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**ABSTRACT**

The primary purpose of this pamphlet is to promote a better understanding of outdoor education and its value in schools. Five reasons are given for the inclusion of outdoor education in the elementary school program: (1) learning takes place most effectively through direct experience--beginning with concrete activities and letting useful abstractions follow; (2) outdoor education provides a setting that makes teaching more creative; (3) some objectives of the curriculum can be achieved more effectively outside the classroom in an outdoor situation; (4) the out-of-doors is a community resource for education and should be used to the best advantage in the school program; and (5) modern conditions of living have increased the need for outdoor education. Topics of discussion include taking the classroom out-of-doors; outdoor education as laboratories for schools; resident outdoor schools, with a sample elementary outdoor school program; and resources for outdoor education, including selected references and films. (HBC)

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# OUTDOOR EDUCATION

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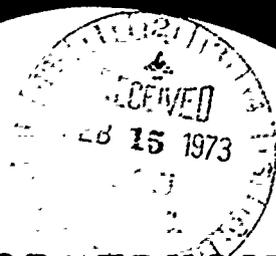
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# OUTDOOR EDUCATION

by

JULIAN W. SMITH

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AMERICAN ASSOCIATION FOR HEALTH,  
PHYSICAL EDUCATION, AND RECREATION



# CONTENTS



OUTDOOR EDUCATION—AN APPROACH  
TO BETTER LEARNING



TAKING THE CLASSROOM  
OUT-OF-DOORS



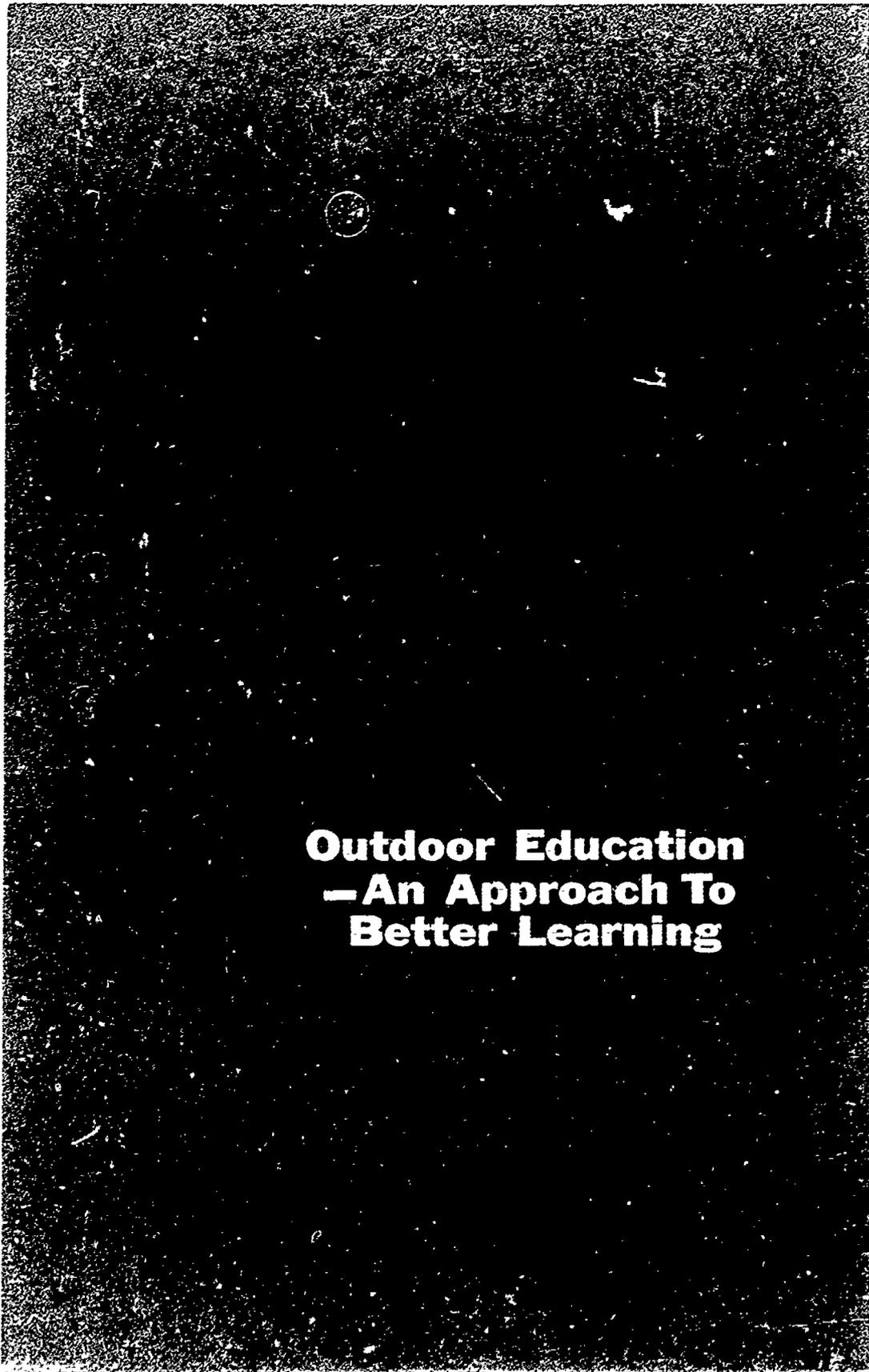
OUTDOOR EDUCATION  
LABORATORIES FOR SCHOOLS



