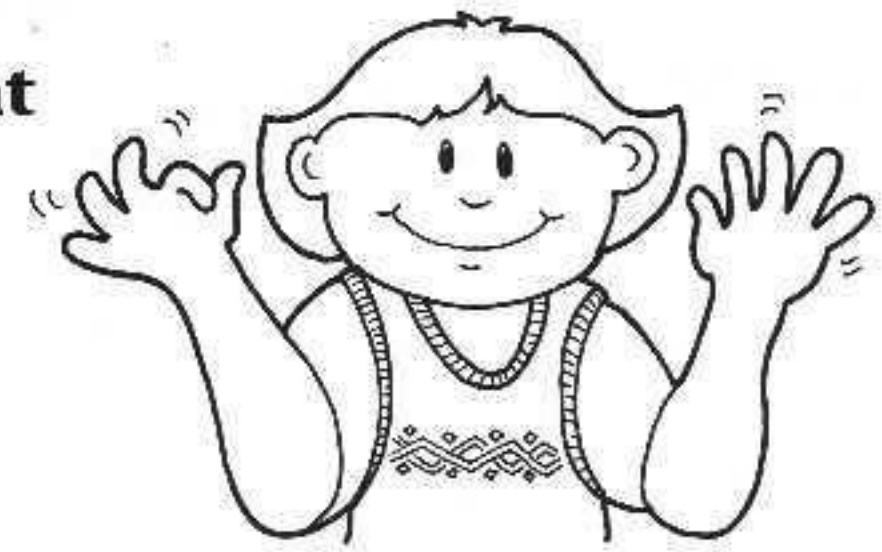
Preparation: Draw each of the following scenes on a separate index card: rain storm, creek, river, ocean or lake, blue sky, clouds.

Activity: Show the children the picture cards as you explain the rain cycle. Raindrops fall down and after traveling long distances in small creeks, they eventually end up in a river. The river flows to an ocean or a lake where the raindrops collect and then evaporate into the air. (Evaporation happens when particles of water get warm enough to become vapor and escape into the air.) The vapor in the air gets cold and turns into a cloud, filled with raindrops ready to fall all over again.

Extension: Mix up the picture cards and let the children take turns putting them in sequence and telling the story of the rain cycle.

Variation: Instead of drawing scenes, cut the appropriate pictures out of magazines and glue them each to a separate card.

Rain Cycle Movement



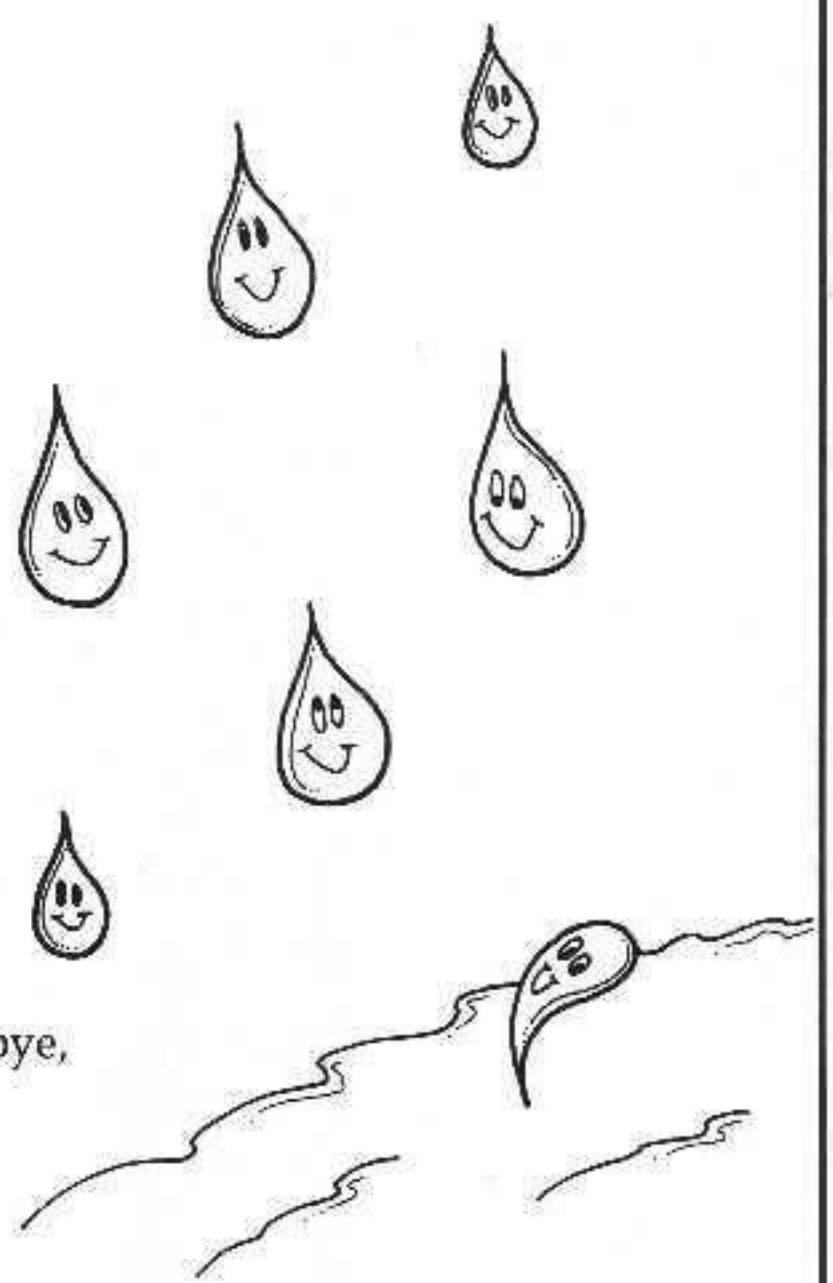
Materials: None.

