



Off to Adventure

24 Guided Activities for K-3 Children



From the Oregon 4-H
Youth Development Program

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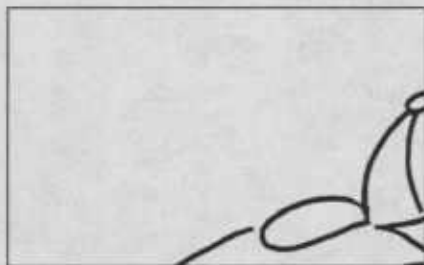


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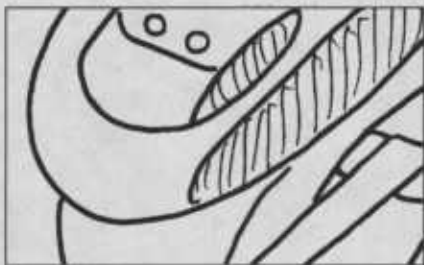
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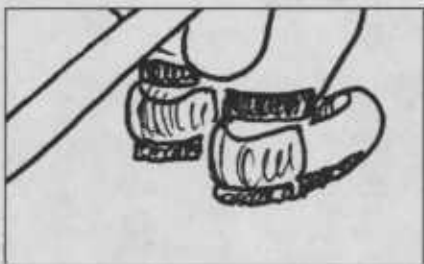


Off to Adventure

... offers young children opportunities to explore and learn about their world in a positive environment. A wide range of activities will help children:



- ♦ Gain confidence and develop a positive self-image
- ♦ Develop important life skills
- ♦ Learn about science, literature, and the arts
- ♦ Develop a love of learning



Off to Adventure

- ♦ Is child-centered
- ♦ Is non-competitive
- ♦ Provides "hands-on" learning
- ♦ Involves family and community

and

IS FUN!

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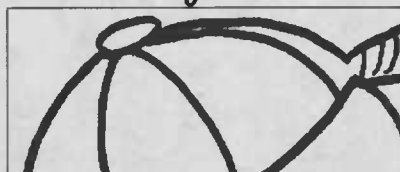
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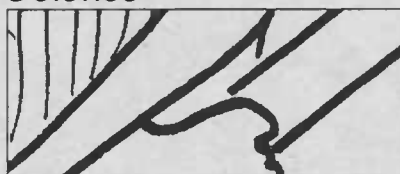
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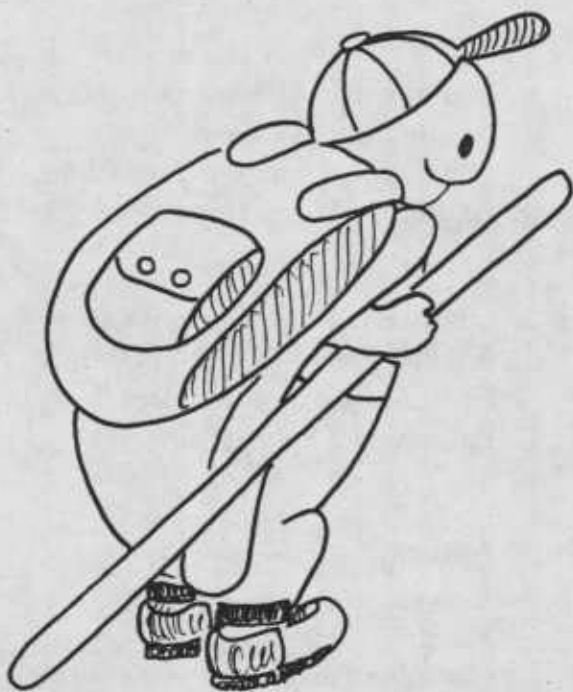


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Introduction

About Off to Adventure

Off to Adventure is one of many curriculum guides available for volunteer leaders who work with K-3 youth in the Oregon 4-H Adventures Program. The lessons in this guide reflect the 4-H educational approach of "learning by doing." They provide a variety of activities that involve children in the active exploration of their world.

While the guide is written with club leaders in mind, the activities are also appropriate for use in school-age childcare programs, day and overnight camps, and short-term, community-based programs.

Twenty-four "adventures" have been carefully planned in six subject areas:

Community	Animals
Nature	Expressive Arts
Science	Foods

As the children engage in these activities, they will gain information and understanding about many topics as well as develop life skills that are important to their present and future development.

These life skills may be grouped under the following categories:

- ♦ Decision making
- ♦ Learning to learn
- ♦ Understanding self
- ♦ Social interaction
- ♦ Mastering physical skills

Each lesson identifies one or two specific life skills that are emphasized by the activities. However, while it's important to keep the identified life skills in mind, it's also important to realize that much unplanned or incidental learning will take place at the same time.

For instance, at each meeting children will use a variety of social and communication skills as they greet and interact with one another. If conflicts arise, children will learn how to control their feelings and accept differences of opinion. Thus, in addition to the identified skills, children will learn or practice other life skills also.

You may choose to use this book in several ways, depending on the needs and interests of your 4-H members.

First, it may serve as an initial guide to assess the interests of members in various subject areas. Individual lessons might be selected in any order for use.

Second, you may choose to focus on a particular topic, completing all four lessons in any order.

Third, you may want to use selected lessons to supplement those found on a topic in another resource.

Although the lessons are complete as presented, they should not be viewed as unalterable guidelines. The age, past experiences, and interests of your members may mean that you will have greater success if you make some adaptations. For instance, you may choose to do only part of the suggested activities, or you may ask different questions.

The overall size of your group also may make a difference. Some activities will be carried out best if the children are broken into small groups, each with a leader of its own. Use your own creativity to make the experience meaningful for your individual members.

Remember: this book is a guide, and as such, it's meant to offer assistance; but it's not

the whole story. Your positive interaction with the children, the welcoming environment you create, and the encouragement you supply are as vital to a successful experience for the children as are the activities you choose.

Working with K-3 Children

Your 4-H Adventures members have high energy levels, want to participate, and are eager to please. The key to a successful program is to create an environment that is supportive of their participation and one that meets their developmental needs.

Creating a positive environment begins with the leader:

- ◆ Always model the behavior you expect from the children with friendly comments, helpful examples, and respectful actions.
- ◆ Focus on the learning process rather than the finished product. Offer opportunities for children to work alone and to work cooperatively.
- ◆ Take time to get to know your members: their strengths and their limitations, their likes and dislikes. Find a way to recognize each member in an individual way at each meeting.
- ◆ Maintain a minimum ratio of 4-6 youth per adult/assistant helper during activities.
- ◆ Keep the members actively involved with firsthand experiences and hands-on activities. Change activities frequently.
- ◆ Provide a mix of structured and unstructured time for social interaction. Encourage shy children to become involved, perhaps by identifying a partner for them.
- ◆ Plan the program and activities together with the children. Build on their ideas and interests.

4-H Adventures provides a learning opportunity for leaders as well as children. As you work with your group, you'll find that each child is unique, with different prior experiences, different levels of competence, and different needs. Learning how to involve each child in a meaningful way will stretch your skills and your creativity.

Resources for Leaders

The 4-H program in your county will help you meet the challenge of providing interesting, educational programs in a number of ways, including supplying specially developed curriculum materials such as this guide. Periodically, workshops may be held to provide information and increase your skills. Also, printed and audiovisual resources are available to you for individual study. These resources cover topics related directly to the 4-H program and your role as a volunteer leader, as well as broader topics such as child development and guidance and discipline.

You'll also find a valuable resource in other 4-H Adventures leaders with whom you can share experiences and "lessons learned." In addition, your community offers a wealth of resources through the public library, the special skills and interests of citizens, and opportunities for field trips.

Before you begin work with your 4-H Adventures members, it's recommended that you obtain and carefully read the 4-H Adventures Leader Guide. This guide provides basic information about the 4-H Adventures program. It also summarizes the developmental and learning characteristics of children in grades K-3 and suggests ways to create learning environments that are developmentally appropriate for them. To access any of these resources, contact your county 4-H Extension agent.

Using This Book

The 24 lessons in *Off to Adventure* share a common format, designed to help you quickly grasp the concepts and carry out each lesson with a minimum of preparation. At the beginning of each lesson, a boxed summary provides a quick overview. Within each lesson there are three major sections: Get Ready, Get Set, and Go. Each major section is divided into subsections as explained below.

Get Ready

A wise leader takes time to plan the meeting.

Read over the activity's **Goals**. These tell what information and life skills children will learn or practice. Think through how they apply to the activity and how they might be helpful to your group.

The activity **Time** is usually 45 to 60 minutes, the suggested length for this age.

Group Size suggests a ratio for adult leaders to children: usually one adult for every four to six children. The entire group size could be doubled and still maintain the ratio. For instance, two leaders with eight children would maintain the group ratio of one leader for every four children. It is 4-H policy that there always be at least two leaders/adults with a group of K-3 children, regardless of the size of the group.

Background helps prepare the leader with additional information for understanding. Some of the information may be appropriate to include in conversation with the children as you work together in the activity.



Get Set

Now you gather your materials and resources for the activity/adventure.

The Gear is a handy checklist of all the materials needed for the activity. Make adjustments according to the number in your group and other logistics such as time of day or place.

To help prepare you for the activity, **Resources** provides a list of additional sources of information such as books, people, places, etc.

Reading for Fun includes many new and old favorites that relate to the activity; most are picture books for reading aloud to the group. As popular children's literature, they should be available at your library. Choose one as a nice addition when preparing the group for their activity or to recommend to parents. Families will enjoy reading these with their children following the activity or during an ongoing focus on a subject area.



Go!

You're on! The adventure begins. Refer to Tips on Club Meetings to plan the ongoing structure of your regular group meetings.

Before starting, allow time for children to come in, speak to friends, and be greeted. Assess if they are ready to begin. (Have they just arrived off the bus and need a few minutes to run around outside, or are they in need of a



snack?) You might use a song or a quiet game to bring them together. Your activity will be most successful when children are “ready” for it.

Move from a brief group opening to **Preparing the Group**. Children are eager learners: this is the time to capture their interest and focus their attention. The questions invite interaction and bring them quickly into the subject they’ll be exploring.

The Adventure takes different forms. It might be one activity with several steps or two or more activities which explore one subject area. Adjust and adapt as needed for your situation.

Giving Recognition suggests methods for providing positive attention to children that the leader can integrate into the activity.

Evaluating the Adventure guides the leader to observe the children and their responses during the activity. Are they interacting and understanding the concepts? Are the lesson’s goals being met?

Finally, **Application/Additional Activities** gives the leader a list of potential ways to

expand the activity into a family or community experience or into a series of meetings in the subject area. These activities suggest ways children can apply their learning to different situations.

Sharing Experiences

Families should be encouraged to share in 4-H Adventures activities whenever possible. They might participate in an activity with their 4-H member, carry out some of the suggested ideas listed under “Application/Additional Activities,” or, at a minimum, talk with their child about his/her experiences.

The children also may share their new skills and knowledge with the greater community. Bulletin board or window displays in schools and other public spaces and presentations of songs or creative dramatics at 4-H and other community events provide opportunities for the children to showcase their skills. Sharing also provides a way for children to be recognized for their efforts.

Recognizing and Appreciating Diversity

One of the goals of the 4-H Adventures program is to promote understanding and appreciation of cultural diversity. In addressing this goal, this activity guide reflects an inclusive perspective; that is, one that views diversity as it impacts our everyday lives, rather than focusing on differences as something separate from the mainstream.

As you work with club members, look for opportunities to expand their exposure to the many groups within their community. For instance, choose guest speakers and plan field trips that allow children to see how various cultures contribute to their community. A visit to a hospital may provide an opportunity for them to see a diverse group of professionals at work. A visit to a state park to study life in a pond may involve a talk by a Native American biologist. A visit to an ethnic restaurant might illustrate how cooking methods and foods of one culture have been adopted by people of many cultures. As a result of such experiences, members will recognize how a variety of cultures contribute to their unique community—a special place.

Tips for Club Meetings

Plan to include the children in roles of leadership. Rotate these so that everyone participates. For each meeting, you might use a child as a 4-H Pledge Leader, two or more children as Helpers, a Hostess/Host that brings the snack, etc.

A Suggested Meeting Format

- ♦ **Opening.** Welcome members. Introduce visitors and new members. One member leads the 4-H Pledge. Sing a song or play a simple game. (See “More Resources” for suggestions.)
- ♦ **Sharing.** Let each child tell about some of the activities they’ve shared with their families since the last meeting. Or review the last activity and let children relate their experiences.
- ♦ **The Adventure.** Explore. Discover. Have fun together as you participate in an activity. Take time to recognize individuals for their efforts.
- ♦ **Closing.** This might include a simple snack served by your Hostess or Host. While the children are eating, review key concepts and prepare them for the next meeting. What will they be doing? Do they need to wear special clothes for an outdoor activity? Do they need to bring something? Close by repeating together the 4-H Motto and a friendly good-bye.

Note: A small 4-H flag can be ordered through your county 4-H Extension office or from the 4-H catalog.

Inviting a Guest Speaker

- ♦ Guest speakers can add new information and insights for your children. Ask your 4-H Extension agent, a children’s librarian, an elementary school principal, or a teacher for recommendations. The guest should be able to communicate well and be interactive with young children to keep their attention.
- ♦ When asking your guest to speak, give him or her several weeks’ advance notice as a courtesy.
- ♦ Ask if there are any special preparations necessary for their visit.
- ♦ Prepare the children a meeting in advance. Review being polite listeners. Encourage them to ask questions.
- ♦ Follow up with a thank-you note signed by the children. Notes or drawings from the children also will be appreciated by your speaker.

“Teach us to delight in simple things.”—Rudyard Kipling (1865-1936)

Planning a Field Trip

Field trips add an exciting dimension for children. Discovering new sites as a group brings a sense of adventure. Plan well in advance for a successful event.

Many community places are filled with promise for a field trip: an art center, a museum, the airport, the hospital, the post office, a newspaper office, a radio station, a grocery store, a bakery, the humane society, police and fire departments, local parks and nearby trails, a fish hatchery, a wildlife refuge, and a farm or garden nursery.

When planning a field trip, consider the following guidelines and tips.

1. Involve the children in identifying and selecting an appropriate place to visit.
2. Contact the place you want to visit. Are they willing to give a tour?

Ask about:

- ♦ The appropriate age for children to visit the facility
 - ♦ Safety precautions
 - ♦ Best times to visit
 - ♦ Tour guides
 - ♦ Length of tour
 - ♦ Costs involved
3. If possible, make the trip in advance without the children. Locate food and bathroom facilities in advance.
 4. Explain the final plans to the children. Keep it simple. Review where you are going and why, as well as how you'll get there. Discuss the children's expectations of what they might see and learn. Make a list of things they should look for.
 5. **Important.** Before the outing, be sure that each child's parents are fully informed of all details of the trip and that they have given written consent for their child to go.

6. Arrange for an adequate number of vehicles to transport the children. Each child and adult should have their own seat belt. Extra parents can be recruited and encouraged to support your efforts. Discuss insurance requirements and any other related liability issues with your county 4-H Extension agent before the trip.

Tips for a Successful Trip

1. Be prepared and flexible. Plan to have fun with the children. Safety is always a main concern. Have everyone dress in comfortable clothes and shoes. If you plan to include a picnic lunch, use a large shoulder bag, knapsack, or picnic basket. Pack foods that are safe without refrigeration.
2. Discuss expectations. Explain in advance what experiences the children might have and how you expect them to respond. Be positive.
3. Give individual attention. If the club is large, divide it into small groups. Give each adult the responsibility for a group. A buddy system, with children in pairs, is helpful. Buddies must stick together, and you can easily spot-check for pairs of children. Encourage questions and comments.
4. Stop while it's still fun. Generally, young members don't have long attention spans. If a long car trip is involved, bring along a simple snack and possibly a few small toys, or play a travel game.
5. Follow through with talks about the trip. Have the children draw pictures about their experiences to put in their scrapbooks. Encourage them to express their feelings about the trip: "What I liked . . .," "What I disliked . . .," "What I learned . . ."

The 4-H Pledge

I pledge my HEAD to clearer thinking,*point to head*
my HEART to greater loyalty,*point to heart*
my HANDS to larger service, and*extend hands in front, palms up*
my HEALTH to better living*place hands down, behind back*
for my club, my community,
my country, and my world.



The 4-H Colors Green and White

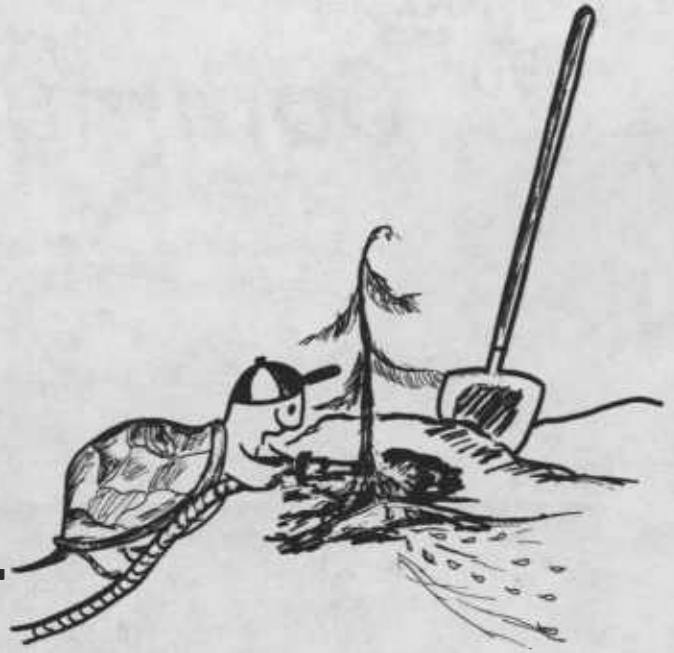
The 4-H Motto To Make the Best Better

The 4-H Emblem The green four-leaf clover
has a white H on each leaf to
represent each of the four H's:
Head, Heart, Hands, and Health

Off to Adventure will provide positive learning experiences for your members and for yourself. As you work with your 4-H Adventures members, be sure to focus on the interests and needs of the children, and don't hesitate to call on the resources of 4-H for support. And now it's time to begin the adventure!



Community



- ♦ **Playing “Our Community”**
- ♦ **Learning About People at Work**
- ♦ **Helping in My Community**
- ♦ **Adventures with My Family**

When children begin school and as they move through the primary grades, their world broadens beyond their backyard and neighborhood, into the larger community. Understanding the people and places of their community and the role they and their family have in the community are important concepts for children to grasp.

playing "Our Community"

Through an active game, children will learn about their community's places and workers, and what it means to be a member of the community.

Get Ready

Goals

Children will learn about their community.

They will explore their place within the community.

They will cooperate to make and play a game.



Time 45-60 minutes

Group Size 1 leader for every 4-6 children

Background

Children have many experiences that help them learn about the places and people that make up their community. They have visited grocery stores, restaurants, school, and the library. But only a few may have visited such places as dance schools, craft shops, sport centers, and pet grooming businesses.

Children also can identify many of the people that they see working and moving about their community, such as letter carriers, garbage collectors, delivery workers, and the police.

Through discussion and the "Our Community" game, children will share their knowledge of the community in which they live and learn about new places and workers.

Children will explore being community members when they locate their houses on the game board. As they play, they'll identify routes to particular places and in this way experience their community.

Get Set

The Gear

- ☐ Scissors
- ☐ Marking pens
- ☐ Glue sticks, glue, or clear tape
- ☐ One 30" x 36" piece of tag board or newsprint and scrap paper
- ☐ Pictures of community locations, logos from store ads or bags, newspapers, brochures, post cards, restaurant napkins or menus, business stationery and cards
- ☐ Game markers for children to move



Resources

Gather printed material and information from local organizations and businesses: chamber of commerce, visitors' center, Welcome Wagon program, library, personnel departments, and special events groups.