RESIDENT OUTDOOR SCHOOLS



RESOURCES FOR  
OUTDOOR EDUCATION



**Outdoor Education  
—An Approach To  
Better Learning**



### WHAT IS OUTDOOR EDUCATION?

A sign on a scenic highway reads, "School Forest—40,000 White Pines planted and cared for by the children of the Logan Public Schools." In a nearby city another sign, "These gardens are a part of the science program of the Lancaster Schools." On a state highway another would read, "Battle Creek Public Schools Outdoor Education Center."

If you were to continue the tour of seeing American schools in action, you would see many other evidences of outdoor learnings. In parks, school yards, school forests and farms, and other available open spaces, you would see groups of elementary children and their teachers exploring some of nature's mysteries. You would find classrooms that were empty for a week, for the entire group had gone to a resident outdoor school nestled in the hills. On some playgrounds you would find instructional activities in archery, casting and angling, marksmanship and gun safety, and skating, in addition to the usual athletic contests and physical education activities.

All of these examples, and more, represent approaches to better learning by using the outdoors and all its resources, which may be termed "outdoor education."

Simply stated, outdoor education is "learning in the out-of-doors" and "learning for the outdoors." "Outdoor education" embraces those learning activities of children and teachers that deal directly with the natural resources and life situations that are found in an outdoor setting. Or stating it another way, outdoor education is a means of

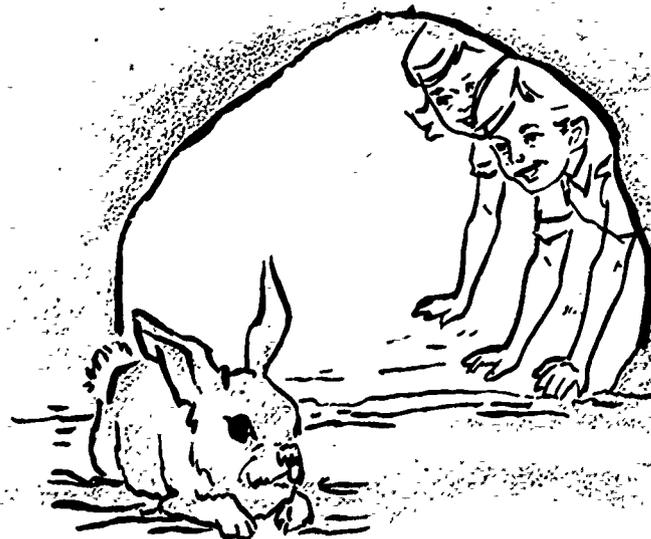
curriculum enrichment through experiences in and for the outdoors. It is a learning climate which offers opportunities for direct laboratory experiences in identifying and resolving real-life problems, for acquiring skills with which to enjoy a lifetime of creative living, for attaining concepts and insights about human and natural resources, and for getting us back in touch with those aspects of living where our roots were once firmly established. The uniqueness of education in an outdoor setting is the direct approach to learning and the exploration and adventure that occur in making the maximum use of the natural physical environment as a learning laboratory. Education for the outdoors involves the learning of outdoor skills and interests, attitudes and appreciations necessary for satisfying outdoor pursuits.