Preparation: None.

Activity: Let the children act out the rain cycle. Have them pretend to be raindrops that have just fallen. Then give them directions such as these: "The raindrops are joining together to form small streams that move slowly through the countryside. As the streams flow together, they become a wide river moving faster and faster toward the sea. Now all the raindrops are part of the ocean, rolling and swaying in big waves. Out comes the sun, sending hot rays down to the sea. The little raindrops are growing warmer and warmer. One by one, they are turning into vapor and rising up into the sky. Now they join together to form a rain cloud, waiting to fall back down to earth once more."

We Are Little Raindrops

Sung to: "I'm a Little Teapot"



We are little raindrops, watch us fall,
From clouds to ground, one and all.
Watch us as we get together to be
A big water puddle for you to see.

We are in the puddles, see us flow
Into the rivers, now here we go.
Watch us as we move right out to the sea,
A part of the ocean we soon will be.

We are in the ocean oh, so blue,
We float around like raindrops should do.
Soon we'll get all warmed up and say goodbye,
And join more raindrops in the sky.

Gayle Bittinger

Plants and the Rain Cycle

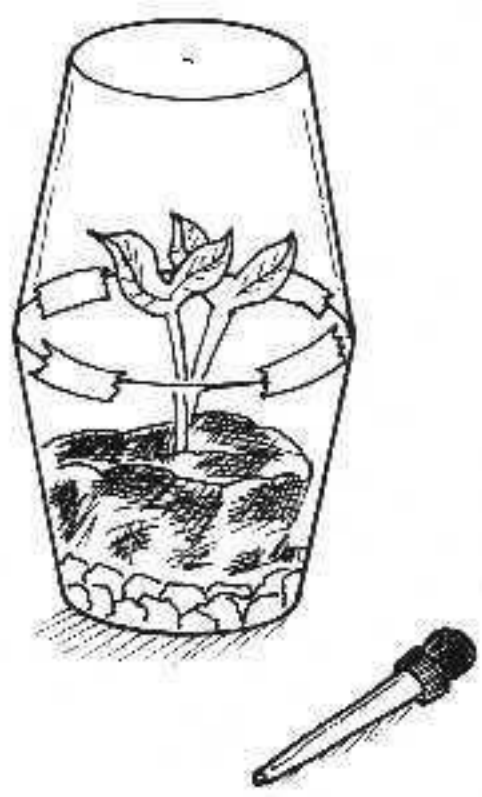
Materials: Plant; clear plastic bag; Popsicle sticks (if needed).

Preparation: None.

Activity: Cover a plant with a clear plastic bag. Use Popsicle sticks, if necessary, to keep the plastic from touching the plant. Set the plant in the sun. Have the children observe the plant in about 30 minutes. What do they see? What is on the plant and the inside of the bag? (Water.) Where did the water come from? Plants take up water through their roots and then give the water off through their leaves. Explain to the children that not all raindrops end up in the ocean. Some of them are collected by plants and used in this way.

Terrariums

Materials: Clear plastic cups; eyedroppers; small rocks; soil; small plants; water; tape.



Preparation: Set out the materials.

Activity: Give each child a clear plastic cup. Have the children each add a layer of rocks and 2 inches of soil to their cups. Let them each choose one or two small plants and put them in the soil. Have the children use eyedroppers to add small amounts of water. Help each child tape a second cup to the top of the his or her first cup to make a terrarium. Have the children observe their terrariums over the next week or so. Ask them if they can see the drops of water forming on top of their terrariums. Where did the water come from?

Rain Cycle Song

Sung to: "The Farmer in the Dell"

Rain comes falling down,
Rain comes falling down,
Rain falls down upon the ground.
Rain comes falling down.