Reading for Fun

Librarians A to Z by Jean Johnson (part of the Community Helper series)

Go!

Preparing the Group

1. Invite the children to sit in a circle on the floor. Describe the term community: all the people and the places they shop, play, and work every day.
2. Play the "jumping up" game:
 - ♦ Call out a location or person. (Refer to the list on the following page to get started.)



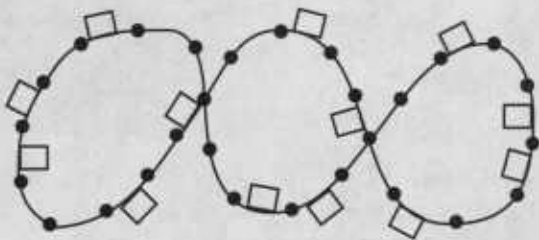
- ♦ If the children have been to the site or have seen the person in the last 3 days, they jump up to stand and then sit down very quickly.
- ♦ Vary the activity—change the movement to hopping, doing a “jumping-jack,” or another fun movement.

Community List

police station	doctor
sporting goods store	school
feed and supply store	teacher
garbage collector	library
fairgrounds	dentist
grocery store	court house
letter carrier	gas station
fabric shop	restaurant

The Adventure

1. Introduction: Tell the children that together they’re going to make a board game about their community. They’ll help by gluing pictures of community places and people on a map. When they’re done they’ll be able to play the game.
 - ♦ Brainstorm with the children—make a list on a chalkboard or butcher paper of places and people in your community.
 - ♦ Children cut out or draw pictures to identify the items on your list.
 - ♦ Each child draws a picture of their house on a small piece of paper.
 - ♦ Use the tag board to construct your community map.
 - ♦ Draw a line (road) to cover the tag board, leaving some room to glue in pictures.
 - ♦ Make the line cross itself just as streets do, being sure that your line eventually returns to the starting point.
 - ♦ Make dots at 2-inch intervals.
 - ♦ Arrange the community locations and people at the dots along the road. Each child chooses a spot for her/his house.



Note: The overall location of sites does not need to represent your community accurately. It’s more important that each child has a home base and that a variety of community sites and people are included. Mention concepts “close to” and “far apart.” For example, children living next door to each other may wish to place their houses close together.

- ♦ After all the pictures have been placed, glue or tape them to the tag board.

2. Now you’re ready to play the game!

- ♦ Together determine the goal of the game, such as everyone begins at school and goes to their home.
- ♦ Taking turns, roll the dice. Move the number of “dots” along the road as indicated by the dice.
- ♦ The person arriving home first wins.
- ♦ Each time you play the game choose different goals: start at home and go to the store, or travel from the library to the store, then home. Have fun!

Giving Recognition

Acknowledge the children’s good ideas for the community list and their cooperation as they work together to create the map.

Laminate the game or cover with contact paper so that the 4-H Adventures group can donate their game to a school or the library, making it available for others to play.

Invite the parents to come to the next meeting to play “Our Community.”

Evaluating the Adventure

Observe the children as they work. Are they using cooperative behaviors like sharing the materials, taking turns to glue on pictures, and dividing the tasks? Are they using decision-making strategies like “first I’ll draw the school, then you can glue it on”?

Together with the children, plan ways they can share what they learned with their families. Draw a picture to take home.

Ask interactive questions:

- ♦ What did you like best about the game?
- ♦ Name one new place you learned about in the community.
- ♦ How do you usually get around in the community? Do you ride a bus? ride in a car? or ride a bike?
- ♦ What places are close to your home?

Application/Additional Activities

1. Play charades of community places or people.
2. Plan field trips to visit community sites (the water treatment plant or the county museum) or people (talk with them about their work).
3. Conduct a scavenger hunt in the neighborhood.

learning about *People at Work*

By visiting and photographing people at work, children will be exposed to a variety of job and career opportunities. Later, the group will review each experience by constructing a scrapbook with photos, drawings, and mementos.

Get Ready

Children will choose a variety of job and career opportunities to explore through field trips.

They will learn about the many ways people contribute to their community.

They will interact appropriately with adults and peers while visiting workers.

Time Planning meeting: 30 minutes
Field trips: approximately 1 hour, but will vary

Group Size 1 leader for every 4-6 children

Background

Where do you live? What is unique about your community? Who lives and works in your community? What is its history? Its stories?

Community is defined as "an interacting population of various kinds of individuals in a common location." As you prepare this activity for your children, take time to explore your neighborhood or community. Visit local sites and pick up brochures. Talk to older neighbors who remember some of the important historical events. Identify key people who contribute to your community in a variety of ways: the garbage collector, the grocery clerk, the bank manager, the school janitor, the nurse at the clinic, the volunteer at the humane society.

Begin this adventure with your children through a discussion about your community and the kinds of work that people do. How do they help us?

- ♦ Brainstorm with the children about the types of jobs people have in their community.
- ♦ List their suggestions on a board or newsprint.



- ♦ Ask them to identify from the list the jobs that they would like to know more about.
- ♦ From this list, contact the workplaces to request field trip visits for the children.

Get Set

The Gear

- ☐ Marking pens
- ☐ Newsprint or blackboard
- ☐ Camera
- ☐ Film
- ☐ Scrapbook
- ☐ Glue sticks, tape
- ☐ Scissors
- ☐ Crayons
- ☐ Scrap paper
- ☐ Brochures and mementos from local agencies/businesses

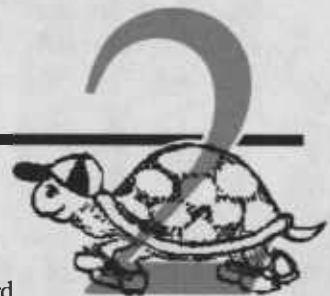
(As you plan meetings, refer to "Inviting a Guest Speaker" and "Planning a Field Trip" in the Introduction.)

Resources

Your library, older neighbors, local officials, chamber of commerce, local museum.

Reading for Fun

Mr. Grigg's Work by Cynthia Rylant
Officer Buckle and Gloria by Peggy Rathmann



Go!

Preparing the Group

1. Before each field trip, ask the children:
 - ♦ What do you already know about this person and their work?
 - ♦ What are new things that you'd like to learn?
2. Review the trip with them, so the children will know where they are going, what to expect, and who will be speaking to them.
3. If there are important safety cautions, review those with the children.
4. Choose a child to be the photographer and demonstrate how to use the camera.



The Adventure

1. Enjoy a series of field trips to local businesses, agencies, and institutions.
2. Help the photographer capture the worker and the workplace on film. (Develop the film before the following meeting.)
3. If appropriate, ask the children to collect a small, complimentary item from the various sites they visit: brochures, postcards, napkins (from a restaurant).
4. At the meeting which follows a field trip, review the experience with the children.
5. Ask the photographer to share the photos. Ask the other children to share their mementos.

6. Discuss the key experiences and encourage the children to share insights.
7. Ask the children to draw a picture of the thing that was the most interesting, the biggest, the smallest, the fastest, or draw the person in their workplace.
8. Place photos, drawings, and mementos in a scrapbook.

Giving Recognition

Recognize the children's efforts to be walking partners during field trips. Repeat good answers and ideas during discussion to reaffirm the children. Listen carefully to their perspectives.

Evaluating the Adventure

Did the children interact appropriately with their hosts and peers at the work sites?

Do the children understand the variety of careers in their community? Do they like to live in this place? How does other peoples' work make it a nice place to live (the mailman, construction worker, nurse, librarian)?

Application/Additional Activities

1. Ask the children where their parents or family members work. What kinds of work do they do?
2. After several visits, ask each child to choose the job s/he would most like to do and the reasons for her/his choice.
3. Supply the children with nice paper to write thank-you notes to the businesses and agencies that they visited. Include a group photo of the children.

helping in *My Community*

By participating in volunteer projects and programs, children will develop a sense of belonging and of helping in their community. There are numerous ways this can happen—this lesson describes planting trees. Other possibilities are listed in “Application/Additional Activities.”

Get Ready

Goals

Children will learn how trees benefit their community. They will learn how to plant young trees.

Through a variety of cooperative community tasks, children will develop a sense of belonging and of helping in their community.

Time Two 50-minute sessions

Group Size 1 leader for every 4–6 children

Background

Commitment to a good community is best shared by every member. There are many ways that children can be involved (note “Application/Additional Activities” for suggestions). In order to learn about places where your group can be involved, contact local volunteer groups, the Chamber of Commerce, the library, the hospital, or a retirement center. Choose an activity that is appropriate for your children.

Planting and caring for trees are two good ways to help your community. As a result of an industrialized society which burns carbon-based fuels such as gasoline, oil, coal, and natural gas, enormous amounts of carbon are released into our atmosphere. These emissions can cause climatic changes affecting the planet’s health. Trees are ventilators of the earth, and tree planting helps reduce the amount of carbon in the air.

Project Learning Tree states that “an average yew tree stores about 25 pounds (11.3 kg) of atmospheric carbon a year.” It quotes Dr. Rowan Rowntree of the U.S. Forest Service’s Urban Forest Ecology Research: “A 12-year-old child needs to plant and maintain 65 trees in order to offset the amount of carbon that child will put in the atmosphere during the rest of his or her lifetime.”



This activity is adapted from “Planting a Tree” in *Project Learning Tree*, which lists several benefits that trees provide, especially in urban or residential areas:

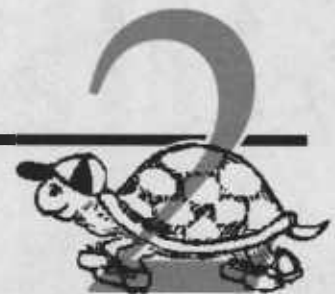
- ♦ Help settle out, trap, and hold small particles (dust, ash, smoke) that can damage lungs
- ♦ Absorb sulfur dioxide and other pollutants
- ♦ Replenish the atmosphere with oxygen
- ♦ Hold soil with roots, preventing erosion
- ♦ Provide homes and food for birds and other animals
- ♦ Lower energy bills by providing shade and serving as a windbreak
- ♦ Muffle traffic noise
- ♦ Provide beauty and enjoyment

Find out which agencies or organizations are responsible for tree planting and maintenance in your community. Contact them to learn how your group of children can be involved. By participating, children feel a closer link to their community.

Get Set

The Gear

- ☐ Large buckets
- ☐ Hoses (is there water access?)
- ☐ Shovels (include smaller sizes for children)
- ☐ Appropriate clothing: boots, jackets, gloves
- ☐ Enlist parent involvement
- ☐ Review “Planning a Field Trip” in the Introduction



Resources

Parks departments, urban forestry departments, garden clubs, county Extension staff, the National Arbor Foundation, Audubon and Wilderness societies, and other preservation organizations.

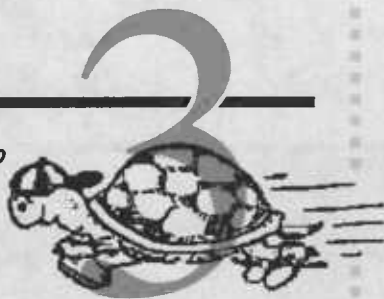
Reading for Fun

A Rose for Abby by Donna Guthrie

Go!

Preparing the Group

1. Review with the children the benefits that trees provide (see "Background").
2. Ask them to name some areas in their community where large, older trees are located (along city streets, parks, schools).
3. Ask if they have watched people plant trees. Where?
4. Explain how they will participate in planting trees, either as a single group or with others who are participating in a larger organization's efforts.



The Adventure

1. Before and during the planting, keep the trees cool and shaded and their roots moist.
2. Choose your site carefully:
 - ♦ Give your tree plenty of room—its roots will grow wide and deep.
 - ♦ Plant well away from buildings and powerlines.
 - ♦ Plant the tree where its roots will not grow into sewers and pipelines, or under driveways and sidewalks.
3. While planting a sapling:
 - ♦ Dig a hole twice as wide and as deep as the rootball.
 - ♦ Build a mound of soil in the bottom of the hole.
 - ♦ Place the sapling on top of the mound so that it is 2 inches above the hole's bottom.
 - ♦ If the roots are wrapped, remove the burlap.
 - ♦ Fill the hole with dirt, tamping it down with your foot and wetting it with water as you fill the hole.
4. If you're planting a seedling:
 - ♦ Dig a hole a little deeper than the roots' length.

- ♦ Fill the hole around the seedling with dirt. Then gently pull the trunk of the seedling up slightly to straighten out the roots.

*For planting directions specific to your type of tree, consult local Master Gardeners or a local nursery.

5. Because a tree is most vulnerable during the first years of life, protect it from animals with wire and stake fences. Water it frequently.

Giving Recognition

Arrange for a community member to thank the children for their work. Ask a parent to take photos of the children as they work. Share them at the next meeting, and discuss how each child made a contribution.

Report your children's community work to their school or to the local newspaper.

Evaluating the Adventure

Were the children able to review the benefits of trees with you?

Visit the tree planting site a month later. What do the children see? Are their trees healthy and growing? What did they do to give them a good start? Ask them how they would like to take care of these trees throughout the year.

Application/Additional Activities

1. Hold a benefit toy sale. The children can collect used toys from their own collections and from friends. They can advertise and organize a sale day. The proceeds could go to a charity of their choice, for instance the local mission for the homeless, the children's wing in the hospital, or the local children's library.
2. Conduct a litter patrol. The children can choose a familiar site such as a school playground. Check with authorities first for approval. They'll need small plastic garbage bags, plastic gloves, and safety instructions for what is unsafe to pick up.
3. Visit a retirement home. Arrange in advance with the management. The children can make small gifts at a previous meeting, then give them to the residents as they meet and visit with them. (Prepare the children in advance for the visit. Discuss some of the ways that elderly people can be different: some can't hear well, so speak loudly; others can't see clearly, so stand near them; and a few need walkers or wheelchairs to move.) Many older people love to see children, so children are welcomed openly.

adventures with **My Family**

Happy families are essential for happy children. Sharing work, indoor and outdoor activities, and play are building blocks for a positive family. This activity is a Family Fun Night for your group.

Get Ready

Goals

Children will understand how each family member contributes to the family and to the community.

They will create cooperatively a special event for their family members.

They will learn how to introduce their parent or family member publicly.

Time 1 hour

Group Size 1 family member with each child

Background

A positive, nurturing environment is essential for a healthy, happy child. Providing that environment is an opportunity and a challenge for every parent. Each child is unique, but all K-3 children are eager to learn, to try new things, and to be loved and accepted.

All of the activities in this guide are designed so that children can share experiences with their families. The "Application/Additional Activities" section includes several ways that families can share with their children through "Family Nights," family discussions, family activities and outings, etc.

Though the focus for this activity will be a Family Fun Night, there are several ways you can plan additional family events:

- ◆ As an extension of the Foods unit, plan a potluck dinner where each child and their parent(s) jointly prepare a dish and bring it with copies of the recipe.
- ◆ Families take turns as hosts of a meeting: Board Game Night, Scavenger Hunt in the Neighborhood, Craft Night, or their own idea.

The Family Fun Night is an opportunity for each child to bring a parent or family member to a meeting.



As an extension of the Community unit, each family member could talk for 5-10 minutes about their work and how it helps the community. Other meetings could focus on hobbies or special interests. Family Fun Nights are an excellent way to learn about traditions and family practices of the different cultures represented in your group.

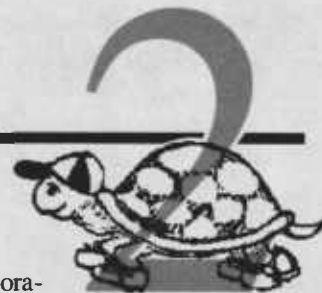
The steps to prepare for the event include:

- ◆ Develop a plan for the event with the children.
- ◆ At least 1 week in advance, promote with an invitation for every family. The children can color or draw on it at the previous meeting.
- ◆ Make simple name tags for children and family guests to wear.
- ◆ Have one child lead the 4-H pledge and another welcome the guests.
- ◆ Give a brief introduction, mentioning the theme.
- ◆ Have each child introduce his/her family member to the group.
- ◆ Ask one child to give a final thank you to all and invite guests to enjoy refreshments.

Get Set

The Gear

- ☐ Invitations (crayons, stickers, stamps for decoration)
- ☐ Name tags
- ☐ Plates, napkins, cups for refreshments
- ☐ Camera
- ☐ Plan to supply a "stand-in" adult guest for the children whose family members can't attend



Reading for Fun

Ramona and Her Father by Beverly Cleary
The Courage of Sarah Noble by Alice Dalgliesh
All-of-a-Kind Family by Sidney Taylor

Go!

Preparing the Group

The week prior to the event:

1. Explain the importance of families and how they help us. Ask the children to share what they like about their families. Ask them to share a story about a vacation or special adventure in their family.
2. Ask for their help to plan the Family Fun Night. Review the ideas from "Background." What else would they like to include?
3. Supply simple invitations that they can color or decorate and take home that day.
4. Appoint the children who will lead the pledge, introduce the evening, and give the closing comments. All the children act as hosts at the event.
5. Practice introducing one another: "Mom, I'd like you to meet Jim. Jim, this is my mom, Joanne Stone."

The Adventure

1. While waiting for everyone to arrive, have a fun, low-key activity that all can enjoy, such as fitting together a large puzzle on the floor.
2. After everyone has arrived and is wearing a name tag, begin with the 4-H pledge and welcome.
3. Each child can stand and introduce their parent or family member. Then the adult shares for 5 to 10 minutes. Encourage dialogue by having the children ask questions. Clap as each adult concludes.
4. If the children get restless, break this time into two or three sections. During the breaks, the children can stretch and do some kind of motion game such as follow the leader.
5. Conclude with the child giving closing remarks and inviting all to enjoy the refreshments.

Giving Recognition

Thank each child and family member after they make their presentation. Take photos of each child and their parent or family member to add to the club scrapbook.

Evaluating the Adventure

Were the children able to introduce their guests to the group? Did the children listen to each other and to guests? Did they ask appropriate questions for the guests to answer? Was this a positive experience for everyone?

Application/Additional Activities

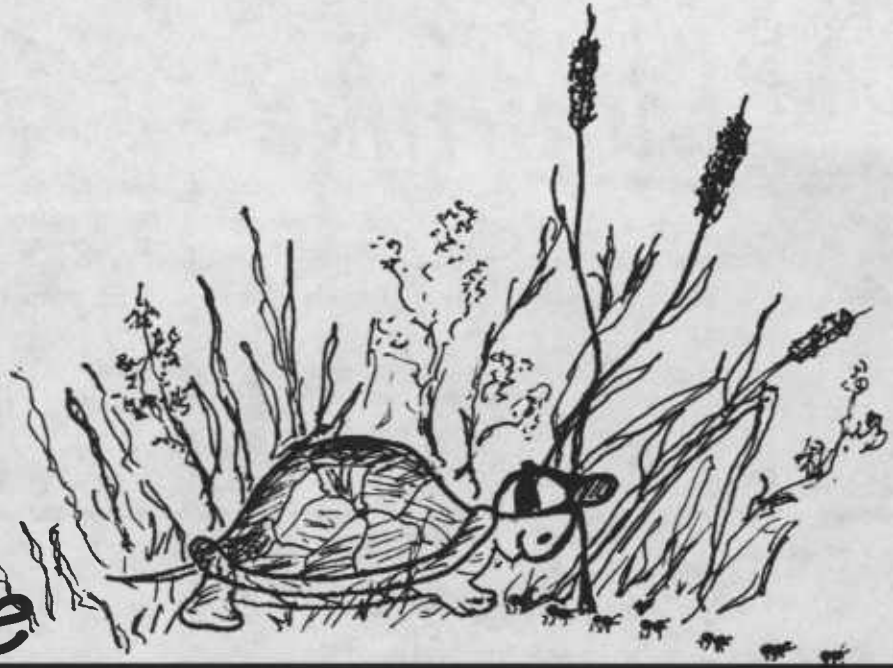
(For individual families)

1. Establish a "Family Night" once a week or once a month. Some ideas for activities:
 - ♦ Make a family coat-of-arms, using symbols that have specific significance for family members.
 - ♦ Make silhouette drawings of each person.
 - ♦ Create a family calendar, recording family events: birthdays, graduations, weddings, anniversaries, vacations.
 - ♦ Have a Board Game Tournament: checkers, marbles, other favorites.
 - ♦ Fit a jigsaw puzzle together.
 - ♦ Conduct a family discussion: What makes me happy? What makes me sad? How can we help each other?
 - ♦ Plan a fingerpaint night—everyone participates.
 - ♦ Share family traditions and stories.
 - ♦ Create a family scrapbook or a family newsletter.
2. Plan a monthly family project:
 - ♦ Clean the attic, the basement, garage, or a closet.
 - ♦ Conduct annual fall raking, spring yard clean-ups, or summer gardening parties.
 - ♦ Visit your neighbors or invite them to dinner.
 - ♦ Share in community service projects.
 - ♦ Prepare for emergencies—make a list of emergency telephone numbers; discuss emergency procedures for a flood, an earthquake, a fire, or for first aid procedures.