#### WHY OUTDOOR EDUCATION

There are many good reasons for the inclusion of outdoor education in the elementary school program, but here let us limit ourselves to the following five.

1. *Learning takes place most effectively through direct experience—beginning with concrete activities and letting useful abstractions follow.*

The wholeness of nature, the simplicity and realness found in the outdoors, are conducive to direct learning. Beginning with the purposes, interests, and needs of children, exploration and adventure lead to learning. All the senses can be utilized more easily in direct experiences in the outdoors. In the woods and on the trails, things are learned by seeing, feeling, hearing, and smelling. Children are realists and adventurers, and, when they are participating in an activity planned by the group, they are enthusiastic learners.





2. *Outdoor education provides a setting that makes teaching more creative.*

Some of the features of this setting are these:

- ✓ It is conducive to pupil-teacher planning because there are more unknowns in the learning projects.
- ✓ It is an escape from the stereotypes of the classroom.
- ✓ Good rapport is established between the teacher and the pupil—one which makes guidance more functional.
- ✓ Teachers gain new perceptions and knowledge of individual pupils.
- ✓ Opportunities for learning activities that grow out of the interests, needs, and purposes of children are increased.
- ✓ There are numerous opportunities for developing and using pupil leadership.
- ✓ A permissive situation is created where teachers dare to teach in accordance with what is known about human growth and the nature of learning.
- ✓ Several subject matter areas can be meaningfully integrated into whole learning experiences.
- ✓ Several teaching processes can be planned, executed, and evaluated in a relatively short time.
- ✓ Opportunities abound for learning through real problem solving.

3. *Some objectives of the curriculum can be achieved more effectively outside the classroom in an outdoor situation.*

Some of these are the general objectives of education, such as vocational skills, healthful living, and worthy use of leisure time. Others may be specific attitudes, skills or knowledge. In developing

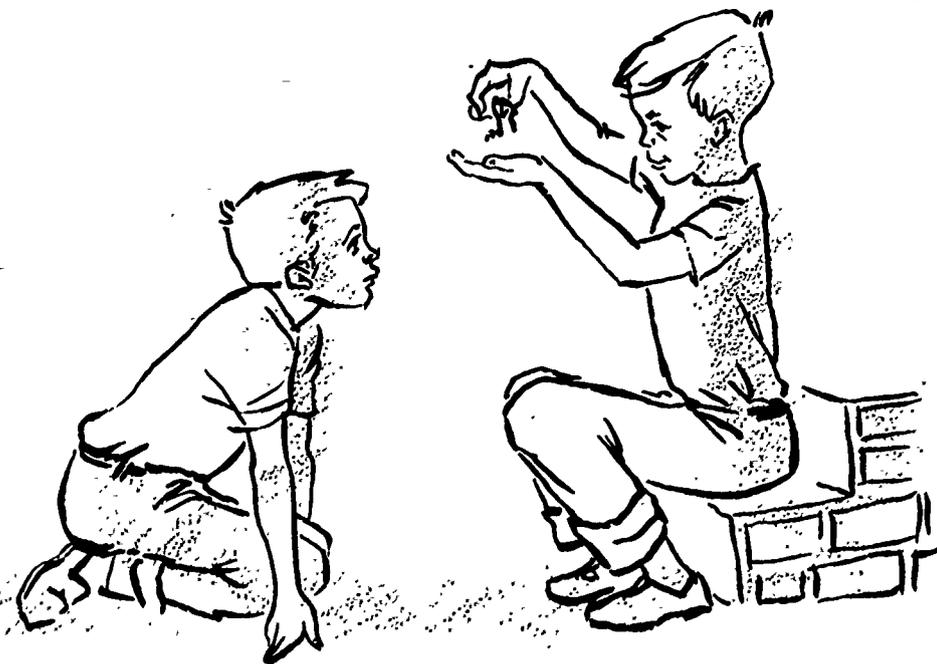
an outdoor education program, teachers should analyze their curriculum offerings to determine which ones can be learned best in the outdoors.