Roots soak up the rain,
Roots soak up the rain,
Roots say "Thanks for rain today."
Roots soak up the rain.

Plants use rain to grow,
Plants use rain to grow,
Plants grow tall when rain does fall.
Plants use rain to grow.

Leaves let out the rain,
Leaves let out the rain,
Leaves let rain out, there is no doubt.
Leaves let out the rain.

The rain turns into vapor,
The rain turns into vapor,
The vapor goes high to make clouds in the sky.
The rain turns into vapor.

Gayle Bittinger

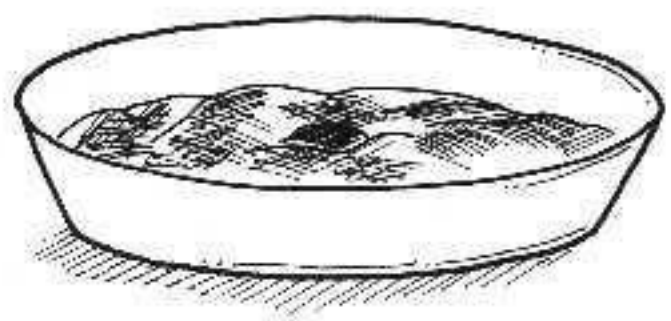
How Lakes Are Made

Materials: Round cake pan or pie pan; dirt; pitcher; water.

Preparation: Fill a round cake pan or pie pan with dirt. Fill a pitcher with water.

Activity: Show the children the pan of dirt. Slowly add water or "rain" to the dirt until it is saturated but not overflowing. Dig a small hole in the middle of the pan. Ask the children if they can guess what is going to happen to the hole. Can they see the water flowing into it? In about ten minutes the hole will be completely filled with water. This is how lakes are made. Rain falls down on the land and eventually collects in holes in the ground.

Extension: Take the children outside when the ground is fairly dry. Ask them to guess where puddles or "lakes" might form after it rains. Then go outside after a rainy day. Did puddles form where the children guessed they would?