Celebrate each time you complete a project! Remind your children how lucky you are to be part of a family with them.
3. Share family adventures: roller-skating, bowling, swimming, biking, nature walks and hikes, picnics.



Nature



- ♦ **Going on a Mini-hike**
- ♦ **Meeting My Very Own Tree**
- ♦ **Calling and Watching Birds**
- ♦ **Making a Terrarium**

Exploring our natural surroundings with children provides an opportunity to share in their wonder. Joseph Cornell, a preeminent nature educator, says: "Children have a marvelous capacity for absorbing themselves in whatever they're looking at. Your child will gain a far better understanding of things outside himself by becoming one with them than he will from second-hand talk. Children seldom forget a direct experience. Don't feel badly about not knowing names. The names of plants and animals are only superficial labels for what those things really are."

going on a **Mini-hike**

While imagining themselves only 1 inch tall, the children will observe the natural world in a nearby field, park, or backyard. They'll discover a variety of plants and animals living within a 5-foot circle: a miniature ecosystem.

Get Ready

Goals

Children will learn that every ecosystem needs air, water, and soil.

They will use their observation skills to discover the natural interaction and interdependence of living and nonliving things within a miniature ecosystem.

Time 45 minutes

Group Size 1 leader for every 3-4 children

Background

Henry David Thoreau wrote, "The earth is more to be admired than to be used." Helping children to develop a keen awareness of their place in the world will promote their wonder and admiration of it.

By covering the trail on their hands and knees, children will be fascinated with the natural environment in miniature. This activity is adapted from *Sharing Nature with Children* by Joseph Cornell, which is based on the premise that "our environment is a web of cooperation and interdependence."

Choose and prepare a nearby site—a school yard, park, field, or forest. Each child will carry a 5-foot string as a boundary for their space.

Look for a large enough area with a diversity of ground cover, avoiding thick vegetation. You may want to mark off the boundary area.

During this activity, introduce the concept of an ecosystem—living and nonliving things within a specific area. All life, whether large or small, needs air, water, and soil in its ecosystem or "space."



Get Set

The Gear

- ☐ 5-7 feet of heavy string or yarn per child
- ☐ A pouch for imaginary "dust"
- ☐ Magnifying glasses for each child (optional)

Resources

4-H Earth Connections, Florida 4-H Program, University of Florida

Keepers of the Earth: Native American Stories and Environmental Activities for Children by Michael J. Caduto and Joseph Bruchac

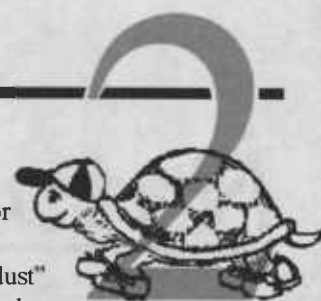
Science in a Vacant Lot by Seymour Simon

Sharing Nature with Children by Joseph Cornell

Reading for Fun

Two Bad Ants by Chris Van Allsburg

The Gift of the Tree by Alvin Tresselt



Go!

Preparing the Group

1. Begin by asking the children: Can you imagine what the world would look like if you were only 1 inch tall? There are many creatures and plants that are only an inch tall, and smaller! This is going to be a special kind of hike . . . a mini-hike where we inspect this miniature world.
2. Have the children sit at the mini-hike site.



3. Bring out your pouch and explain that the pouch's special pretend "dust" will make them all small. In a quiet, soft voice, tell the children to sit quietly and close their eyes. (The dust won't work if they peek.)
4. As you sprinkle the imaginary "dust" on them, speak quietly and slowly. Explain that they are getting smaller and smaller—now they are only 1 inch tall!
5. Have them think about how huge their parents, their house, and school would be.
6. Explain that there are many creatures and plants that are only an inch tall. Have them open their eyes slowly.
7. To prepare for this adventure, give each child a 5- to 7-foot long heavy string or yarn. As they lay it in a circular shape, it will become their micro-world's boundary.
8. If available, give each child a magnifying glass.

The Adventure

1. With his/her string, each child will move to a separate area and place the string in a circle.
2. On hands and knees and keeping their eyes no higher than 1 foot above the ground, the children begin their adventure.
3. They continue to investigate their "mini-world" as you guide them with questions such as these:
 - ♦ What kind of world are you traveling through right now?
 - ♦ Who are your nearest neighbors?
 - ♦ Are they friendly? Do they work hard?
 - ♦ What is that spider going to do—eat you, or take you for a ride?
 - ♦ What would it be like to be that metallic green beetle?
 - ♦ How does he spend his day?
 - ♦ What does he eat? Who might want to eat him?
 - ♦ For a moment, close your eyes and listen. Do you hear any strange sounds? Who is making the noise?
4. If a child spies an ant or spider, suggest that he or she watch it as it walks: how does it move among the grasses or litter? Where might it be going?
5. When everyone has completed their investigation, snap your fingers. Suddenly, the children are full size again!

Giving Recognition

Complement children who are staying carefully within their boundaries and keeping focused on their micro-world.

Share discoveries as they are made: "Julie just saw a huge lady bug! Jason is looking in a tiny hole, wondering who might live there. Be careful—don't fall in, Jason! Kerry has found three different kinds of grasses in her circle."

Evaluating the Adventure

As you regroup in a circle, discuss:

- ♦ What different animals did you find?
- ♦ What different plants did you find?
- ♦ What were some of your animals doing? Eating plants?
- ♦ What would happen if there were no plants? (The animals would die.)
- ♦ What would happen if there were no soil? (The plants could die because they would have no way of getting food.)
- ♦ What do your small plants and animals need to live? (Soil, air, water, and food.)
- ♦ Do large plants and animals need the same things to live? (Yes.)

Application/Additional Activities

1. Have the children return to their special places at different times of the day and in different seasons. Ask them to look for changes. After each visit, ask the children to draw a picture of their special place or write about it, creating a personal notebook or journal.
2. Supply crayons, markers, and paper for each child to draw a picture of their mini-world. Encourage them to include plants, animals, and nonliving organisms.
3. Take a picture of each child in her or his place at least once during these visits—add to their journal.

meeting my *Very Own Tree*

During this game, children will take turns being blindfolded and guided by an adult leader. They are led through a wooded area or forest to a specific tree. They will explore it through touch and smell. After returning by another route to the starting point, the blindfold will be removed and the child asked to find his or her tree.

Get Ready

Goals

Children will be able to tell the difference between needleleaf (evergreen) and broadleaf (deciduous) trees.

They will use their senses of touch and smell in order to identify their tree. Through identification, they will develop a sense of connection.

Time 45–60 minutes

Group Size 1 leader for every 3–4 children

Background

Trees stabilize the soil to prevent erosion and flooding, reduce air pollution, give shade, temper noise, and provide a natural habitat for the wildlife in a community. A single leaf of a beech, an oak, or a walnut tree has more than a hundred thousand pores with which to breathe in carbon monoxide and breath out oxygen—trees are the ventilators of the earth. Our survival depends on healthy forests.

This game, adapted from Joseph Cornell's *Sharing Nature with Children*, promotes a link between the child and her/his tree. Additional activities are suggested to enhance this connection. What once was a park or forest becomes a collection of very unique trees. Developing an appreciation for these trees will prepare children to become wise stewards of our forests.



Who has seen the wind?

Neither I nor you;

*But when the leaves hang trembling,
The wind is passing through.*

Who has seen the wind?

Neither you nor I;

*But when the trees bow down their heads,
The wind is passing by.*

—Christina G. Rossetti

Get Set

The Gear

- ☐ Trees in a nearby park, woodlot, or forest
- ☐ Blindfolds—two or three, depending on group size (**Caution:** While blindfolded, children should put hands up as bumper pads for safety.)
- ☐ Pictures of trees: the “T” volume of the encyclopedia, catalogs from local nurseries, magazine photos
- ☐ Crayons and paper for rubbings of the bark or for the children to make drawings of their tree



Reading for Fun

A Tree is Nice by Janice Udry

The Fir Tree by Hans Christian Anderson

The Giving Tree by Shel Silverstein

Preparing the Group

1. Follow "Guide for a Field Trip" in the Introduction and locate a suitable nearby park or wooded area for this activity.

*Be sure to avoid areas where children may come into contact with poison oak.

2. Before leaving for the park or forest area, read a story about a tree and/or discuss the value of trees with the children.
3. Using pictures of trees, promote discussion by asking questions:
 - ♦ Do we have trees like this near us?
 - ♦ Do trees look like this now?
 - ♦ What is the main difference between young and old trees? (Young trees have slender trunks while older trees have thick trunks.)
 - ♦ What is a needleleaf or evergreen tree like? (Its branches usually start right at the ground. It has needles that always stay green. Its seeds are in brown cones that fall to the ground to create new trees.)
 - ♦ What is a broadleaf or deciduous tree like? (They change with the seasons. Most all broadleaf trees lose their leaves each autumn, so their branches are bare in winter. Their spring flowers produce fruit, nuts, or berries during the summer.)
 - ♦ Do you have a favorite tree? Tell us about it.

The Adventure

1. When you arrive at the site, arrange the children into small groups with leaders. Explain that they will each take turns being blindfolded and led by a leader through the forest or park to a special tree. (Stay together in small groups.)
2. Once they reach the tree, they can explore it.
3. The leader can make suggestions:
 - ♦ Rub your cheek on the bark.
 - ♦ Can you put your arms around it?
 - ♦ Can you find plants growing on it?
 - ♦ Listen. Can you hear animals or birds nearby?
 - ♦ Smell the bark, the needles, or the leaves.



4. When the child is finished exploring, the leader will guide his/her return by an indirect route. This can be fun and creative, leading the blindfolded child over imaginary logs and through thickets that easily might have been avoided.
5. When each one returns to the starting point, the blindfold is removed and the child searches for and identifies her/his special tree.
6. Continue with each child, leading each one to a different tree, until all have had a turn.

Giving Recognition

Celebrate by cheering when each child identifies his/her very own special tree.

Evaluating the Adventure

Observe the blindfolded children as they acquaint themselves with their trees. After returning to the starting point, are they each able to identify their special tree? What clues did they use? Can they describe the tree's bark, size of the trunk, its smell, and whether it is a broadleaf or needleleaf tree?

Application/Additional Activities

1. Each child can spend some time with their tree, making a bark rub (place the paper on the bark and rub with the "fat" side of a crayon) or a drawing of the tree with paper and crayons.
2. Ask the children to collect a few treasures under the tree: twigs, nuts, leaves, cones. They can create a collage by gluing them onto sturdy colored cardboard or a shallow box lid.
3. Visit the trees during different seasons.
4. Each child can make a small book about their tree.
 - ♦ Include drawings, bark and/or leaf rubs, and a photo of the child by her/his tree.
 - ♦ Ask them to observe who lives in and around the tree. They could draw pictures of these animals, birds, and insects.
 - ♦ Ask parents to help their child write a poem or short story about the tree.
5. Visit another area with trees. Ask the children to distinguish needleleaf from broadleaf trees. Ask them to identify similarities and differences between the trees.

Calling and Watching Birds

Children will learn two bird calls that are done simply with their mouths (no other equipment needed). They will sit quietly together and wait for birds to answer their calls. After the event, they will create a chart of their observations about various birds.

Get Ready

Goals

Children will learn to attract birds with two calls.

They will practice patience while waiting and watching for birds to respond.

They will use observation skills to recognize familiar birds in their region. They will record their observations.

Time 45-60 minutes

Group Size 1 leader for every 4-6 children

Background

"In the bird world you'll find exquisite beauty and almost unimaginable homeliness; perfect grace and total clumsiness; fearsome power and gentle humility; silent soaring in rarified heights, and earthy cackling and squabbling," writes Joseph Cornell. Learning to observe and share in the bird world can be a delightful family activity. Introduce children early to the art of bird watching. This activity is based on Cornell's "Bird Calling" in *Sharing Nature with Children*.

Purchase a book of birds common to your region and keep it handy. Teach the children to identify these birds and learn together about their world: where they live, how they build their nests, what they eat, what flight patterns they follow, and which song or call is theirs.

Henry David Thoreau paid tribute to his bird friends: "The chickadee and nuthatch are more inspiring society than statesmen and philosophers." Join the fellowship of bird watchers from the Audubon Society to Saint Francis and the ancient Greeks.



*All the birds have come together!
All the birds that I could mention
Meet to hold a big convention!*

*How they cluster, how they muster,
How they flutter, flutter, fluster!
Now they dart with gleaming feather
Now they cuddle all together!*

—Aristophanes

Get Set

The Gear

- ☐ Comfortable clothing with suitable shoes for brambles or marshy areas
- ☐ At least one pair of binoculars

Birds are most active in the morning. Plan this activity early in the day if possible. Birds are attracted to a variety of plants. Look for a site with brushy roadsides, hedgerows, edges of fields or forests, woodland or park openings, or vacant lots.

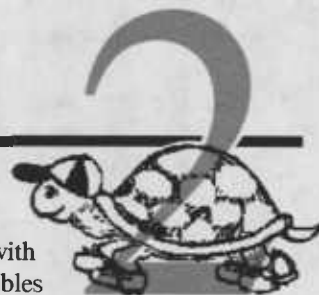
Resources

Any Audubon Society Book of Common Birds
Linnaea's Almanac by Christina Björk and Lena Anderson

Nature in Your Backyard by Susan S. Lang
Woods, Ponds, & Fields by Ellen Doris

Reading for Fun

Have You Seen Birds? a Scholastic Book
Birds of a Feather by Willi Baum
What Makes a Bird a Bird? by May Garelick



Go!

Preparing the Group

(Practice the two calls before teaching them.)



1. Tell the children that these two bird calls can be made with their mouths—no other equipment is necessary.
2. Both calls last about 3 seconds. Both make the “pssh” sound. Practice the sound together.
 - ♦ Now show them the first simple rhythm: pssh.....pssh.....pssh.....
 - ♦ Practice this together, slowly first, then in a 3-second span. Ask them to listen to one another imitate the sound.
3. Once they have mastered the first rhythm:
 - ♦ Introduce the second: pssh.....pssh.....pssh-pssh.....pssh.....pssh
 - ♦ Follow the same method of group learning as in step 2 above.
4. Before going out to practice the calls, describe and name different birds they might see. If possible, refer to pictures in a bird guide.
5. Orient the children to life from a bird's perspective. What are the birds seeing and watching for? (They are looking for food and avoiding danger from the larger birds and animals.) What can we do to help bring them close to us? (By staying silent and still, we will not frighten their interest in our calls.)

The Adventure

1. For best results, wait until you hear birds nearby in the site you have chosen.
2. Then use the call. Remain motionless while kneeling or standing by shrubs or trees that will give the birds something to land on.
3. Pause after three or four rounds of the call to listen for incoming birds.
4. According to Cornell, the birds will respond quickly if they are going to respond at all. Some, like rufous-sided towhees, will fly to the nearest lookout post to check out your calls. Others, like the wrentit, will slowly, warily come closer.
5. When the birds begin coming near, a single series or a couple notes of your call may be all you need to keep them nearby.

6. Cornell gives varying reasons for the birds' interest in responding:
 - ♦ The “pssh” sound resembles many birds' scolding call.
 - ♦ It sounds like a mother bird's feeding call to her young.
 - ♦ It merely provokes the birds' curiosity.
7. For children who read/write: After sufficient bird responses, gather the children together and create a chart of their observations and sightings of various birds. It could include color, size, body and beak shape, calls and songs, and flight patterns.

For non-readers: Create simple drawings of the birds they saw, noting relative size, body and beak shape, and color.
8. Return in a month or two and observe the changes in bird behavior and variety. Create another chart and compare the two.

Name	Color	Size	Beak
Robin	Brown/Or.	Med	Sharp
Sparrow	Brown	Small	Cone
Finch	Gray	Small	Cone
Crow	Black	Large	Long

Giving Recognition

Congratulate the children as they master the two calls. Recognize the children by name who are remaining quiet and still while observing. Thank those who give various observations for the chart.

Evaluating the Adventure

Observe the children during the bird calling: Are they anticipating and waiting quietly for birds to respond? Later, do they contribute with information about the birds who responded?

Application/Additional Activities

During winter, make different kinds of bird feeders and offer a variety of food: seeds, unshelled peanuts, apple cores, coconut halves, and nuts. Observe the various birds that visit your feeders. Keep a record of your observations.

To make a simple feeder:

- ♦ Fill a pinecone with peanut butter.
- ♦ Roll it in oats or seeds.
- ♦ Tie a string around it.
- ♦ Hang it in a tree or from a hook at the window sill.

making a Terrarium

Each child will make a terrarium to take home. The children will learn about the water cycle and be prepared to observe this process in their terrariums. They'll share their observations at future meetings.

Get Ready

Goals

Children will explain the water cycle.

They will follow directions and build a terrarium. They will observe the process of the water cycle demonstrated in a terrarium.

Time 45 minutes

Group Size 1 leader for every 4-6 children

Background

A terrarium is a miniature garden/landscape, grown inside a covered glass or plastic container. It's a great way to teach children about the water cycle. Since it is a contained environment, the original water evaporates from the leaf surfaces and then condenses (changes to liquid) in the air. This forms tiny water droplets which "rain" into the soil, where the plants' root systems absorb and transport it to the leaves: a repeating cycle.

The enclosed terrarium imitates earth's water cycle in which tons of water evaporate daily from the earth. As the evaporated water mixes with the air, the warm, moist air rises. As this warm air rises, it expands and cools, condensing into droplets and gathering as clouds, which release their contents as snow, hail, or rain—a continual cycle of water.

Plants that like a moist environment such as ivy, moss, ferns, and peperomia are good for a terrarium. Cuttings may be taken from larger plants and started here. If you use good soil, you will need to fertilize only once or twice a year or plants will grow too large. Terrariums need light, but not direct sun.



Get Set

The Gear

- ☐ Copies of Drip the Drop maze (see "Resources")
- ☐ A pencil for each child
- ☐ Wide-mouth gallon glass jars, clear plastic jars with lids, or 2-liter pop bottles (cut top off and cover with plastic wrap for lid)
- ☐ Pebbles, rocks, or sand
- ☐ Charcoal granules
- ☐ Potting soil
- ☐ Interesting stones and shells
- ☐ Plant starts



Resources

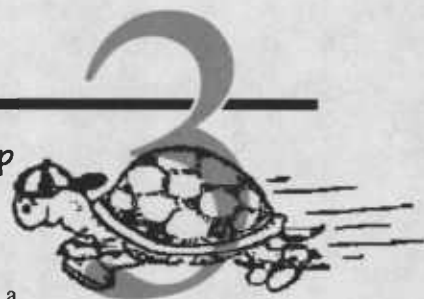
National Gardening Association
180 Flynn Ave., Burlington, VT 05401

Terrariums by Alice Parker

Go!