4. *The out-of-doors is a community resource for education and should be used to the best advantage in the school program.*

The community curriculum constitutes all the learning resources available in the educational program. School buildings, playgrounds, camps, parks, school forests, farms, and gardens, public and private lands, industries, radio, press, television, and resource leadership should all be used in the educative process. All of these are in the framework of the modern school. The curriculum, geared to the needs and problems of individuals and the community, requires careful planning and administrative flexibility in making the maximum use of all the educational resources of the community. Outdoor education is finding its rightful place in this kind of a community school.

5. *Modern conditions of living have increased the need for outdoor education.*

The change in our culture from a rural society to one of city dwellers has deprived many children of the opportunity to be close to nature and the soil. Most adults today are already two generations removed from the land and have little actual contact with the land since only a small percentage of the population now earns a living through the production of food and fibre. Great numbers of Americans have little



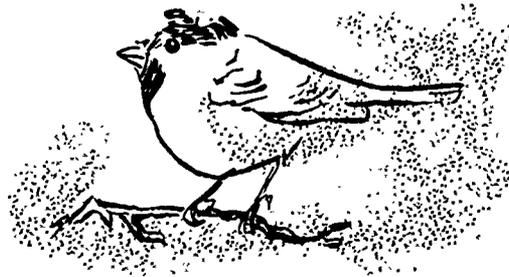


idea of the origins of food, clothing, and shelter, and have little understanding of man's relationship to or responsibility for the physical universe. They lack the knowledge, skills, and attitudes to appreciate or enjoy the outdoors. The adventures of their children are often confined to playing on the pavements and listening to or seeing "western thrillers." What exposure the young moderns usually have to science, conservation, and agriculture is largely through abstractions. Consequently, the great majority of children of today will not have a firsthand acquaintance with and understanding of the physical universe unless the schools provide the opportunities. Outdoor education now has a greater challenge to provide opportunities for behavioral changes in helping to preserve and improve their physical environment.

An increasing number of educators now believe that it is fundamental to growth for children to have their hands in the soil—to learn from Mother Nature—to relive the early days of man's existence—to become aware of man's dependence on the land. Living, learning, and playing in the outdoors may be the safety valve to modern living.

**Chapter 2**

**Taking The Classroom  
Out-Of-Doors**



Direct experience in the out-of-doors growing out of the regular school program can be planned by classroom groups. Brief trips on the school site may satisfy certain needs; other ventures may take children and teachers to the park, the farm woodlot, or on the trails over morainic slopes. There is little reason for not providing youngsters with real and active learning experiences when resources lie so close at hand.

The simplest outdoor activities that the classroom teacher can use are "looking and hearing" walks. Even with little initial preparation such walks can be very rewarding.

There is a great difference between sensing something and perceiving it. Many persons go through life without hearing the songs of birds because no one had ever directed their attention to them when they were young. A teacher leading a group of children should have a few simple hand signals so that she can bring the children to quiet and attention in order to hear a bird that is singing. Many children, through lack of perception, will not hear a bird song the first, second, or even third time.

The same thing holds true for other sounds in nature and for sights as well. A nature walk devoted to helping children to see and hear the variety of things going on around them can be a richly rewarding experience—much more profitable than the same amount of time spent in the classroom reading about nature.

#### **SOME THINGS TO DO**

**See:** Use your eyes for colors. See how many shades of green you find in the woods. Count the number of different colors. Watch for examples of color camouflage. Visit the same place in another season. Note the changes in the color scheme from the last time you visited. Take photographs and compare.

**Sharp Ears:** A group stops and listens for five minutes. Any child may tell what sound he hears. He helps the others to hear it too, by telling from which direction it came and imitating it. For example, he may say, "Hear a flicker. Can you hear the bird call that sounds something like this?" He imitates it. "Hear that rat-a-tat, rat-a-tat sound? He's pecking at a tree somewhere over in that direction."