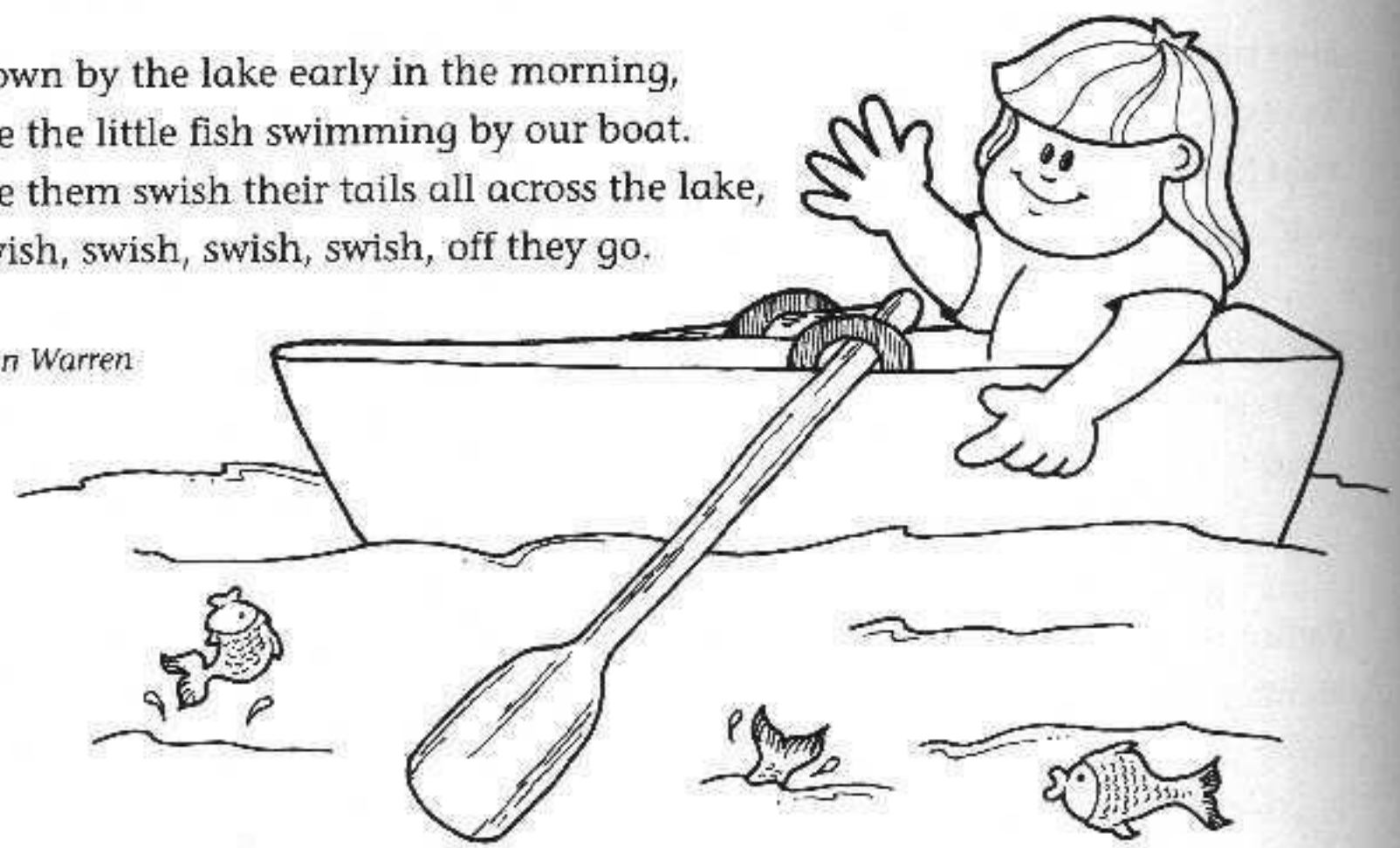


Down by the Lake

Sung to: "Down by the Station"

Down by the lake early in the morning,
See the little fish swimming by our boat.
See them swish their tails all across the lake,
Swish, swish, swish, swish, off they go.

Jean Warren



Let's Go Fishing

Materials: Dowel, paper towel tube or wooden spoon; small magnet; 3 feet of string; paper clips; construction paper; pair of scissors.

Preparation: Make a fishing pole by tying 3 feet of string to a dowel, a paper towel tube or a wooden spoon. Attach a small magnet to the end of the string. Cut fish shapes from different colors of construction paper and attach a paper clip to each fish.

Activity: Lay the fish shapes out on the floor. Then let the children take turns catching all the red fish, then all the blue fish, etc.

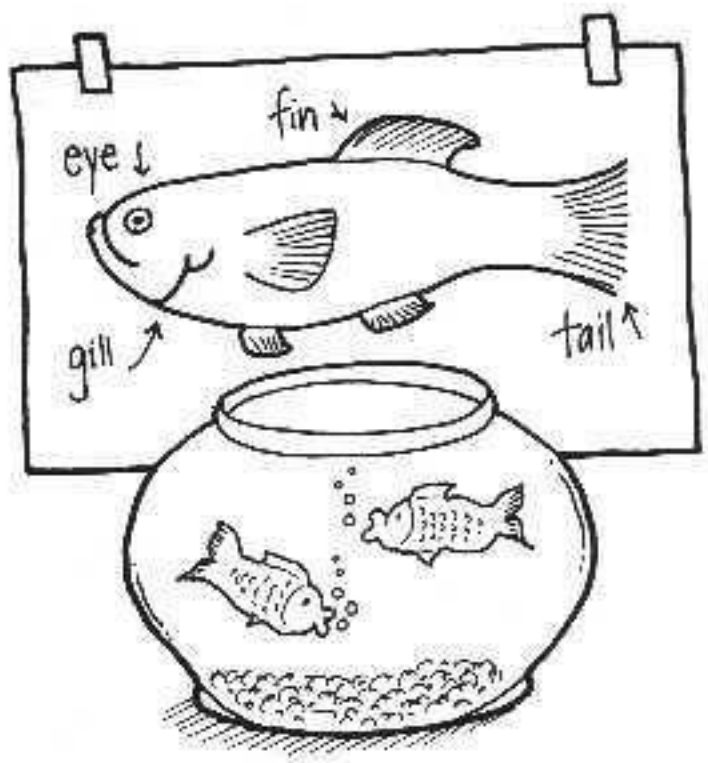
Observing Fish

Materials: Aquarium or fish bowl; water; fish; fish food; posterboard; felt-tip markers.

Preparation: Fill an aquarium or fish bowl with water and add two or three fish. (Check your local pet store for suggestions and guidelines.) Make a poster that shows the parts of a fish including the body, eyes, fins, gills and tail. Hang the poster above the aquarium.

Activity: Discuss the proper care of fish. Show the children the fish in your aquarium and let them take turns feeding the fish. Have the children observe the fish and draw pictures of their observations.

Discuss their findings. How do fish swim? What are their gills used for? Do fish sleep? What happens when you put fish food in the aquarium?



Ocean Waves

Materials: Plastic jar and lid; water; mineral oil; blue food coloring.

Preparation: Fill a plastic jar two-thirds full of water. Add a few drops of blue food coloring. Fill the jar to the top with mineral oil. Screw the jar lid on tightly.

Activity: Have the children take turns holding the bottle sideways and tipping it back and forth to create waves like the waves at the ocean.