Preparing the Group

1. Give each child a copy of the Drip the Drop maze.
2. Explain that a cycle is a sequence of recurring events. Some cycles are a part of everyday life: morning, afternoon, night; fall, winter, spring, summer.
3. Have you heard of the water cycle before? Describe it briefly, using the terms *evaporate*, *condense*, and *precipitate*.



4. As children follow Drip the Drop on a trip through the water cycle maze, explain the water cycle.
5. Introduce a functioning terrarium as a closed ecosystem (a community of organisms interacting with their environment). The terrarium imitates the earth's water cycle.
6. Can anyone explain how the terrarium plants get water?

The Adventure

Give each child an appropriate container and guide them through the following steps:

1. Clean the container with soap and water, rinse well and dry.
2. Cover bottom of container with 1-2 inches of sand or pebbles. (This helps drainage.)
3. Fill container $\frac{1}{3}$ full with potting soil, mixed with a few granules of charcoal. (The charcoal keeps the soil from souring by filtering out impurities.)
4. Make holes in the soil for three to five plants. Plant each one, making sure roots are fully covered.
5. Landscape with shells, rocks, or small bark pieces.
6. Water plants well (until the soil is thoroughly moist but not drenched) and cover container with plastic, glass, or a lid.

Giving Recognition

Use positive comments to reinforce the children's choices as they carefully follow directions. Each child should take home their terrarium and the Drip the Drop maze to share with their families.

Evaluating the Adventure

Were the children able to follow the directions and make a terrarium?

Ask children to explain:

- ♦ The water cycle, using the maze
- ♦ Why terrarium plants need little or no water
- ♦ Which other plants would be suitable for a terrarium

In future meetings, invite children to share observations about their terrariums. Do they relate observations to the water cycle?

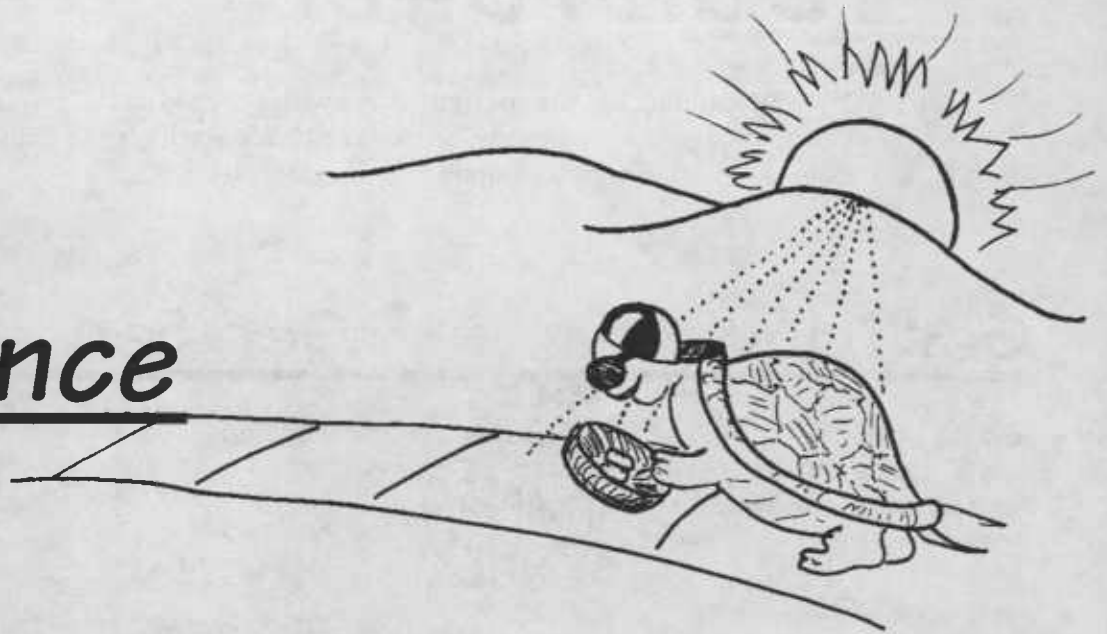
Application/Additional Activities

1. During the week prior to this activity, take the children on a field trip to a nursery to find small plants for their terrariums. Talk with a nursery salesperson about the growing habits and requirements of various plants.
2. If you have one in your area, visit a tropical greenhouse. Why does the air feel different inside the greenhouse?





Science



- ♦ **Cooking with Sun Power**
- ♦ **Fun with Magnets**
- ♦ **More Fun with Magnets**
- ♦ **Discovering How Sound Works**

The processes of science come naturally to children. They are keen observers, and they ask seemingly endless questions about their environment and how things work. Their natural curiosity leads to many experiments, such as planting a rock to see if it will grow or pouring water into a container to see how much it will hold before it overflows. For children, science is about discovery, and it's *fun*! The lessons in this guide introduce them to the sun's power, the earth's magnetic forces, and invisible sound waves.

Cooking with Sun Power

By concentrating the summer sun's rays with a metal funnel, enough heat can be produced to cook some foods. The children will create individual "sun stoves" and cook a sampling of several foods.

Get Ready

Goal

The children will learn that the sun's rays can be concentrated to create enough heat to cook some foods.

They will practice following directions and use observation skills.

Time 45 minutes

Group Size 1 leader for every 4 children

Background

The sun's rays (radiation) can be concentrated by using a shiny metal funnel shape, producing enough heat for us to actually feel and to cook some foods. This works best during the hottest part of a summer day. In tropical countries, people commonly use concave mirrors for cooking. Aluminum foil can be used to reflect and focus the sun's rays into a small area to serve as a small cooking appliance.

It's best to experiment with these learning activities before teaching them to the children, confirming that you can concentrate the sun's rays enough to actually cook the selected foods. Younger learners will need considerable assistance with this lesson. Two children easily can share one "cooker" and learn cooperation and sharing skills at the same time.



Get Set

The Gear

- ☐ Sunglasses for each child
- ☐ Aluminum foil
- ☐ Tape
- ☐ Scissors
- ☐ Paper bowl with a small base for each child or pair of children
- ☐ Corn cob skewers
- ☐ Paper plates or napkins
- ☐ Several spoons and/or balls to smooth foil, and . . .

A variety of foods to cook: hot dogs, pre-cooked ham or other processed meats, potatoes, green pepper, cherry tomatoes, onions, bread, cheese cubes, chunks of fruit, or any other food that may be cut into chunks and will cook fairly quickly. (For dessert, marshmallows could be slightly melted and served between graham crackers.)

Resources

OSU Extension Energy agents
Recipes for foods cooked on skewers
Local power company



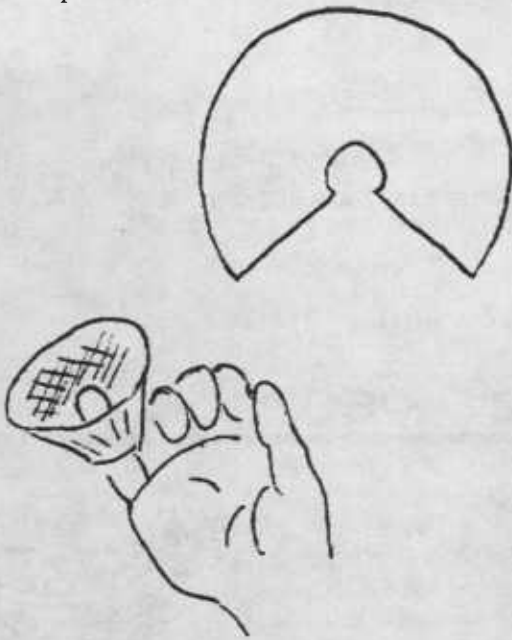
Go!

Preparing the Group

1. Use aluminum foil or smooth silver paper (even wrapping paper would work) to form a funnel to fit around each child's finger.



Follow pattern below:



2. Glue or paper clip the funnel together and have each child stick a finger through the hole in the funnel (so that the finger is inside the funnel.)
3. With their sunglasses on, direct the children to point their finger and funnel toward the midday sun. (**Caution:** Children must not look directly at the sun.) Their fingers should become noticeably warmer.
4. Explain that the sun's rays are reflected from the walls of the funnel to the middle and are concentrated onto their fingers. If a shinier surface such as the concave mirror of a bicycle light were used, their fingers would quickly become too hot and burn.

The Adventure

1. Have each child or pair of children line their bowl with aluminum foil (shiny side out), fold the excess foil to the outside of the bowl, and attach this with tape.
2. Have children use the back of a spoon or a rubber ball to carefully smooth the foil so that it resembles a mirror.
3. Split the foil enough in the bottom of the bowl so that the skewer may be poked through from the outside.
4. Because washing hands is an important habit to establish, ask the children to wash their hands in warm, soapy water for 20 seconds or as long as it takes to sing "Happy Birthday."
5. Give each child one kind of food at a time to cook and taste, or give different foods so everyone can

watch each other's food cook. (The pieces of food should be fairly small to speed the cooking process. For example, hot dogs could be cut in quarters and then split in half.)

6. Help the children to secure their food to the skewer, as needed.
7. Point the cooker directly at the sun. (After some time it will need to be moved to re-align with the sun's rays.) The rays falling on the aluminum foil are reflected to the middle of the bowl and concentrated on the food.
8. Discuss some of the following topics during the cooking process:
 - ♦ The need for a variety of foods in the diet
 - ♦ Food safety—keeping hot foods hot and cold foods cold
 - ♦ Camping or outdoor cooking experiences the children have had
 - ♦ Favorite foods
 - ♦ A list of additional foods to cook using this method
9. While the children are cooking or eating their food, point out that the same sun power can "cook" or damage our skin if we are in it too long. When we are sunburned and our skin turns red or is blistered, it has been damaged and overheated. Repeated over-exposure to the sun can cause skin cancer and premature aging of the skin (wrinkles).

Giving Recognition

Complement the children for their willingness to follow directions and stay on task, to be open and willing to try heating their fingers in their funnels, and, possibly, for trying new foods.

Evaluating the Adventure

Did the children follow directions?

At the end of the meeting, ask the children to explain to their families how the cooker works. Listen to their explanations for accuracy.

Application/Additional Activities

1. Try a wider variety of foods.
2. Allow children to experiment with different sizes of funnels and different-shaped bowls.
3. Compare the cooking times:
 - ♦ Using the dull side and the shiny sides of foil
 - ♦ At different times of the day
 - ♦ At different levels of cloudiness in the sky

more fun with **Magnets**

Through a game, the children will learn how magnets' poles attract or repel each other and then observe the attraction between magnets and objects containing metals.

Get Ready

Goals

Children will discover that magnets have poles and that opposite poles attract each other and like poles repel.

They will use their observation skills to group objects into two classes: those that are attracted by magnets and those that aren't.

Time 1 hour

Group Size 1 leader for every 4-6 children

Background

Magnetism's force can be observed between certain objects called magnets. The earth itself acts as if its center contained a large magnet and tries to pull everything down towards it. This pull is called the force of gravity.

Magnetic fields (the space where a magnet's force works) surround every magnet including the earth. Some birds can feel the earth's magnetic field. Scientists think that this helps them find their way when they fly. No one really knows how.

We use magnets and magnetism daily in hundreds of ways: in telephones, televisions, radios, computers, and in the production and use of electricity.

Every magnet has two poles—North and South, attracted by the earth's magnetic poles. Two like poles will always repel each other, but the unlike poles, North and South, will always attract one another. Magnetism is the object of much current research, and its mysteries are far from solved.



Get Set

The Gear

- ☐ 3"x 5" cards or paper marked with an "N" or an "S" (one per child)
- ☐ A variety of magnets, of different sizes and shapes, enough so each child may use one
- ☐ 20 or more objects for testing magnets (a variety of metals, coins, glass, plastic, paper, fabric, jewelry, and rubber objects)

Caution: Keep magnets away from computer discs and video equipment.

Resources

Hobby stores, educational stores
Science with Magnets: Usborne Science Activities by Helen Edom

Reading for Fun

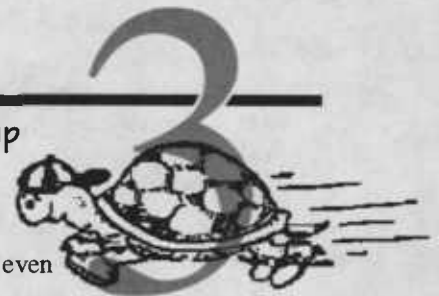
Marta's Magnets by Wendy Pfeffer
Magnets by Janice Van Cleave



Go!

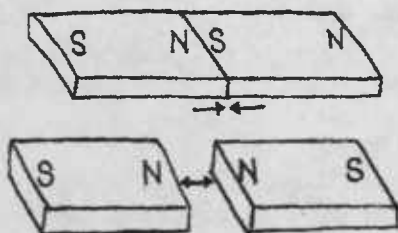
Preparing the Group

1. Give each child a card with an N or an S on it, keeping the number of each letter even if possible.
2. Explain that the N's and S's represent the North and South poles on magnets. With labeled magnets, demonstrate that opposite poles—N's and S's—will stick together, but like poles—N's and N's or S's and S's—will not.



3. Have the children pretend that they are magnets. Ask them to find "magnets" (other children) of the opposite pole and pretend they are stuck together. They can be in pairs or larger groups. Explain that because they are magnets with opposite poles, they will stick together until someone pulls them apart.
4. Pull the "magnets" apart. Now, ask each S to find another S and each N to find another N to stand next to (odd numbers are okay if necessary). Tell the children that like poles—S's and S's, and N's and N's—are opposites and repel each other. Direct the children to jump away from each other.
5. After learning that opposite poles attract and like poles repel, have the children roam around the room, reacting to the other children according to their "pole."
6. Review the concept of the magnet's power to attract or repel before the following experiment.

Opposite poles attract each other.



Like poles repel.

The Adventure

1. Provide or let the children bring a collection of at least 20 objects made from different materials.
2. Give each child a magnet and some objects. Let them experiment to see which objects are attracted to the magnet and which are not.
3. As a group, have the children separate the materials into two piles: those attracted and those not attracted by magnets.

Ask: What do magnets attract?

Discuss the similarities within the piles and the differences between the piles. They will find that only objects made of iron or steel will be attracted by the magnet (a few other very rare metals also are attracted).

Giving Recognition

Throughout the activities, reinforce the children's patience with one another, careful listening, and cooperation (taking turns). If the budget permits, supply each child with a magnet to take home for further exploration.

Evaluating the Adventure

Have each child share their favorite part of the lesson or ask each child to share one thing that they learned (keep sharing until all of the key topics are covered). Observe the children as they participate in the activities. Listen to their questions and observations.

Application/Additional Activities

1. Introduce a compass and demonstrate how it works. How is magnetic force involved?
2. Ask the children to tell the ways in which they and their families use magnets.
3. More advanced experiments are available through children's science books at your local library.

fun with **Magnets**

Children will learn that magnetic force passes through air, water, and some solid materials. Using a paper clip and thread, each child will test a magnet's power. They also will construct small boats and sail them using magnetic force.

Get Ready

Goals

Children will observe that magnetic force can pass through air, water, and some solid materials.

They will observe and describe the power of their magnets to attract at a distance.

They will use small motor skills in building boats.

Time 1 hour

Group Size 1 leader for every 4-6 children

Background

Magnetic force moves through a variety of substances such as air, water, and solid matter. Because it can penetrate matter and interact with the nuclei and electrons that make up atoms, scientists use magnetism as a research tool.



Get Set

The Gear

Experimenting with Paper Clips

- ☐ Paper clip for each child
- ☐ Thread
- ☐ Tape
- ☐ Pieces of paper of varying thicknesses, cut larger than 5" x 7"

Sailing our Boats

- ☐ 1" x 2" piece of 1/4" cork or styrofoam, cut to a point on one end
- ☐ A round toothpick or straight pin
- ☐ A steel thumb tack
- ☐ About a 2" square of colored paper
- ☐ Shallow glass or plastic dishes, 9" x 13" or larger
- ☐ Books or short 2 x 4's
- ☐ Ruler or flat stick for each pair of children

Caution: Keep magnets away from computer discs and video equipment.



Go!

Preparing the Group

1. Review the previous activity in Fun with Magnets—the N's and S's game. What happened when an N and an S were near one another? (They were attracted or pulled together because a magnetic pole attracts the opposite pole.)
2. Have two children demonstrate this.



The Adventure

Experimenting with Paper Clips.

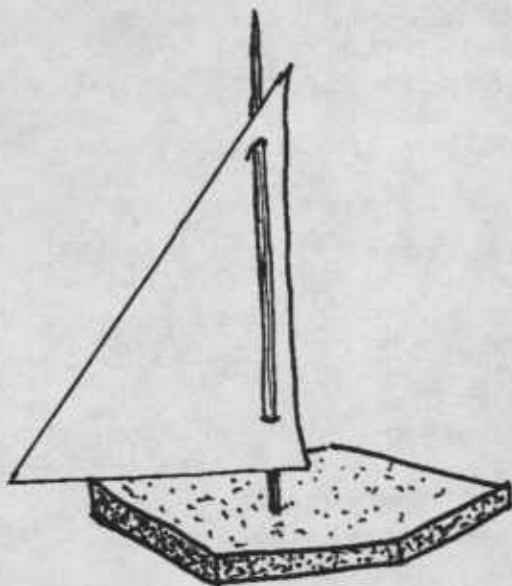
Testing a magnet's power.

1. Demonstrate to the children:
 - ♦ Tie a paper clip to a thread and tape the other end of the thread to a table top.
 - ♦ Lift the paper clip with the magnet until the thread is straight.
 - ♦ Ask the children to predict: What will happen if you pull the magnet away?
 - ♦ Slide a piece of paper between the magnet and the paper clip.
 - ♦ What happens?
2. Give each child a paper clip, a length of thread, and a piece of tape.
 - ♦ Encourage the children to repeat the experiments varying the distance between magnets and paper clips and the thickness of the paper.
 - ♦ Ask them to share what they observe.

Sailing our Boats by Magnetic Force.

What will the magnet's force go through?

1. Have each child construct a boat about 1" x 2" out of 1/4" thick cork or styrofoam. Put a steel thumb tack in the bottom of each boat. Cut a triangle from colored paper for a sail and attach it to the boat with a straight pin or round toothpick. (Younger children may need considerable help.)
2. With books or short pieces of 2 x 4's, elevate a shallow glass or plastic dish about 2 inches above the table. Put about 1 inch of water in the dish. Supply each pair of children with a ruler or stick with a bar magnet taped to it.



3. Two children at a time can "launch" and "sail" their boats in a dish of water, using their magnets as "motors." By moving their magnets on the rulers/sticks under the dish of water, the children can direct their boat's course as desired.

(If the group is large, supply more dishes of water but still require children to take turns, thus practicing an important life skill.)

4. This activity shows that magnetic force can pass through water, glass, or plastic. Guide the children in their observations and discoveries:
 - ♦ Do some magnets make better "motors" than others?
 - ♦ Does size make a difference?
 - ♦ Experiment with more or less water. Does this make a difference in how well the magnet works?
 - ♦ Is there a difference between glass and plastic dishes?
 - ♦ How far away from your boat can your magnet be and still make the boat move?
 - ♦ Hold the magnet underwater. Can you make your boat move this way?
5. Ask the children to share other experiments or activities they might do using magnets. How do they or their families use magnets at home? (Because magnets can work through paper and paint, they can be used to hold up notes on a refrigerator's metal door.)

Giving Recognition

Throughout the lesson, reinforce the children's patience, attention, and cooperation (taking turns) with positive comments.

Evaluating the Adventure

Observe the children as they move their boats. Ask them to list the things that the magnet's force are passing through: air, water, and some solid materials.