**What Is It?** When groups stop for a rest, the teacher shows and passes around a number of articles which she and students collected along the hike. She holds up an object and asks, "What is it?" The children try to answer correctly and tell something about it.

#### INFORMAL CLUBS AND PROJECTS

Elementary school children usually have many interests in out-of-door activities that go far beyond the regular classroom studies, particularly if they are encouraged by teachers. Some of these interests may result from field trips, resident outdoor school experiences, and classroom discussions. Informal clubs centering about interests in science, collecting, hiking, fishing, gardening, woodcarving, pets, folk lore, and so on serve to cultivate individual and group interests. All too often teachers fail to capitalize on these natural creative instincts and interests of children in exploring many avenues of learning.

In addition to the outdoor education activities that are related to classroom procedures, there are other opportunities for informal clubs and individual projects in the community. Collections of insects, participation in rock polishing, construction of weed boxes, and photography illustrate some of the things that may grow out of the home or neighborhood groups. These also should be encouraged by the teacher for good learning.

Many youth organizations and community agencies have mutual program concerns related to the outdoors which can be related to the school curriculum.



### EXPLORATORY TRIPS

Outdoor explorations of some nearby area are an important aspect of outdoor education and require careful planning and preparation to make the most of the experience.

A trip to either a quarry or even a nearby excavation for a new building or road can be an exciting introduction to earth science. Collecting samples of water-made and fire-made rocks and then a discussion with a simple demonstration of how sedimentary rocks are formed in layers under a body of water may lead children to the exciting conclusion that their own community area was once under a great ocean.

A trip to an old deserted farm with the land and the buildings in ruins can lead to an understanding of the past. History, social science, economics, earth science, ecology—known to the students by name or not—come alive as they give their attention to former methods of constructing buildings, gullies produced by erosion, fields made barren by one-crop farming, worm-infested orchards, and so forth.





A skillful teacher can use such an excursion as an introduction to archaeology or paleontology, especially if the children find such objects as arrow heads or fossils.

Teachers in a city school with limited access to the country may still find a nearby weed-grown vacant lot a first-rate outdoor laboratory full of materials for lessons in geology, entomology, and ecology, to use big names for those things that the children will give their attention to.

There is no need for further illustration. It should be sufficient at this point to outline some of the classroom and subject-related outdoor education activities appropriate to the elementary school. Examples of some classroom related activities in the curriculum are included here.

#### ARITHMETIC

##### Cutting and piling a cord of wood

##### Measuring:

- a board foot, age of tree through ring count
- circumference and diameter of trees
- surface area for map making, scale drawings, or models
- dimensions of camp buildings
- distances between buildings, trees
- pacing distance in hiking
- identifying geometric shapes found in nature

##### Estimating:

- percent of slope
- height of tree
- time of day
- distance hiked
- distance away of lightning
- width of a river

Averaging:

temperature readings  
barometric readings



Compass hiking and games

Planning amounts and costs of food for cook-outs

Figuring finances for the outdoor school

Construction of stiles, shelters, check dams, bridges, feeding stations

Conducting an outdoor school bank

#### **LANGUAGE ARTS**

Writing letters home

Planning the weekly program

Keeping field notes

Using library for research reading

Enjoying a good book about the outdoors

Labeling and identifying specimens

Dramatizations

Verbal discussions

Playing and leading games

Writing of poems, diaries, logs, newspapers, stories, songs, menus

Story telling

#### **SOCIAL STUDIES**

Looking for Indian relics

Construction of pioneer buildings, household articles

Making a community study or of some other small community nearby

Visiting local spots of historical interest

Doing handicrafts out of natural materials

Map and model making

Putting on a pageant about the founding of your town

Participating in an Indian ceremonial

Making of traps, snares, slings, boomerangs, etc.  
Cook-outs and overnights  
Visiting an abandoned farm  
Participating in camp government  
Cooperation in camp activities  
Collecting antique farm, lumbering and/or mining implements for a school collection  
Restoring a historical building or site  
Special pioneer activities—making apple butter, corn husking bees, etc.