Application/Additional Activities

Give the children a Magnetic Puzzle:

- ♦ Put a sheet of paper and a nail on a table.
- ♦ Ask: How can you use your magnet to pick up the paper?
(Answer: Put the nail under the paper. Then put your magnet on top. The magnet sticks to the nail through the paper. The paper is now held between the nail and the magnet so you can lift it up by raising the magnet.)

discovering how **Sound Works**

Through simple experiments, the children will listen to a variety of sounds and learn that vibrations traveling through air cause sounds and that their ears catch the sound waves. Then each child will make and operate a tin-can telephone to experiment with sound.

Get Ready

Goals

Children will learn that sounds are caused by vibrations.

They will use their sense of hearing to learn that a variety of factors affect the loudness and pitch of sounds we hear.

The children will work cooperatively to build and use tin-can phones.

Time 1 to 1½ hours

Group Size 1 leader for every 4-6 children

Background

Sounds surround us: the whistling wind, the birds' songs, the squeal of machinery, the hum of electricity, the clink of the dishes in the sink. All these sounds share one thing in common: each is caused when something moves back and forth in quivering motions called vibrations.

When the object vibrates, the surrounding air vibrates, rippling outward in waves in all directions. The waves reach our ears which then channel them to each eardrum, causing three tiny bones inside the ear to vibrate. These vibrations set fluid inside a coiled tube in motion, which sends patterns to delicate hair cells. The cells send the sensations to our brains where they are interpreted as distinct sounds.

One of the factors that determine the intensity of sound—whether it's loud or soft—is the distance between the sound's origin and the listener. Another is the unique way each listener's ears catch the sound waves and translate them. This adventure will introduce children to the concept of sound and help develop their listening skills.



Get Set

The Gear

Vibrations Make Sounds

- ☐ A table
- ☐ Notebook paper (3 sheets per child)
- ☐ Tuning fork, or try metal kitchen utensils (e.g. wire whips or a potato masher)

Sound Travels in Waves

- ☐ Large shallow pan (dishpan) for water
- ☐ A pebble

Our Ears Collect Sound Waves

- ☐ Alarm clock

Listening to Sounds

- ☐ Bell or metal pan
- ☐ A metal spoon

Making Tin-can Phones

- ☐ Two clean, empty cans with no sharp edges, for each child (14 to 16 ounce)
- ☐ 20 to 30 feet of strong string (not yarn) per child
- ☐ Two old buttons per child
- ☐ Hammer and nails to make holes in cans

Resources

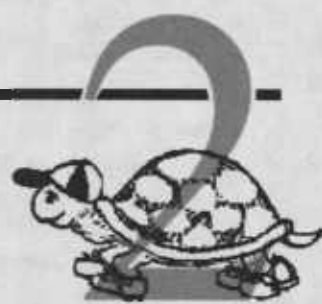
Music teachers, piano tuners, guitarists, and other musicians

Percussion instruments to demonstrate vibration

A hearing specialist to demonstrate how hearing aids work

A sign language teacher who can discuss hearing disabilities and introduce a few basic signs for the children to imitate

The Science Book by Sara Stein



Reading for Fun

My Five Senses by Alik

Polar Bear, Polar Bear, What Do You Hear?

by Bill Martin

What? by Leo Lionni

Go!

Preparing the Group

1. Instruct the children to sit quietly for a few minutes with their eyes closed and bodies still and to listen for as many sounds as they can hear.
2. Ask: What were some of the things you heard? (Compare the loud, sharp noises with the soft, muffled noises. Which are the hardest to hear? Do different people hear sounds differently?)



The Adventure

1. Vibrations Make Sounds

The Paper Experiment. Instruct the children to hold a piece of paper ($\frac{1}{4}$ or $\frac{1}{2}$ sheet of notebook paper) up to their lips and blow gently on its edge.

Ask: What do you hear? What do you see when you look at someone else's paper?

The Tuning Fork. Hold a tuning fork motionless. Now hit one tine lightly on something solid. Let the children feel it and listen to it. Hit the fork again so each child can feel it.

Ask: What did you notice?

Say: It's easy to see that something moved back and forth while the sounds were being made.

When something moves back and forth, we say that it vibrates. Vibrations cause sounds. The sounds that are made when something vibrates usually travel to our ears through the air.

2. Sound Travels in Waves

Ask: What do you think sound waves look like?

Illustrate by dropping a small pebble into a shallow pan of water.

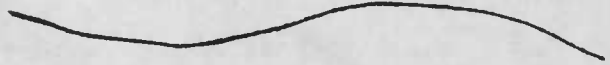
Explain: The ripples travel outward in circles of small waves. Although we can't see it, sound travels in waves, spreading outward from its source. These waves are a rhythmic kind called vibrations.

(Optional)

This wave represents a loud, low sound.



The same low sound, but softer now.



A sound almost as loud as the first, but at a higher level or pitch.



The same high pitch, but not as loud.



3. Our Ears Collect Sound Waves

Ask: How do your ears work? (The ear is shaped like a shell to collect sound waves. Include more information from "Background" if the children are older and interested.)

Ask: Does one ear work better than two?

Tell the children to face the front and close their eyes and cover one ear with their hand. Hide a loudly ticking alarm clock. With their eyes closed and one ear covered, ask them to point toward the direction of the alarm clock.

Now tell the children to open their eyes and see where they are pointing. Show where the alarm clock is hidden. Now repeat the process without covering one ear.

Ask: Do two ears help us locate the source of a sound better than one? Why?

4. Listening to Loud and Soft Sounds

- ♦ Have the children sit quietly in a semi-circle.
- ♦ Ring a bell or strike a pan with a metal spoon.
- ♦ Ask them to remember how loud it was.
- ♦ Instruct the children to place their hands behind each ear and cup them forward.

- ♦ Ring the bell or strike the pan again.

Ask: Was the sound louder or quieter?

Now tell them to place a finger on each ear to hold the ear back against the head and have them listen again.

Ask: How did the sound compare this time?

The children will notice that the sound was loudest when their ears were cupped forward. Thus, ears do help catch the sound waves or vibrations.

To demonstrate the effect of distance on sound, have the children move farther away from the sound—possibly around a corner or to another room—until they can notice that it's quieter.

Ask: Why does the sound become softer? (Refer to the "Background" regarding distance.)

5. Making Tin-can Phones

The children will work in pairs and will:

- ♦ Punch a small hole in the bottom of two tin cans.
- ♦ Thread a string (20 to 30 feet) through each hole and tie it to a button in the inside of the can's bottom. The button will anchor the string so it won't pull out.
- ♦ Hold a can and move far enough away from their partner so that the string is stretched tight.
- ♦ Take turns speaking into the can while the other child holds the "receiver" can to their ear and listens.

Note: Tell the children to avoid touching the bottom of the can with their fingers because this will stop the vibrations their voice is creating.

Ask: What will happen if the vibrations are stopped? Why can you hear your friend so clearly? (Because the voice creates vibrations that send sound waves along the string, which transfers the sound waves to the can. When the can vibrates, it sends sound waves that enter your ear; those vibrations allow you to hear your friend's voice.)

A tin-can telephone shows that sound vibrations can travel along a string. A real telephone sends sound over wires by changing sound vibrations into electrical impulses inside the telephone mouthpiece or transmitter. The telephone receiver changes the electrical impulses back into sound vibrations.

Giving Recognition

Affirm the children throughout the experiments for their good questions, guesses, and observations.

Evaluating the Adventure

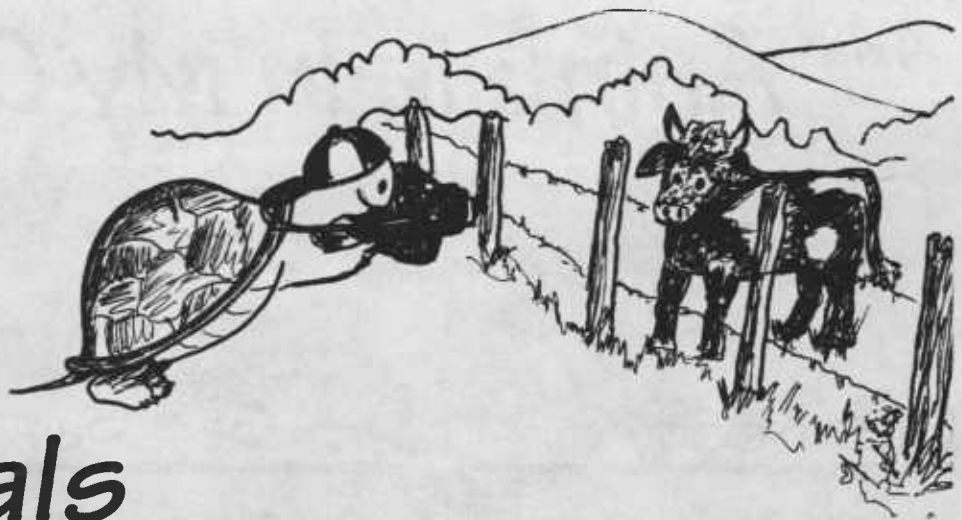
Observe the children as they work in pairs. Did they cooperate to make and use the tin-can phones?

Ask each child to share one thing that they learned about making or hearing sounds.

Give the children an opportunity to demonstrate some of the conditions that affect the pitch or loudness of sounds and our ability to hear sounds.

Application/Additional Activities

1. Help children form a rhythm band, by making kazooos, elaborate rubber band guitars, or "playing" on glasses filled with water to create music. Directions for a variety of rhythm band instruments can be found at your local library.
2. Devote other lessons to making instruments, learning to play simple tunes, and experimenting with how sounds are made and what affects their pitch.



Animals

- ♦ Meeting 4-H Animals in My County
- ♦ Feeding Baby Animals
- ♦ Playing the Unnature Trail Game
- ♦ Building a Worm Hotel!

Children naturally are fascinated with animals: the big fluffy cat next door, the darting chipmunk in the oak tree, or the friendly horse in a nearby field. To satisfy their curiosity or for the sheer joy of it, children want to touch, pet, or hold animals of every size and kind. E.B. White described 8-year-old Fern Arable's attachment to Wilbur, the runt of his litter, in *Charlotte's Web*: "Fern loved Wilbur more than anything. She loved to stroke him, to feed him, to put him to bed. Every morning, as soon as she got up, she warmed his milk, tied his bib on, and held the bottle for him."

"Animals are such agreeable friends—they ask no questions; they pass no criticisms."

—George Eliot (1819–1880)

meeting
4-H

Animals in My County

Children will be introduced to a variety of 4-H animals in their county. They will learn about the animals' basic needs and care, and will be able to compare similarities and differences among animals.

Get Ready

Goals

Children will become aware of the types of animals raised by 4-H members in their county.

They will use observation, questioning, and listening to learn about the basic needs and care associated with one or more 4-H project animals and will be able to compare the different types represented.

They will interact appropriately with field trip hosts and guests.

Time

1-hour sessions
(Field trip travel will add extra time.)

Group Size 1 leader for every 3-4 children

Background

Every county contains numerous 4-H clubs that focus on a variety of animals, including traditional farm animals, guide dog puppies, and family pets. To learn more about your county's 4-H program and to identify several members or clubs who would share their knowledge of their animals, contact your county 4-H staff. 4-H members are trained to show their animals at the county fair and other local shows, so they often welcome the opportunity to present their animals and their expertise.

Plan a variety of field trips or guest speakers to introduce several animals to your children. This lesson plan could be scheduled throughout the year. Begin with small animals and later visit the large farm animals. Besides field trips to local farms, include visits to 4-H clinics, the county fair, and other 4-H activities listed in your 4-H newsletter. Your county Extension office can supply you with excellent background information for each animal you choose to highlight.



Get Set

The Gear

- ☐ List of 4-H Animal Science Projects
- ☐ List of resource people for each project
- ☐ List of county-wide 4-H events for your group to visit
- ☐ Wall chart with animal stickers to record each animal as it is studied
- ☐ Refer to Instructions in this guide for tips on "Planning a Field Trip" or "Inviting a Guest Speaker" to your club

Resources

- 4-H Promotional Brochure and 4-H County Fair Book
- 4-H Project Manuals and other related Extension reference materials

Reading for Fun

- Animalia* by Graham Base
- An Arkful of Animals: Poems for the Very Young* selected by William Cole
- James Herriot's Treasury for Children* by James Herriot
- Lassie Come Home* by Eric Knight

Go!

Preparing the Group

1. Explain to the children that 4-H is a youth program offering boys and girls who are in grades 4-12 a chance to learn animal care and safety.



2. Ask if any of them help to care for family pets. What are their jobs: feeding, watering, exercising, training?
3. Discuss with the children how caring for an animal can teach skills that they will use later in life. Ask them to name some of the skills they could learn: responsibility, scheduling, patience, and staying with a task.
4. Discuss with the children what kinds of jobs adults have related to the feeding, care, training, and health of animals: food scientists; veterinarians and clinic assistants; dog and horse trainers; beef, dairy, swine, sheep, and poultry farmers; or kennel, humane society, and wildlife restoration workers.
5. As you introduce each animal, identify differences: color and patterns, ear and nose shapes, length of fur. Then discuss their unique characteristics: a German Shepherd (large, a working dog), a pygmy goat (small, a pet), and a Holstein (large, a dairy cow).

The Adventure

A field trip or guest speaker

1. Plan a field trip to see an example of the project animal or invite a guest speaker with his/her animal to your club meeting.
2. Before the event, ask children to share what they know about the animal and their experiences with it:
 - ♦ Is this a common animal?
 - ♦ Is it raised as a pet, or for a purpose?
 - ♦ Is it a work animal?
 - ♦ Is it expensive to buy and keep?
 - ♦ Is it safe for children to be around?
3. Discuss with them the safety concerns of being around this animal. What are some of its potential dangers: scratching, biting, kicking, butting? How do we work and care for it safely?
4. If it will be appropriate for the children to pet or hold the animal, discuss "petting etiquette": quiet, calm, one-at-a-time. Explain from which direction to approach this animal and how to pick it up and hold it.
5. During the field trip or visit, allow plenty of time for children to ask questions of the host/guest.
6. Following the field trip or visit, ask about the special needs and care of the animal. Encourage children to share with their family the new information they have learned.

Giving Recognition

Take photos of each child with an animal. Recognize children for their good questions and for following safety guidelines around animals.

Evaluating the Adventure

Ask the children: Is this an animal that you might want to work with as an older 4-H member? Have them give reasons for their decisions.

Did children actively participate by politely asking questions and listening?

Application/Additional Activities

1. Prepare a chart with large squares. Glue small photos or stickers of the animals you'll be studying in the left column, under the title "Animals." The other column titles could include food, shelter, special care, purpose, safety, cost, plus others. Following each meeting, guide the children in filling out the information about the animal you studied that day.
2. Make a chart about many animals. Ask each child to select an animal from the chart and discover more information about it to share with the others at the next meeting.
3. Keep a club or individual scrapbook. Each child can draw a picture of the meeting's featured animal. They also might write a story or poem about the animal to be added to the scrapbook. Include club photos. Let it be an open invitation for creative writing and drawing pieces.

feeding baby **Animals**

Children gain first-hand experience in learning about feeding baby animals through a visit to a farm or through a guest speaker who brings a baby animal and its feeding supplies to the meeting.

Get Ready

Goals

Children will use observation, questioning, and listening to learn about the variety of foods fed to baby animals.

They will be able to describe three foods that animals feed their babies.

They will practice good social skills when interacting with hosts and guests.

Time 1 hour

Group Size 1 leader for every 3 children

Background

Baby animals are fed in a variety of ways: nursing mammals require only milk, either from the mother or a purchased mix; poultry eat grain and drink water; reptiles and fish, like the adult parents, eat insects, plants, and other prey. At times humans help feed baby animals, either as pets or farm animals, sometimes at the zoo, and in wildlife rehabilitation programs.

It's always best to let nursing babies stay with their mother until old enough to be weaned. For kittens and puppies, it's usually 6 to 8 weeks.

If the mother is sick or injured, then humans help raise the babies, giving them milk from small bottles. Sometimes there are too many babies (extra-large litters) for the mother animal to nurse. The story of Wilbur, the runt of his litter in *Charlotte's Web*, describes how a farm family helped a baby animal survive.

Sometimes sheep owners have a bummer lamb that is fed with a bottle. On the farm, dairy calves are raised away from mother cows, who are producing milk for the market. When needed, humans can feed milk with a



bottle and nipple, a bucket and nipple, or from a bucket without the nipple, using their fingers to let the baby animal suck while giving it the milk.

Baby chicks, ducks, and turkeys are ready to eat grain and drink water shortly after they hatch, so feeding these baby animals simply requires a regular schedule of grain or pellets and fresh water each day.

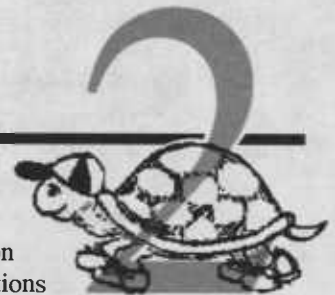
Some baby animals are difficult to feed if their parents are not available to raise them. Birds feed their young a variety of things: worms, fish, insects, and seeds. Humans would need to create a special menu to keep baby birds alive.

Other baby wildlife require unique diets, planned by experts. Wildlife rehabilitation programs specialize in these animals and only experts know what is best for them.

Get Set

The Gear

- ☐ Ask your 4-H Extension agent for recommendations to friendly, safe farms where children can see, smell, touch, and observe young animals.
- ☐ Refer to the Introduction, "Planning a Field Trip." Arrange for parents to help drive and join your trip so that the ratio is three children per adult.
- ☐ Instruct children to wear appropriate clothing (warm in winter, hats or hooded jackets for rain) and sturdy shoes or boots for the farm.
- ☐ Consider scheduling a guest speaker (refer to the Introduction, "Inviting a Guest Speaker," for guidelines)



Resources

Look at a Calf by Dare Wright
National Wildlife Federation
Ranger Rick's Wonder Book
Wonderful World of Young Animals
4-H Project Books: Dairy, Sheep, Beef, Horse,
Poultry, Pigeon, Pygmy and Dairy Goat, Swine,
Rabbits, Cavies

Reading for Fun

Charlotte's Web by E. B. White
Moses the Kitten by James Herriot
The Little Rabbit by Judy Dunn

Go!

Preparing the Group

1. Describe the variety of ways baby animals are fed.
2. Show pictures of various baby animals from children's books, reference books, or photos.
3. How many have fed baby pets? Farm animals? Baby birds?
4. Ask the children about their experiences in feeding baby animals:
 - ♦ How did they help care for a baby animal?
 - ♦ What did they like best about it?
 - ♦ What did they learn?
5. Read a short portion of a favorite children's story that describes this animal/human relationship.



The Adventure

Feeding Baby Animals—Field trip

1. Arrange a trip to the humane society, a wildlife restoration program, the zoo or animal park, or a family farm.
2. Ask the employee or leader-expert to talk with the children about various methods of feeding the babies.
3. If a petting area is available, take time for your children to feed and pet baby animals.

Feeding Baby Animals—Guest Speaker

1. Invite a Guest Speaker. Ask a person actively involved in feeding baby animals who might be able to bring an animal and feeding supplies to the meeting.

During either event, ask the leader-expert to encourage questions, asking children to share their observations and to draw conclusions about the feeding needs of baby animals. Discuss with them and the expert person what they would need to do in order to raise a baby animal.

Giving Recognition

Provide an opportunity for each child to share ideas and/or ask questions. Compliment the group for their good manners with the guest speaker or during the field trip. Be specific, naming the appropriate behaviors you observed. Encourage children to share their "adventure" with their families.

Evaluating the Adventure

Ask the children to state at least one thing of special interest they learned during the field trip or from the guest speaker. Name different kinds of food and ask the children to tell which baby animal eats it and who feeds it to them.

Application/Additional Activities

1. Give examples of "what ifs" and ask the children to explain how they would intervene:
 - ♦ A baby bird has fallen out of its nest
 - ♦ A sheep gives birth to triplets
 - ♦ A piglet or puppy is the runt of its litter
 - ♦ A mother cat, rabbit, or cavy dies and leaves three nursing babies
2. Initiate a club activity which involves the group's raising a baby animal. Discuss and choose which kind of animal, how the club can provide the necessary care, and what to do with the baby animal when it is grown.
3. Visit the zoo or animal park and observe the various baby animals. How are they fed?
4. Write a club thank you to the guest speaker or field trip host. Younger children may want to include pictures.

playing the Unnature Trail Game

By walking a 40- to 50-foot trail with a variety of human-made objects placed along it, children will learn the concept of camouflage and, in turn, develop a keener eye for the small animals, birds, and insects that live near them.

Get Ready

Goals

Children will learn the concept of camouflage.

They will observe small animals and insects that live nearby and identify how they use camouflage.

Time 30-45 minutes

Group Size 1 leader for every 4 children

Background

Almost all mammals, birds, and insects have protective coloration or camouflage. Mammal coats come mainly in shades of brown and gray.

No fur is bright blue or green as some feathers are. For most mammals, it's crucial to be inconspicuous. They achieve this by being elusive and, for many, by being nocturnal. Knowing mammal tracks, scats, and other signs is key to recognizing their presence.

Nearly all birds—female and juveniles and a great many fall and winter male plumages—emphasize camouflage. A mother and young in the nest need to be camouflaged especially well since they can do little but sit tight when predators pass overhead. Males are freer from the need for camouflage than females, so they often sport flashy feathers. But in many small birds, both male and female wear the quiet colors of their surroundings.

Insects and reptiles also share nature's clever art of camouflage. Investigate your community's wildlife. Learn to identify common birds and other wildlife to share with your 4-H Adventures children. Where do they like to live? What do they like to eat? Enjoy observing nature's animals.

This game is adapted from Joseph Cornell's *Sharing Nature With Children*.



Get Set

The Gear

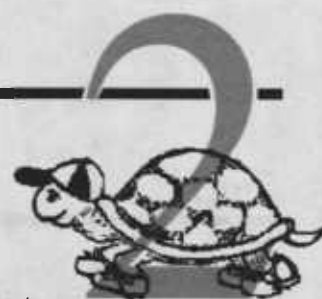
- ☐ A 40- to 50-foot trail in a wooded area, thicket, or field
- ☐ 10 to 15 human-made objects (some should contrast in a natural setting, such as balloons and shiny metal objects, others should blend with the natural surroundings)
- ☐ Pictures of wild animals in their natural habitats

Resources

Sharing Nature With Children by Joseph Cornell
"Ranger Rick" magazines

Reading for Fun

Animalia by Graham Base
Annie and the Wild Animals by Jan Brett
Brother Eagle Sister Sky by Susan Jeffers
Seya's Song by Ron Hirschi
Stellaluna by Janell Cannon



Go!

Preparing the Group

1. Before the children arrive, choose a 40- to 50-foot section of trail and place 10 to 15 human-made objects along it. Some of them should stand out brightly, like balloons or shiny metal spoons. Others should blend with their surroundings, making them more difficult to discover. Keep the number of objects you've planted a secret.



2. Show the children pictures of wild animals in their habitats: a fawn in a thicket, a garter snake in the grass, or a mouse inside a hollow log. Ask them: Can you see what is lying or sitting still in this picture? Why is it difficult to find the animal?
3. We have a name for nature's method of protecting animals: it's called camouflage. What animals do you know that "wear" a safe color scheme for their environment? How does this help protect them? Do humans ever wear camouflage clothing? What does it look like?

The Adventure

1. One at a time, the children will walk quietly over the section of trail, trying to spot and count (but not pick up) as many of the objects as they can.
2. When they reach the end of the trail, they whisper in your ear how many they saw. If no one saw all of them, tell everyone how many were seen, but "there are still more!" Then let them start over.
3. Ask the children to identify the objects that were easy to see and the ones that were harder to notice. What made the difference?
4. End the game with a discussion of the ways camouflage coloration helps animals. Then go on a search for small, camouflaged animals (insects, spiders, birds).

Giving Recognition

Acknowledge the children as they follow the game rules. Provide a group reward, such as animal cookies, following the activity.

Evaluating the Adventure

Did all the children participate? Could each tell why an object was easy or difficult to see?

Were they able to identify local animals who are protected by camouflage?

Application/Additional Activities

1. Each child collects small natural objects—feathers, sticks, cones—and makes a collage of them. What insects could hide in the collage?
2. Make a bird feeder or a squirrel feeder. Note the colors of the animals that visit. How do their colors help them?
3. Play "Animal Charades." Let children take turns acting out an animal that lives in the wild—possibly one they have just seen.
4. For 2nd and 3rd graders, introduce the game "What Animal Am I?"
 - ♦ Pin a picture of an animal on the back of one of the children. Do not show him/her the picture.
 - ♦ To discover his/her identity, the child then asks the others questions that only can be answered by "yes" or "no."
 - ♦ Assist each child in correctly identifying their picture as needed.
 - ♦ Make sure each child has an opportunity to have an animal pinned on their back.

Discuss the process used during the game: How did the child with the picture make decisions about which animal s/he was? How did s/he eliminate some animals? How can asking questions help in other situations? (Being lost, needing help, finding something.)

building a Worm Hotel!

Children will construct a worm hotel, filling a quart jar with layers of moist soil, sand, and vegetable scrapings and placing a lid with several air holes on top. Each child will hunt for two earthworms to live in his or her "hotel."

Get Ready

Goals

Children will describe what earthworms need in order to survive. They will be able to construct an environment suitable for earthworms by following instructions.

They will observe the activity of earthworms and relate how earthworms help people.

Time 45 minutes

Group Size 1 leader for every 3-4 children

Background

Earthworms act as cultivators, swallowing the soil, surface litter (dead leaves, needles, cones, and twigs), and organic wastes as they push through it all, inter-mixing layers of soil and creating channels or tunnels often 3 yards deep. According to Sara Stein in *Noah's Garden: Restoring the Ecology of Our Own Back Yards*, the worm's "decayed bacteria" break down the plant elements of the litter and organic wastes into nutrients in the soil.

Also, earthworms help break down the thatch in lawns as they weave through the soil layers. Their tunneling puts air into the soil and reduces erosion by creating many channels for rainfall and moisture to penetrate the ground.

As earthworms eat the soil, they leave rich nutrients behind in their castings: nitrogen, phosphorus, and potassium—the very minerals we purchase in bags of chemical fertilizer. It's definitely worth our time to observe and learn about earthworms.



Get Set

The Gear

- ☐ Quart jars with lids (1 per child)
- ☐ One or two hammers and large nails to punch holes in lids
- ☐ Large spoons or scoops
- ☐ Rulers or pieces of paper with 1" and 2" marks
- ☐ Soil and sand (moist)
- ☐ Earthworms
- ☐ Compost of raw vegetation (carrot scrapings, lettuce, cabbage)
You even can add a little hamburger.



Resources

Worlds to Explore: Handbook for Brownie and Junior Girl Scouts of America

Earthworms by Chris Henwood

The Earthworm Book by Jerry Minnich

Reading for Fun

Wonderful Worms by Linda Glazer

Herman and Marguerite by Jay O'Callahan

Go!

Preparing the Group

1. Bring in some earthworms for the children to handle, and have the children share what they know about worms.
2. Read a story to the children which explains the important ways that earthworms work the soil: composting organic waste, creating a network of



channels that helps drain rainwater and prevents erosion, and adding valuable nutrients to the soil.

3. Show children a completed worm hotel and discuss why this would make a good home for worms. Note the essential elements for the earthworm's survival: holes in the lid, dirt and sand mix, moisture, air, vegetables, and heat.

The Adventure

Building a Worm Hotel!

1. Each child is given a quart jar and lid with air holes. (Option: The child punches 6–8 air holes in the lid with a hammer and nail while leader explains the worm's need for oxygen.)
2. Show them how to alternate:
 - ♦ 1-inch layers of sand and soil, then
 - ♦ 2-inch layers of vegetable scrapings
3. The children follow, filling their jars with alternate layers. Help them measure with rulers or marked papers.
4. As the children make their hotels, ask them individually why they are adding a particular layer, adding moisture, punching holes in the lids. Test their understanding with other appropriate questions: Why is a quart jar a good thing to use when making a worm hotel? What other animal houses could be made in a quart jar?
5. Add enough water to the mixture to make it moist (like a damp sponge) but not too wet.
6. Place the worm hotel in a warm area, but away from direct sunlight.



Going on a Worm Hunt!

1. Children go on a worm hunt, each finding two worms for their own hotel. Keep them moist as earthworms suffocate if their skin dries.
2. Worms are located most easily after a rain or at night. Look for worm castings—tiny piles of cultivated earth—as a method to locate them.
3. Have children describe to the group the highlights of their worm hunt.
4. Have children compare the worm hunt to their attempts at capturing worms for other reasons—fishing, compost bins, etc.
5. Children take home their Worm Hotels to share with their families. Ask them to observe the worms at work. What changes take place in the vegetable scrapings? Why did they occur?

Giving Recognition

Recognize both the good answers and the good questions offered during discussion. Complement children who handle their worms with care.

Evaluating the Adventure

Did the children follow directions?

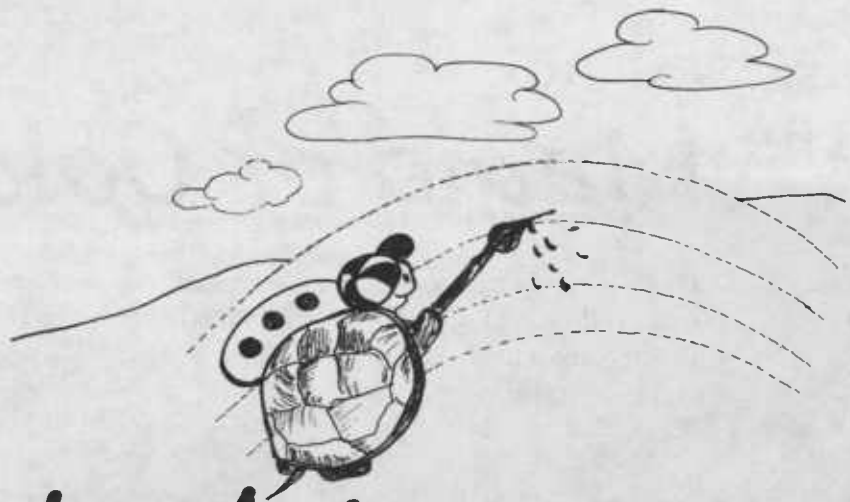
Observe children's responses to discussion questions. Did they reflect clear understanding of the earthworm's survival needs?

In following meetings, ask the children to share their observations of their worm hotel at home. Ask how earthworms help us. Later suggest that children return their worms to the land outside.

Application/Additional Activities

Plan a field trip to a site where earthworms are used to decompose wastes (vegetation or garbage). How does the environment compare to that of the worm hotel?





Expressive Arts

- ♦ **Discovering the Magic of Colors**
- ♦ **Folding Paper—Origami Critters**
- ♦ **Creating Window Dazzlers**
- ♦ **Putting on a Puppet Show**

Expressive arts activities should be thought of as starting points, open-ended exercises that encourage children to use their imagination and express themselves in a variety of media. Emphasis should not be placed on creating a specific product, but rather materials and processes should be presented for children to experiment with and to use in developing their own product. Don't be surprised if some children aren't interested in completing a project, especially within the time frame of one meeting. For some, just experimenting with materials may be all they're interested in at this point.

discovering the *Magic of Colors*

By following directions and mixing small chunks of modeling clay—red, blue, yellow, and white—the children will create and identify various colors of the color wheel.

Get Ready

Goals

Children will be able to identify the primary colors.

Following directions, they will mix primary colors to create new colors.

Children will experiment with predicting and mixing additional colors.

Time 45 minutes

Group Size 1 leader for every 4-6 children

Background

Our world is a blaze of colors. This lesson will help your children understand more about colors and their relations with one another. Red, blue, and yellow are *primary colors*. All colors are made from these three starter colors.

Secondary colors are those made from two primary colors. Green is a secondary color because it's made from blue and yellow.

Tertiary colors are considered three colors: a primary color and a secondary color. Brown is tertiary because it's created from blue and orange.

Color wheels or posters with the color wheel are available at teaching supply and art supply stores. Paint stores also have great paint color cards. Enjoy the wonder of colors with your children.

*Butterflies, butterflies,
Fly away to the flowers,
Fly, blue wing,
Fly, yellow wing,
Fly away to the flowers!*

—Pueblo song



Get Set

The Gear

- ☐ Paper towels
- ☐ Newspapers
- ☐ Color wheel and/or paint chip sheets from paint store
- ☐ Non-toxic modeling compound, such as Play-Doh™ (red, yellow, blue, and white)
- ☐ Assorted markers or crayons
- ☐ Large white poster board or newsprint

Resources

Consult with local artists.

Reading for Fun

Linnea in Monet's Garden by Christina Bjork

The Color Kittens by Margaret Wise Brown



Go!

Preparing the Group

1. Ask the children to name their favorite color and tell why it's their favorite.
 - ♦ Why is color important to us?
 - ♦ How is it used every day?
 - ♦ How would things be if they were all black and white?
 - ♦ What colors do we associate with the seasons, holidays, moods, and emotions?
2. Brainstorm all the different names of colors the children can list. Write the names on a large sheet of paper or on a chalk board.



3. Explain that all colors can be traced back to three primary colors: red, yellow, and blue. In this adventure, children will see how many different colors they can make starting with just the primary colors and white.

The Adventure

1. Give each child small chunks of modeling clay: one each of yellow, red, blue, and white. Have the children keep the colors separate by placing one flattened ball at each corner of a paper towel.

Note: If you give each child an additional paper towel or tissue to wipe his/her fingers between "rolling" operations, it will help keep the colors true and clean.

2. Next, on an additional piece of white poster board or a sheet of white shelf paper, write the word "red" with a red crayon or marking pen. Ask: What do you suppose will happen if you mix red with yellow?

As you speak, use a yellow crayon or marker and add the words "+ yellow." (Keep using crayons or markers that match the color being used; this will help the non-readers.)

3. Ask the children to take a small bit of red compound, about the size of a pea, and roll it into a little ball. Repeat the same with a piece of yellow. Gradually press the balls together, mixing and rolling them with the fingers until the colors are thoroughly blended—and you have orange. Finish your written statement by writing "= orange," using an orange crayon.
4. Progress with each new color, blending as you did with the red-yellow combination. Make sure you use the appropriate color marker or crayon when writing the color names on the chart.
5. Because some colors must be formed first so that they can be used to make the other colors, the following sequence is suggested:

red + yellow = orange
red + blue = purple
blue + yellow = green
red + green = gray
orange + yellow = gold
blue + green = aqua
red + white = pink
blue + orange = brown
brown + white = tan

6. As children create the different colors, ask them to predict what color a certain combination will produce. Have them compare results. Why are the colors produced not all exactly alike?
7. The children will be surprised to see bright red and colorful green blend into dull gray. Explain that gray or charcoal also can be produced by mixing all the colors together. (This may have already been discovered while painting and, as they mixed several colors, finding their brushes' rinse water turning a "dirty" gray.)
8. Adding white to any color lightens it. For example:
red + white = pink
9. Allow children an opportunity to experiment on their own to see what new colors they can create. Have them share their results with the group, naming all the colors they used and identifying which ones were primary colors.
10. Ask them: Why would it be helpful to know how to mix colors? How do people use color in their jobs?

Giving Recognition

Thank the children for their predictions and for sharing the results of their experiments.

Evaluating the Adventure

Observe the children as they blend colors. Are they forming new colors? Are they interacting and predicting? Can they identify the primary colors they used?

Application/Additional Activities

1. Using watercolors, have the children experiment with color-mixing.
2. Invite a local artist to come and demonstrate how s/he uses color-mixing in her/his work.
3. Take a field trip to the home of someone who dyes yarn for spinning (or another place where children could see the dyeing process).

folding paper—Origami Critters

By folding a basic triangle shape, the children will be able to make animal heads of many shapes and sizes with a few simple variations.

Get Ready

Goals

Children will learn to make simple origami figures by following step-by-step directions.

They will practice small motor skills by folding paper.

Time 45–60 minutes

Group Size 1 leader for every 3–4 children

Background

The Japanese word for paper folding is origami. Origami is a very old art form, originating in the 8th century, but it is still popular today in Japan as well as in countries around the world.

Working from small squares of paper, many different shapes are folded without cutting or pasting. There are about 100 traditional figures, including a balloon, crane, frog, and helmet. Many of them can be used either as toys or as utensils.

Although origami is a way of playing with paper, it's necessary to be very careful and exact when making the paper fold, or the figures will not come out.

Children easily can learn to make simple origami figures by following step-by-step directions. Practice the figures in this lesson until you can do them without the directions. Then teach them to the children by demonstrating each fold.



Get Set

The Gear

- ☐ Various kinds of paper cut into 6" squares (gift wrap, typing or writing paper, magazines, real origami paper)
- ☐ Marking pens to draw faces
- ☐ Construction paper, felt, and buttons for faces
- ☐ Tongue depressors
- ☐ Origami books for additional ideas (if some children finish the activity quickly)



Resources

Origami by Irmgard Kneissle

The Lands, Peoples, and Culture Series published by Crabtree Publishing Company includes several books about Japan and is a good source of factual information about the country and its people.

Contact a Japanese student organization in a local college or university to invite a Guest Speaker. There also may be a Japanese exchange student at your local high school, or others of Japanese descent in the community. Ask them to share their Japanese culture with your group.

Reading for Fun

Crane Wife by Sumiko Yagawa

The Boy of the Three-Year Nap by Dianne Snyder

Go!

Preparing the Group

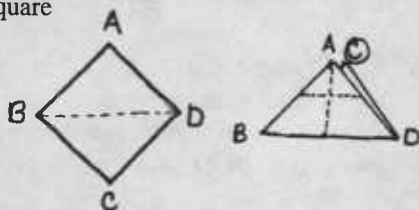
1. Begin by showing a piece of paper before it is folded and a finished paper figure. Explain that origami is a special art from Japan with which one creates all kinds of shapes and figures by folding paper.
2. Ask: Would you like to make a cat like this? Or a poodle like this? Both paper animals began as flat sheets of paper. Explain that they will learn to make these two figures.
3. Compare paper folding to learning to tie shoes or folding clean clothes. The children will follow special steps to make these shapes, working together, one step at a time.
4. Explain the importance of making sure that the corners match, and the folds are even and creased sharply. Explain that it's important to fold cleanly and carefully. Work on a hard surface. Use the thumbnail to crease sharply.



The Adventure

1. A variety of animal faces can be made using any combination of folds. Directions for making a cat are given below:

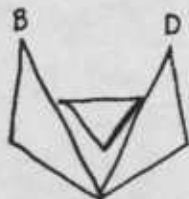
- ◆ Fold a square into a triangle.



- ◆ Fold points A and C down together along the dotted line.



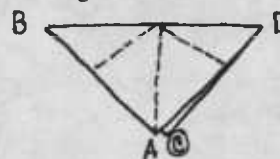
- ◆ Fold points B and D up on the dotted line.



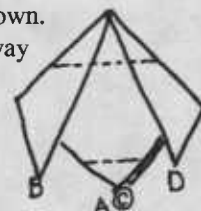
- ◆ Turn the paper over. Draw eyes, nose, and whiskers on the cat. On the back, glue or paste ears and tips (A and C) down. If you wish to make puppets, glue tongue depressors on the backs.



2. The poodle has long ears and a wide face. Use the same triangle as the cat. Fold the triangle in half (points B and D together).