#### BIOLOGICAL SCIENCES

Making clue charts for identification of trees, flowers, birds  
Collecting and pressing flowers, leaves  
Collecting and mounting seeds, insects  
Felling a tree  
Leaf study by means of blue prints, potato prints, spatter prints, crayon, clay  
Studying animal tracks, making plaster of paris molds  
Sketching  
Using microscope and hand lens for closer scrutiny of parts  
Nature scavenger or treasure hunts  
Building shelters and feeding stations  
Observing animals and keeping field notes on habits  
Collecting bird nests and studying their construction  
Finding animal homes  
Taking nature hikes  
Building a terrarium or aquarium  
Learning to recognize bird and animal sounds  
Using plant, tree, and animal products to make: cooking utensils, cordage, whistles, fishing plugs, tea, jewelry  
Visiting a state forest  
Tapping maple trees  
Listening to night sounds  
Laying out and making nature trails  
Visiting game and forest preserves  
Visiting a fish hatchery

### **EARTH SCIENCE**

Collecting soils, rocks, fossils  
Visiting a quarry, gravel pit, sand plant  
Walking up gullies, studying rocks, soil, effects of erosion  
Breaking up a rock and studying its properties under microscope  
Keeping field notes of observations on a locale before and after rain  
Taking a rain hike  
Conducting soil experiments  
Studying a slope at different elevations  
Using a handlevel to measure different elevations  
Visiting a conservation farm to observe good conservation practices  
Night study of major constellations  
Looking at moon through binoculars or telescope  
Recording phases of moon  
Looking for meteorites  
Estimating time by shadow of sun or by star position  
Making star trails with camera  
Observing and sketching clouds  
Building weather instruments  
Making weather observations and predictions  
Conducting air and water experiments  
Studying glacial formations and deposits



### **HEALTH AND PHYSICAL EDUCATION**

Planning healthful meals.  
Dressing properly and adequately for different occasions  
Discussing and solving group living problems  
Using safe outdoor practices, as:  
    how to go up and down a hill  
    how to carry and use lumbering tools, jack knife  
    being sure that water is safe to drink  
    care of fire on cook-outs

Dancing (pioneer, square, round, Indian, folk, play-party games)

Carrying out camp service projects, as:

- building a retaining wall
- developing outpost sites
- cutting firewood.
- setting tables
- making beds
- keeping camp buildings clean
- clearing underbrush
- establishing fire stations

Casting and angling

Archery

Playing games, as:

- Skittles
- Stalking a deer
- Duck on the rocks
- Compass games

Marksmanship and

gun safety

Indian corn game

Huckle buckle bean stalk

Scavenger hunt

Nature Charades

Enjoying winter sports, as:

- ice fishing
- skating
- skiing
- snowshoeing
- tobogganing



#### ARTS, CRAFTS, AND MUSIC

Making game equipment

Making simple camp furniture

Drawing a map of outdoor area, compass maps of hikes

Making picture frames

Sketching, drawing, coloring, painting: gullies, streams, landscapes, outdoor school scenes, etc.

Observing, counting color tones in distance

Clay work (modeling, making molds)