- ◆ Fold points B and D down. Fold top dotted line away from you.



- ◆ Fold poodle chin (A and C) under, towards the back— a poodle!



Giving Recognition

Individually compliment children for their efforts. Celebrate their unique creations as a group.

Evaluating the Adventure

Did the children enjoy the process, and were they able to follow along? Could they successfully complete one of the figures?

Application/Additional Activities

1. Encourage the children to experiment and make other animal faces by folding paper. Children then can create impromptu puppet plays.
2. Invite a local origami artist to visit your group and to demonstrate more difficult figures. Play Japanese music as you work with the children on their origami.

creating window *Dazzlers*

Leaves, ferns, and grasses—collected earlier and dried—are arranged between contact paper sheets, then trimmed to create beautiful windows. As a second creation, children melt bits of crayons between sheets of wax paper. These window dazzlers can be given as gifts.

Get Ready

Goals

The children will use common materials (native plants in Part 1, crayon shavings in Part 2) and apply their creativity to make simple gifts.

They will practice rules for using an iron safely (Part 2).

They will follow directions and use small motor skills.

Time

45 minutes, each part
(an extra 30 minutes at an earlier meeting if children are collecting materials—press and dry them for a week before the activity)

Group Size 1 leader for every 4 children

Background

Teaching children to observe the intricate designs in nature is a part of this adventure. As they collect dried ferns, grasses, thistles, and leaves, talk about the colors, shapes, and designs in nature. Name the common leaves; point out how they are different or the same. Compare other designs that are repeated in nature.

While creating the crayon stained glass windows, refer to the color wheel used in the “Discovering the Magic of Color” adventure. The melting of colors together often creates vibrant new shades.



Get Set

The Gear

- ☐ Thumb tacks or tape
- ☐ Paper punch
- ☐ Yarn scraps
- ☐ Precut 1-inch-wide strips of dark construction paper, 12 and 18 inches long, 2 each per child
- ☐ Scissors



Part 1—Nature’s Stained Glass Window

- ☐ Natural items: ferns, leaves, grasses (pressed and dried)
- ☐ Clear contact paper or wax paper, two 18-inch-long sheets for each window

Part 2—Crayon Stained Glass Window

- ☐ Crayons
- ☐ Iron, ironing board
- ☐ Paper plates or paper towels
- ☐ Table knife or pencil/crayon sharpener
- ☐ Wax paper, two 18-inch-long sheets for each window

Resources

Nature Crafts by Imogene Forte

Reading for Fun

A Chair for My Mother by Vera Williams

Just Like New by Ainslie Manson

Mr. Rabbit and the Lovely Present by Charlotte Zolotow



Preparing the Group

1. Talk about beauty in nature. How do we use nature to make our homes more beautiful? (Plants, cut flowers, big windows to let in light and give views of outdoors.)
2. Take the children on a walk to collect plant materials (if you have time), or have a collection available for them to choose from.
3. While collecting, use this opportunity to teach children observation skills. Ask them to notice colors, shapes, designs, and texture. Compare what is similar and different. Point out the adaptations plants make to different conditions.
 - ◆ What type of plants like wet soil?
 - ◆ How are their leaves and stalks shaped?
 - ◆ What kind of plants grow in rocky soil along the edges of roads and driveways?
 - ◆ How are their leaves and stalks shaped?
 - ◆ Can weeds be beautiful?
2. Remind children of the safety tips for using the iron:
 - ◆ Always use with the help of adults.
 - ◆ Keep hands off the iron bottom and sides and anything that has just been ironed.
 - ◆ Be ready to take turns: one person at a time with the iron.

The Adventure

Part 1—Nature's Stained Glass Window

1. Arrange dried leaves, ferns, and grasses on a sheet of contact paper to create a design.
2. Carefully lay the other sheet of contact paper over this, making sure all edges are even.
3. To form a frame, the children fold the precut strips of paper in half lengthwise and staple them over the top and bottom edges of the contact paper.
4. Punch holes on the right and left top corners. Using an 18" piece of yarn, tie one end in each hole. The creation is ready to hang.
5. To whom will they give this gift?

Part 2—Crayon Stained Glass Window

1. Scrape bits of colored crayons with a table knife or scissors blade or shave with a crayon sharpener onto a paper plate or paper towel.
2. Arrange the fine crayon bits onto the bottom layer of wax paper, then cover with the top layer.
3. One at a time, take the design to the ironing board and thumb tack or tape the corners to the board so that the paper won't slip.
4. With a warm iron, press the two sheets together.
5. The melted crayons will create a beautiful picture.
6. Discuss the color wheel as these are created. Ask children to identify the new colors that are created as the crayon shavings melt together. Ask the children to give their own names to some of their newly created colors. Have fun with this!
7. Create a frame and a yarn loop for hanging. (See Part 1—Nature's Window)
8. To whom will they give this gift?

Giving Recognition

Note some unique quality about each piece: color, design, composition. Acknowledge the children who follow safety tips with the iron. Thank those who wait patiently for their turn at the ironing board.

Evaluating the Adventure

Did the children respond to your questions and comments about the color, shape, design, and texture of natural items?

Did they ask questions you couldn't answer? You always can research and bring the answer to the next meeting.

Did the children observe the safety rules for using the iron?

Do they have plans for their gifts?

Application/Additional Activities

1. Have children think of other ways they can use natural materials in art projects (leaf prints, collages, etc.) If they're interested, plan to do the projects they suggested.
2. Have the children visit a nearby nursing home. Let each child give their window to a resident they meet and visit.

putting on a Puppet Show

Using recycled household items, the children will create puppets. Then they will put on a puppet show, based either on the sample script or on their own story.

Get Ready

Goals

The children will use recycled household items to create their new puppets.

They will practice small motor skills.

They will work cooperatively to put on a puppet show.

Time 1 hour

Group Size 1 leader for every 4-6 children

Background

Children love to create and to pretend. Drama is an organized outlet for these imaginative energies. People have used plays for hundreds of years to entertain. Plays also can teach people important information or explain an idea or point of view.

Creating new plays from old stories or current experiences is an intriguing medium for children. With your guidance, developing a script together can be exciting and fun.



- ☐ Cloth or paper to cover and protect the table
- ☐ Optional for children who read: Copies of the puppet show script, "ABC's of Washing." A script for copying is in the Resources Section of this guide.

Resources

Puppet Shows Made Easy by Nancy Renfro

The Little Pig's Puppet Book by N. Cameron Watson

Reading for Fun

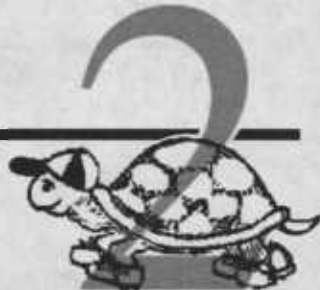
Louie by Ezra Keats

Mr. Fong's Toy Shop by Leo Politi

Get Set

The Gear

- ☐ Glue
- ☐ Markers and/or crayons
- ☐ Remnants of past projects or household items (construction paper, plastic caps, popsicle sticks, seashells, buttons, beads, yarn, glitter, stickers, fabric scraps, lace, felt, rick rack)
- ☐ Lunch-size paper sacks (any color), one per child



Go!

Preparing the Group

Engage the children in a discussion, asking them if they ever have attended a play or a puppet show.

- ♦ Did you enjoy what you saw? Why?
- ♦ What is your favorite puppet show?
- ♦ How do you think the puppets move and speak?
- ♦ Do you know someone who writes the stories for movies and TV shows?

The Adventure

1. Give each child a paper sack and demonstrate how it will work as a puppet. Put your fingers into the fold of the sack and make the mouth move for the puppet.
2. Place your remnants on the table and let the children use them to create their puppets. You may want to show a sample puppet, but encourage them to



ABC's of Washing

Characters: Lionel the Lion, Candy the Cat,
Darrin the Dog, and Frank the Fox

(Lionel and Darrin on stage only)

LIONEL: Hi, Darrin. What are you doing?

DARRIN: I'm going to make all my friends a batch
of cookies.

(Candy and Frank walk in)

LIONEL: Here come Candy and Frank. Can we all
help?

DARRIN: Sure. Hi Candy and Frank. Want to help us
make cookies?

CANDY AND FRANK: Sure, we'd love to!

CANDY: Where do we wash our paws?

DARRIN: Why do we need to do that? We took baths
this morning.

FRANK: Oh yuck! That was 4 hours ago, Darrin.

LIONEL: Yeah, Darrin. What have you done since
then?

DARRIN: I was outside throwing the frisbee and
fetching, but I didn't get very dirty.

CANDY: Oh gross, Darrin. Your paws were all over
the place.

DARRIN: I wiped them off when I came in.

FRANK: We should always wash our paws with soap
and water before touching or cooking food.

DARRIN: Why?

LIONEL: Because you get germs on your paws every
time you touch anything!

CANDY: Yeah, let's wash them now. You should
wash with soap and water as long as it takes to
say your ABC's.

FRANK: Okay everyone. Let's scrub those paws!

EVERYONE: A, B, C, D, E, F, G. . .

use their imagination and create their own, using
the materials as they choose.

3. The puppet can be a person, an animal, or a make-believe character.
4. Create a stage by turning a card table onto its side or by having children kneel down behind a sofa.
5. The children may choose to give a puppet show based on the prepared skit (adjusted to their puppet characters) or they may make up their own story. If you use the prepared skit, adapt as needed for the number of children and the types of puppets they created.
6. You may wish to create a story or adapt one from other lessons, reinforcing important information. Like the "ABC's of Washing," the puppets could be used on a regular basis to teach a section on safety for any subject area: safety in the kitchen, tool safety before an art project, or safety while camping and hiking.

Giving Recognition

Congratulate the children for doing a great show. After some practice, videotape the show or give a live performance to the parents.

Evaluating the Adventure

Did all the children make a puppet? Did they work cooperatively to put on a puppet show?

Application/Additional Activities

1. Invite the children to create additional plays about things they have learned: recycling, wise eating habits, solving family conflicts.
2. As a community service project, the children could perform their puppet show for the local convalescent home, children's hospital, or daycare program.
3. Take the children to a play, a puppet show, or another performing arts event.



Foods



- ♦ **Becoming a Safety Chef**
- ♦ **Measuring Our Way to Fun**
- ♦ **Nibbling New Veggies**
- ♦ **Choosing Healthy Super Snacks**

The kitchen is a fascinating setting for children. As toddlers they may find emptying drawers of plastic containers or playing with measuring spoons and cups to be their first “kitchen activity.” Later, they may be invited to help in preparing food by dumping premeasured ingredients into a bowl and mixing under the watchful eye of an adult. The activities in this section are designed to further children’s ability to contribute to food preparation in their home by teaching some basic measuring skills and safety practices in the kitchen and by increasing their understanding of healthy food choices.

becoming a *Safety Chef*

By going on a Hazard Hunt, the children will learn to identify hazards in the kitchen and how to eliminate them. Then they will learn the names and uses of common kitchen tools, along with methods of safe handling.

Get Ready

Goals

Children will use observation skills to identify hazards in the kitchen, and they will learn how to eliminate them.

They will learn to use kitchen tools safely.

Time 1 hour

Group Size 1 leader for every 4-6 children

Background

Learning to observe safety rules while working in the kitchen will help children have a safe as well as a fun experience. As safety chefs, they will work confidently with kitchen equipment and utensils.

Some safety rules for the kitchen include:

- ♦ Before handling food, wash hands with hot, soapy water and dry well.
- ♦ Know how to handle equipment and utensils safely before you use them.
- ♦ Keep wet hands away from electrical outlets and connections.
- ♦ Always use a dry, sturdy pot holder when handling hot things.
- ♦ Be careful with sharp knives. Let your 4-H leader, parent, or older brother or sister help you.
- ♦ Always stay in the kitchen while something is cooking.

After you're finished cooking:

- ♦ Be sure all controls for cook top, oven, and microwave oven are turned OFF.
- ♦ Clean counters and appliances.
- ♦ Wash and put everything away.



Get Set

The Gear

To set up your kitchen with several kinds of safety hazards, you may need:

- ☐ Pot holders with holes in them
- ☐ A faulty extension cord
- ☐ A piece of paper
- ☐ A sharp knife
- ☐ An aerosol can
- ☐ Rodent poison
- ☐ Masking tape

For the Cook's Tools activity:

- ☐ A variety of kitchen tools
- ☐ Assorted crayons for coloring badges

Resources

Children's cook books



Preparing the Group

Going on a Hazard Hunt

1. Set up your kitchen with several kinds of safety hazards:
 - ♦ Pot holders—one wet and one with holes
 - ♦ Open cupboard doors
 - ♦ Faulty extension cord
 - ♦ A pan handle turned outward
 - ♦ Water on the floor
 - ♦ Paper placed too close to a burner
 - ♦ A cat bowl in the middle of the floor
 - ♦ A sharp knife lying on the counter
 - ♦ Aerosol can on the stove
 - ♦ A drawer left open
 - ♦ Napkin sticking out of a microwave oven
 - ♦ Poison under the sink
2. Mark on the floor (masking tape would work well) the safety path that the children may take to walk safely through the kitchen.
3. Slowly, have each child walk through the kitchen and count the number of dangerous things they see. Don't tell the children what the hazards are, and don't let them tell anyone else what they find. (This is a good learning experience in observation skills.)
4. After they all have walked through the kitchen, ask the children how many hazards each one found.
5. Tell the children how many hazards there are and that they may have another chance to go on the Hazard Hunt to try to find them all.
6. When everyone has gone through the kitchen the second time, ask each child how many hazards they saw this time.
7. Give each member a chance to point out a safety hazard. Discuss each one briefly and describe how to correct it; e.g., turn the handle inward, clean up the water, close the drawer and cupboard door, etc.
8. Though not a part of the hunt, point out safety rules and possible hazards for working with or near the stove.



The Adventure

The Cook's Special Tools

Every job has special tools. Mechanics, plumbers, secretaries, and teachers have tools they use every day. Cooks also have special tools to make their job easier and the food they prepare better.

1. Display the kitchen tools and see how many the children can identify:
 - ♦ Measuring cups and spoons
 - ♦ Graters, peelers, knives, nut chopper
 - ♦ Colander, strainer, juicer
 - ♦ Whip, egg beater, spatula, tongs
 - ♦ Appliances
 - ♦ Bowls, pans, skillet, Dutch oven
2. Discuss the names and uses of these basic tools. Demonstrate how to use each of them. Talk about which tools they can use on their own and which ones they must have help with. Also, mention the tools they cannot use such as the electric knife or food processor.
3. Ask each child to demonstrate safe handling of at least one tool.
4. Ask the children what tools they have already used at home. Make sure the children understand that they must find out their family's kitchen safety rules before they can cook at home.

Giving Recognition

Give a "Safety Chef" badge to each child (see "Resources" for a master copy). These can be colored by the children. Share how impressed you are with their knowledge of safety and use of tools in the kitchen.

Evaluating the Adventure

Observe the children's ability to identify and correct kitchen hazards and their handling of tools.

Application/Additional Activities

1. Have children conduct a "Hazard Hunt" at home with their parents. (Note: Ask parents' permission and involvement in this. Before cooking at home, parents should track down hazards and correct them together with their child.)
2. Set up a Judging Contest using four pot holders in different conditions: wet, dirty, with holes, and in excellent shape. The children must decide which is the best pot holder to use, the second best, the third best, and the least best. Emphasize that safety chefs must use only the best pot holders.

measuring our Way to Fun

Children will learn to measure dry and liquid ingredients. They then will use their new skills to follow a simple recipe and make Honey Milk Balls.

Get Ready

Goals

Children will learn which type of measuring cup to use for dry and liquid ingredients.

They will make a simple snack that requires them to measure ingredients and to follow directions.

Time 1 hour

Group Size 1 leader for every 3-4 children

Background

Cooking is a fun activity for children. Focusing on simple foods and simple skills will help them to experience early success. Measuring ingredients is a good beginning skill for young children to learn.

This lesson is set up so that children can learn to measure by matching the numbers from a recipe to the numbers on a measuring cup. This is not the time to introduce fractions or other math skills. Rather, it's the time to enjoy with the children the satisfaction of creating basic, tasty snacks and dishes.



- ☐ Wax paper or foil
- ☐ Table knife

Ingredients for Honey Milk Balls

- ☐ Honey or corn syrup
- ☐ Peanut butter
- ☐ Nonfat dry milk
- ☐ Cereal flakes
- ☐ Light oil or shortening to grease hands

Resources

Children's cookbooks with pictures of measuring cups and measuring spoons in the recipe would be a good supplement to this lesson.

Kids Cooking—A Very Slightly Messy Manual by editors of Klutz Press

Pretend Soup and Other Real Recipes: A Cookbook for Preschoolers and Up by Mollie Katzen and Ann Henderson

The Children's Step-by-Step Cook Book by Angela Wilkes

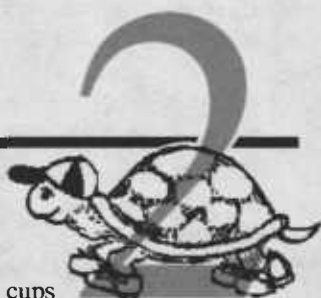
Reading for Fun

Dumpling Soup by Jama Rattigan

Get Set

The Gear

- ☐ Metal/plastic (dry) and glass (liquid) measuring cups (one set each for two children)
- ☐ Containers of water and paper cups for transferring water to measuring cups
- ☐ Ingredients such as flour, corn meal, and water
- ☐ Bowls (one for every two children)



Go!

Preparing the Group

1. Measuring is one way we follow directions. Why is it important to have the exact amount called for in the recipe? What would a cake taste like if we put in 1 tablespoon of sugar instead of 1 cup? What would happen if we guessed the amounts instead of



measuring? Today we are going to learn about measuring two kinds of ingredients: dry and liquid.

2. Show the children that there are two types of measuring cups used to measure food: the kind we can see through (glass or clear plastic with a pouring spout) and the kind we can't see through (metal or colored plastic). Let the children handle the cups and look through the clear ones.

The Adventure

Measuring Your Way to Fun

1. Everybody washes their hands: establish this good habit.
2. Have some water in an unbreakable container and let the children measure 1 cup of water (show them the 1 cup line on each kind of measuring cup). Let each child try this, using the paper cups to scoop out the water.
3. Ask the children which cup was best for measuring water. Why? Have everyone look at the water in the clear cup and see how closely they came to the line. How did they make sure they put water up to the line? Did they look at eye level? (Water appears at different levels depending on the perspective from which it is viewed.)
4. Have the children empty out the clear measuring cup and pour the water from the metal/plastic measuring cup into the clear measuring cup. Ask the children if the water was exactly up to the 1 cup line. Why or why was it not? Which type of cup pours the best? Why?

Dry the metal/plastic measuring cups.

5. Now tell the children that dry ingredients (flour, cereal, etc.) are measured in the cups you can't see through and that you need to level off the top of the ingredient. Demonstrate putting flour in a metal/plastic measuring cup and leveling off the top with the straight side of a table knife. Do this over the wax paper or foil so that the table stays clean. Let the children try this skill.
6. Announce that it's time to make Honey Milk Balls, a tasty snack. They will use their measuring skills to make this recipe. Tell the children that they will use different-sized measuring cups and that they must match the numbers on the cup to the numbers on the recipe.
7. Display the recipe on a chalkboard or large piece of paper. Read the recipe together. Have the children match the numbers in the recipe with those on the cups.

8. Like dry ingredients, peanut butter should be measured in a metal cup. Demonstrate leveling it with a straight-edged knife. (Rinse the cup out with water first so that the peanut butter slips out easily without clinging to the sides.)
9. Show how to crush cereal flakes: place them in a plastic bread sack or clean plastic vegetable bag, and then roll a rolling pin back and forth over the bag several times. Ask the children which food should be measured in which cup before they begin.