Wood carving, chipping, whittling

Constructing bird houses and feeders

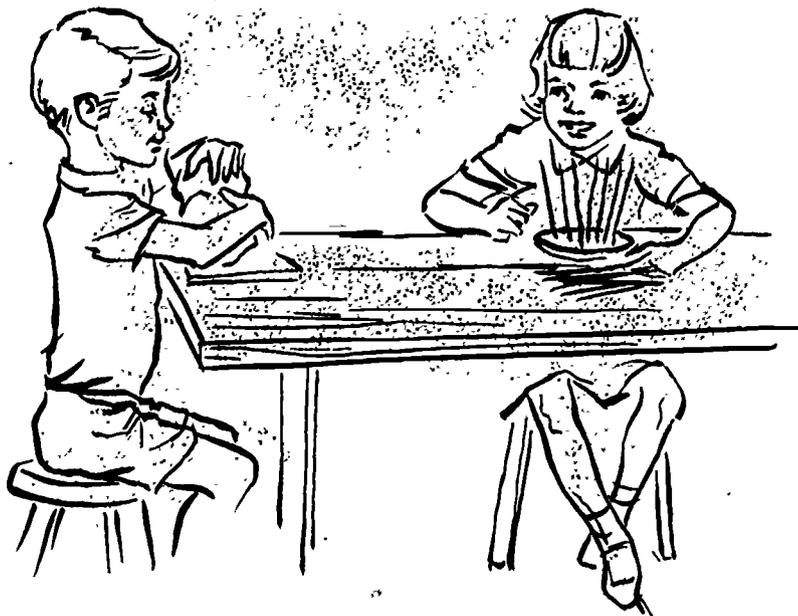
Making bouquets, corsages

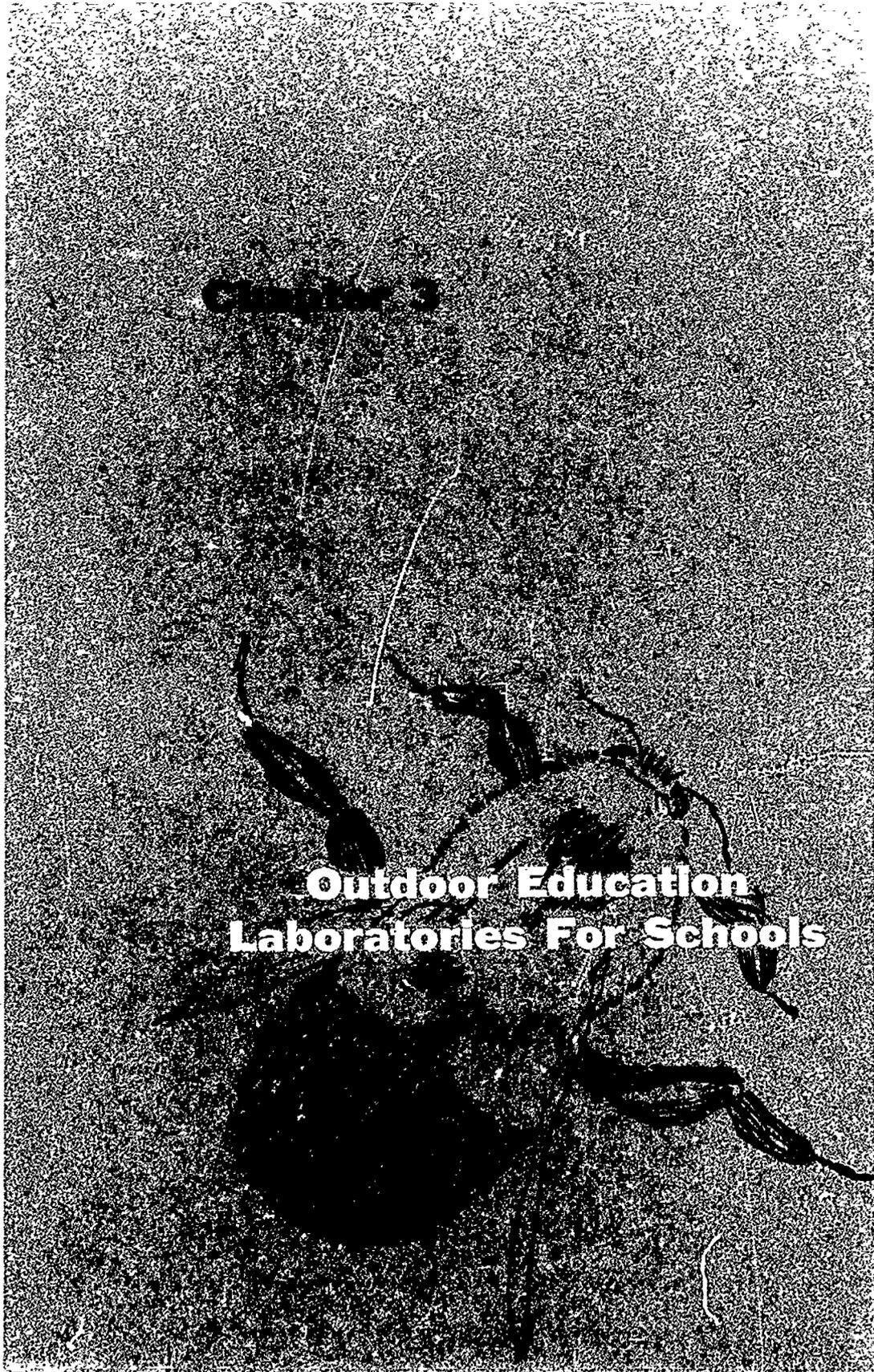
Collecting weeds, seeds, grasses, feathers, etc. (to make arrangements)