Honey Milk Balls

- $\frac{1}{4}$ cup honey or corn syrup
- $\frac{1}{4}$ cup peanut butter
- $\frac{1}{2}$ cup crushed cereal flakes
- $\frac{1}{2}$ cup dried milk

Directions:

1. Measure the honey and peanut butter and mix together in a bowl.
2. Gradually add the dried milk, mixing well.
3. To make it easier to handle, chill the mixture in the freezer for about 5 minutes. (This might be a good time for children to clean utensils they've used.)
4. With greased hands, form into balls (a rolling motion works well).
5. Roll in crushed cereal flakes. Then eat!

Giving Recognition

Give positive feedback to the children as they exhibit their skills and understanding of concepts. Join the children in eating the honey milk balls and comment on how tasty, delicious, and wonderful they are!

Evaluating the Adventure

Observe children's ability to measure. Note children's ability to follow the measuring directions and to complete the recipe.

Application/Additional Activities

1. Suggest that the children ask their parents' permission to see their measuring cups. Which are for dry ingredients and which are for liquid ingredients?
2. Make Honey Milk Balls at home (with adult supervision). Share them with a neighbor.

nibbling new Veggies

The children will be introduced to the Food Guide Pyramid and will learn about the good things vegetables do for their bodies. By using a "Guess Box," the children will discover several new vegetables. Then, while blindfolded, they will taste and guess mystery vegetables.

Get Ready

Goals

Children will try at least one new raw vegetable and/or learn about a new vegetable.

They will demonstrate how to use a sharp knife safely for cutting.

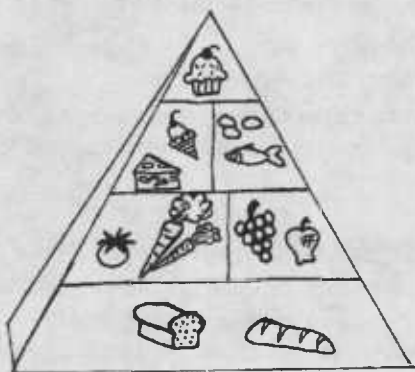
They will use their senses to identify vegetables.

Time 1 hour

Group Size 1 leader for every 4-6 children

Background

Everyone needs a balance of foods to eat. The Food Guide Pyramid shows the five food groups we need to eat daily:



For K-3 children the number of servings is:

Bread Group 6-7 servings
Vegetable Group 3 servings
Fruit Group 2 servings
Milk Group 2 servings
Meat Group 2 servings
Fats, Oils, & Sweets use sparingly

Get Set

The Gear

- ☐ Cutting boards
- ☐ Peeler
- ☐ Cutting knives
- ☐ Blindfold and a plate
- ☐ Several different uncut vegetables
- ☐ "Guess Box" (oatmeal box with long sock over it)
- ☐ Food Guide Pyramid for leader (available in the county Extension office)

Resources

"Nutri-kids" publications, available from the county Extension office

Reading for Fun

How My Parents Learned to Eat by Ina Friedman

Go!

Preparing the Group

1. Show the Food Guide Pyramid and explain how it works as a guide for healthy eating. Tell children that today they are going to explore vegetables, one of the food groups.
2. Ask them to name their favorite vegetables.
3. Ask: Do you know what good things vegetables do for our bodies?
 - ♦ Help us see better (Vitamin A)
 - ♦ Keep skin healthy (Vitamin A)
 - ♦ Help to heal wounds (Vitamin C)
 - ♦ Help build teeth & bones (Vitamin C)
 - ♦ Carry oxygen to cells (iron)

It's important to eat vegetables every day because they provide vitamins and minerals that keep us healthy and strong.

4. Bring out the "Guess Box" and have each child put his/her hand inside to feel the vegetable that's there. Have them guess what vegetable is in the box. (Include choices from various cultures: carrot, potato, broccoli, green pepper, corn on the cob, turnip, yam, celery, jicama, rutabaga, Chinese cabbage, snow peas, water chestnuts.) The children may find their sense of smell helpful, too.
5. Play several rounds of this game, substituting several vegetables. During the game, ask each child if they ever have eaten the vegetable. Talk about the various ways vegetables are prepared, both raw and in cooked dishes. Ask how their parents prepare different vegetables at home.

The Adventure

1. Introduce vegetables that may be less familiar to the children: eggplant, artichoke, cauliflower, snow peas, asparagus, jicama. Ask them to name each vegetable and tell if they have ever eaten it.
2. Using the vegetables from the "Guess Box" and the newly-introduced vegetables, demonstrate how to cut them safely into pieces. Remind the children about cutting down and away from themselves. Use your judgment as to whether or not children should be allowed to cut. Have adequate adult supervision.

Always supervise young children closely when they are handling knives.

3. In preparation for touching and sampling the food, take time for all of the children to wash their hands.
4. Bring out a plate of prepared, bite-size portions of the vegetables introduced in Step 1 of the Adventure.

5. Blindfold each child in turn and let them choose a vegetable from the plate and taste. Have them guess which vegetable it is.
6. After all have had a chance to play the game, encourage each child to try one new vegetable. Ask them to share what they liked or disliked about it.

Giving Recognition

Congratulate each child as they try a new vegetable.

Evaluating the Adventure

Were the children able to identify vegetables by taste and/or touch?

Did each child either taste a new vegetable or learn something new about vegetables? Ask the children to demonstrate (using a pencil or table knife) the proper "down and away" cutting motion.

Application/Additional Activities

1. Suggest to the parents that they take their child(ren) to the grocery store's produce section to look at the different vegetables there. Together they might read some of the information about the vegetables (vitamins and minerals) or find all the varieties that belong to a specific group, such as potatoes, onions, or lettuce. How are they different and similar? Create categories by color, shape, similarities, and differences.
2. The club or club families could visit a garden or a produce stand to identify local varieties of vegetables.

choosing healthy *Super Snacks*

Children will learn that some snacks are more healthful than others. By measuring the amount of sugar or fat in popular snacks, they will see the differences between snacks and be prepared to make healthy choices.

Get Ready

Goals

Children will learn the difference between a nutritious snack and a non-nutritious snack.

They will identify which snacks in a group are healthful ones.

They will choose to eat healthful snacks.

Time 1 hour

Group Size 1 leader for every 4–6 children

Background

Snacks are eaten by both children and adults. A snack can add to a healthy diet, helping to supply important ingredients. Children have high energy needs—three meals a day are usually not enough for their high activity level.

Nutritious snacks can provide those extra-needed calories for rapidly growing bodies. Snacks are an opportunity for children to include extra nutrients such as iron, Vitamin A, Vitamin C, and calcium in their diet.

Snacks with high levels of fat and sugar usually contain fewer nutrients, may cause long-term health problems, and should be eaten sparingly. There are no recommendations for maximum amounts of sugar to be eaten, but eating food with lots of sugar may keep children from eating foods with important nutrients.



Get Set

The Gear

- ☐ Sugar
- ☐ Measuring cups and spoons
- ☐ Containers and clear glass bowls
- ☐ Pictures and/or examples of snacks
- ☐ Shortening, margarine, or other fat

Resources

Nutrition for K–3, available at the county Extension office

The Food Guide Pyramid

Reading for Fun

Gregory the Terrible Eater by Mitchell Sharmat

Stone Soup by Marcia Brown

Strega Nona by Tomie De Paola

The Berenstain Bears and Too Much Junk Food by Stan and Jan Berenstain



Go!

Preparing the Group

1. Ask the children:
What is a snack?
(Anything eaten between meals or a mini-meal.)
2. Tell the children that snacks can help their bodies grow if they are nutritious snacks. Ask them what nutritious means. (The things that help build healthy bodies.)
3. Ask them to name some snacks that they think are healthy. Why are they healthy?
4. Explain that foods with large amounts of sugar and/or fat do not help to nourish our bodies.



The Adventure

1. Display some snacks on a table and tell the children they are going to decide whether or not the snacks are healthy by discovering the amount of sugar or fat in each one.
2. Refer to the chart "Fat and Sugar Content in Common Foods" (see Resources), and measure out from a container into clear glass bowls the hidden sugar or fat for each food. If the children are ready to do the measuring, let them do it. Each child could take a turn, measuring out sugar or fat for one food.
3. As the children are measuring, ask them:
 - ♦ What do you think about the amount of sugar or fat in these foods?
 - ♦ Are these foods good for you?
4. Compare foods that have different amounts of sugar and fats.
 - ♦ Which foods have the most?
 - ♦ Which have the least?
 - ♦ Which are the most nutritious?
 - ♦ If you eat lots of foods with high sugar or fat in them, what could they cause? (cavities, weight gain)
 - ♦ What could you eat for snacks instead of these high fat or sugar foods?
5. Play the Circle Game. As the children are seated in a circle, go around to each child, asking them to name three nutritious snacks.
6. Ask the children to tell you at the next meeting what they ate the past week or two for snacks. (You might send them home with a small chart for recording snacks that can be posted on the refrigerator.) Discuss whether or not their lists included healthy choices.

Giving Recognition

As you play the circle game and they name nutritious snacks, give frequent: "good jobs," "right-on, Amy," "good choice," or "you're right!" Have the group applaud as each child names three nutritious snacks.

Evaluating the Adventure

Could each child name three healthful snacks?

Children's reports of their snacks will provide a good opportunity to evaluate their understanding and application of healthy snack choices.

Application/Additional Activities

1. Make a simple snack that is safe and easy: Ants on a Log, Fruit and Cheese Kabob, or Trail Mix.
2. Ask parents to take their child to the store or a local farmers' market to look for nutritious snacks.
3. Ask parents to plan a nutritious snack list with their child and post it on the refrigerator.



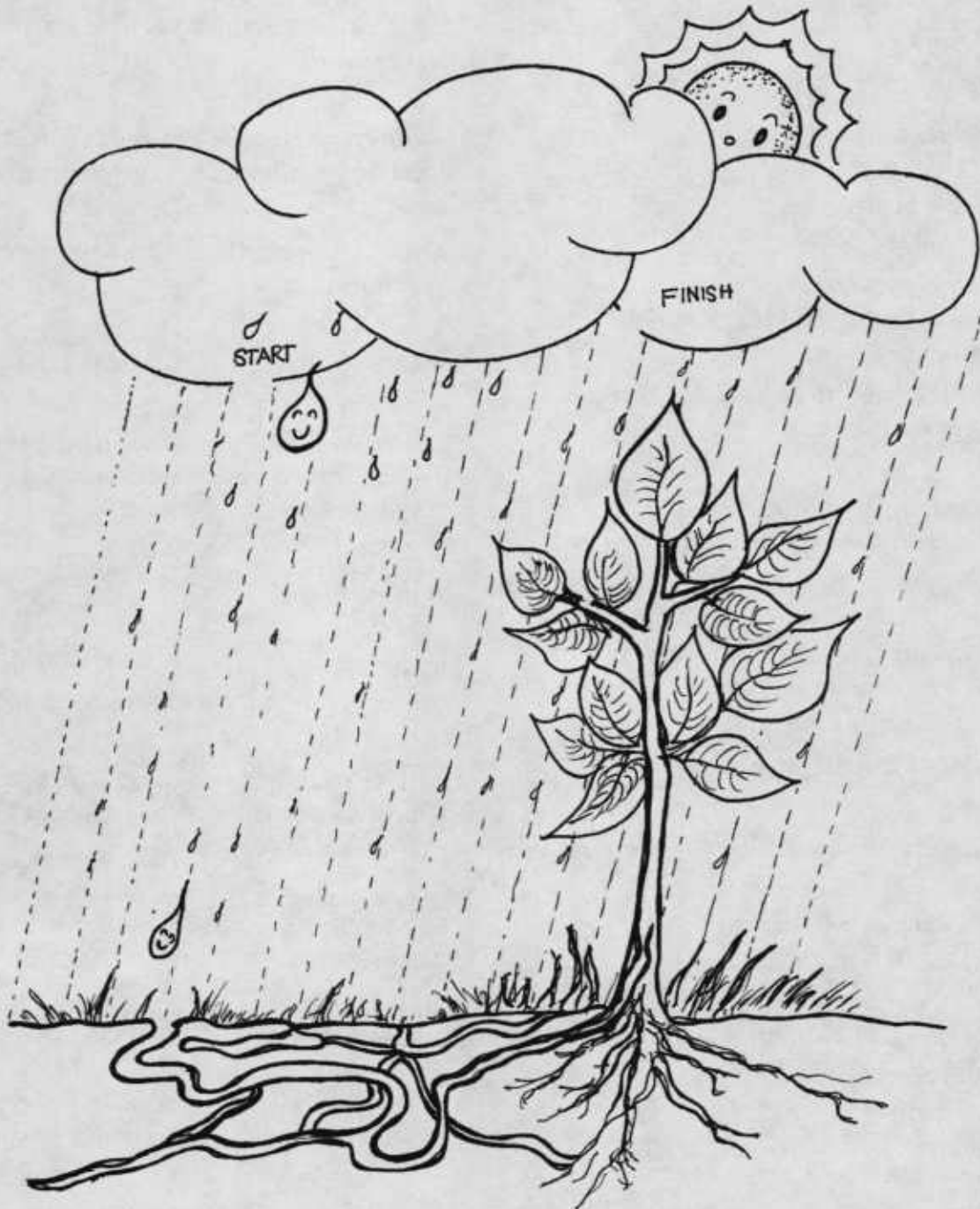
Resources

- ♦ **Drip the Drop Maze** (Nature: “Making a Terrarium”)
- ♦ **“ABC’s of Washing” script** (Expressive Arts: Puppet Play)
- ♦ **Safety Chef Badge** (Foods: Becoming a Safety Chef)
- ♦ **Fat and Sugar Chart** (Foods: Choosing Healthy Super Snacks)
- ♦ **Non-competitive Games**
- ♦ **References**



Drip the Drop

Nature: "Making a Terrarium"



ABC's of Washing

Expressive Arts: "Making a Puppet Show"

Characters:

Lionel the Lion
Candy the Cat
Darrin the Dog
Frank the Fox

(Lionel and Darrin on stage only)

LIONEL: Hi, Darrin. What are you doing?

DARRIN: I'm going to make all my friends a batch of cookies.

(Candy and Frank walk in)

LIONEL: Here come Candy and Frank. Can we all help?

DARRIN: Sure. Hi Candy and Frank. Want to help us make cookies?

CANDY AND FRANK: Sure, we'd love to!

CANDY: Where do we wash our paws?

DARRIN: Why do we need to do that? We took baths this morning.

FRANK: Oh yuck! That was 4 hours ago, Darrin.

LIONEL: Yeah, Darrin. What have you done since then?

DARRIN: I was outside throwing the frisbee and fetching, but I didn't get very dirty.

CANDY: Oh gross, Darrin. Your paws were all over the place.

DARRIN: I wiped them off when I came in.

FRANK: We should always wash our paws with soap and water before touching or cooking food.

DARRIN: Why?

LIONEL: Because you get germs on your paws every time you touch anything!

CANDY: Yeah, let's wash them now. You should wash with soap and water as long as it takes to say your ABC's.

FRANK: Okay everyone. Let's scrub those paws!

EVERYONE: A, B, C, D, E, F, G. . .

Safety Chef Badge

Foods: "Becoming a Safety Chef"



Fat & Sugar Content in Common Foods

Foods: "Choosing Healthy Super Snacks"

Hidden Sugar 1 tsp. sugar = 1 cube of sugar			Hidden Fat		
Item	Amount	Teaspoons Sugar	Item	Amount	Teaspoons of Fat
Soft drink (Cola)	12 ounces	9 teaspoons	Vanilla ice cream	$\frac{1}{2}$ cup (12% fat)	$1\frac{2}{3}$ teaspoons
Catsup	1 Tablespoon	1 teaspoon	Chocolate chip cookies	2	$1\frac{1}{5}$ teaspoons
Vanilla ice cream	8 ounces	$3\frac{1}{2}$ teaspoons	Potato chips	20	2 teaspoons
Milk (whole to nonfat)	1 cup	3 teaspoons	French fries	32 frozen and baked	$1\frac{2}{3}$ teaspoons
Orange	1 whole	3 teaspoons	Apple	1	$\frac{1}{10}$ teaspoon
Whole wheat bread	1 slice	1 teaspoon	Hamburger	3 ounces well-cooked	$3\frac{1}{2}$ teaspoons
Green beans	1 cup cooked	1 teaspoon	Pizza	$\frac{1}{3}$ of 10" with pepperoni	5 teaspoons
			Nonfat milk	1 cup	0 teaspoons
			Cheese	2 ounces med. cheddar	4 teaspoons
			Plain bagel	1	$\frac{1}{3}$ teaspoon

Games

Games for K-3 . . . Ten non-competitive games just for the fun of it!

- ♦ **Jump Rope.** Make up new jump rope games for one or two players at a time. Invent accompanying rhymes, possibly linked to an activity the group has done or will do. Refer to the following examples. (Make up additional verses with the children's help.)

I know a secret.	Red and yellow,
Let me tell you.	Stir it fast, stir it slow.
Mixing colors	Wow—it's orange!
Red, yellow, and blue.	Like a candle's glow.

Mix red and blue,
Swirling left and right . . .
Look—it's purple!
Like sky's dark night.

- ♦ **Instant Recall.** Have children study 10 or more objects laid out on a table for 10-15 seconds. Have them close their eyes while you cover or put the items away. Have children open their eyes and take turns recalling one of the items. Play until all items have been recalled. (Items may be related to the activity or theme of the meeting.)
- ♦ **Thunder.** One child is "IT." IT leaves the room. The group hides an item (Valentine, button, etc.). IT comes back to look for it. The group claps louder when IT gets close to the object and softer when IT moves away from the object.
- ♦ **Relays.** Have the children stand in a line. Pick a theme—farm animals, for instance. The first child names an animal and then the child at the end of the line runs up to the front and names an animal, etc. Time the relay. Try again with a new theme and see if children can better their time.
- ♦ **Copy Cats.** Children stand in a circle. The first player begins an action (for instance, tapping her foot). All the children copy the action, and then the second player adds a second action. All the children add that action and a third player adds a third action. Continue around the circle until each child has added an action.

- ♦ **Word Toss.** Children stand in a circle and toss a large ball from player to player. Before each toss, the player names a kind of tree, favorite food, animal, etc. No repeats. (May adapt themes to topic of meeting.)
- ♦ **Musical Children.** (A non-elimination game of musical chairs.) Players stay in, but the chairs are eliminated one by one.
- ♦ **Cat and Mouse.** Children stand in a circle holding hands. The Cat chases the Mouse around and through the circle. The children try to help the mouse by raising their clasped hands for the Mouse to go under, but they drop their hands down to block the Cat. When the Mouse is caught, a new Cat and Mouse are chosen.
- ♦ **Long, Long Jump.** The object of this game is for the children to jump as far as possible, collectively. The children line up and the first child jumps. The second child then jumps from the marked spot where the first child landed, the third child jumps from the spot where the second child landed, and so on. The children work together to increase their team's distance.
- ♦ **Follow the Leader.** Explain to the children that they must do everything that the leader does. Outdoors is a good setting for this game, because there is a lot of room to move. The children form a single file line behind the adult leader. The leader may run, walk, skip, do somersaults, cartwheels, or any other movements that the children may copy. Along the route the leader may stop. The group may play a quiet game, sing a song, or talk. The adult leader then chooses one of the children to take over as leader. The game resumes. Each child should have the chance to be the leader.

References

Cornell, Joseph. *Sharing Nature with Children: The Classic Parents' and Teachers' Nature Awareness Guidebook*. Nevada City, CA: Dawn Publications, 1979.

"Plant a Tree." *Project Learning Tree: Environmental Education Pre K-8 Activity Guide*. Washington D.C.: American Forest Foundation, 1993.

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*Slow
and
steady
wins
the
race.*

—Aesop