Making drums, rattles, tom-toms, headdresses for Indian ceremonial

Making willow whistles

Weaving grasses, barks, reeds, etc.  
Taking photographs  
Tree fungus carving and etching  
Singing songs and rounds  
Marching, dancing, skipping, clapping, leaping to music recordings,  
drum beatings, songs, etc.  
Composing songs  
Listening to night sounds and comparing with recordings of such  
Imitating bird calls  
Matching tones  
Playing singing games  
Looking for familiar objects in cloud formations  
Painting, photographing, or drawing the same scene in different  
seasons, or weather conditions  
Making and playing on primitive instruments  
Listening to music recordings with outdoor themes  
Cutting and polishing stones  
Painting on smooth rocks  
Making dyes from natural materials  
Sand painting  
Sand sculpture  
Constructing looms and weaving with natural materials  
Making collages from natural materials





CHAPTER 3

**Outdoor Education  
Laboratories For Schools**



One of the most promising trends in education is for a school or a school system to acquire or use a large area of land to serve as an outdoor education laboratory. In some cases, this is just a larger building site than was formerly considered sufficient for a school. In a number of cases school boards are purchasing forest lands, and some schools are acquiring their own farms. Another interesting development is the park-school—the erection of school buildings on or adjacent to a municipal park.

School sites, ranging from 10 to 100 acres, offer great possibilities for learning. The space, instead of being devoted entirely to athletic fields and playgrounds, can be used for outdoor laboratories and gardens. Children can develop nature trails, landscape grounds, and design picnic areas and council rings. Ponds can be constructed for aquatic study, the learning of skills such as casting and ice skating, and other uses.

A garden project carried on in the spring and summer months can be related to many phases of the school program. Individual plots may be assigned, or a class may work a truck garden together. Such a project inevitably relates itself to several areas of the biological sciences, to home economics, health education, to numbers and measurement and, if records of costs and sales are kept, to business operations. Since the experiences supply interesting ideas for compositions in English, it can be said that gardening can link itself with nearly every area of the school program.

A school forest can become the outdoor center for the school's instructional program, as well as a place to learn reforestation practices and timber management. Those schools fortunate enough to own or lease a school farm have another excellent outdoor laboratory. Think of the wonderful experience for city children in observing and caring for farm animals, feeding poultry, and gathering eggs!

Land use, in its broadest sense, can become the theme in settings like these three examples of large land areas set aside for educational purposes.

**Chapter 4**



**Resident  
Outdoor Schools**



*The resident outdoor school is one of the most promising, and extensive patterns of outdoor education because it combines camp living with a great variety of invaluable outside activities.*

In the last few years elementary outdoor schools have developed rapidly. Programs have been reported in more than half the states with a total of more than 2,000 school districts providing this significant experience to youngsters.

Some states, such as Michigan, New York, California, and Minnesota have given outdoor schools additional public endorsement by enacting enabling laws permitting school districts to operate resident outdoor schools as a part of an educational program. Most of our states have school laws that are sufficiently broad enough to permit outdoor education activities, and they will not need to pass additional legislation unless there are legal barriers to finance, liability, and other administrative problems.

Practically speaking, most schools can now move in and out of the classroom for instruction at resident outdoor schools at various times of the year, especially if there has been good planning locally.

The usual pattern is for classrooms, grades 5-8, to go to a resident outdoor school for a week as a part of the regular program. Available camps are leased or rented by the school, and children and their teachers pack up and go to the outdoor setting. Several schools now operate on a year-round basis with groups going to the resident outdoor school each week. In most instances, the school uses the facility for

less than a year, usually for a period of several weeks, depending on the number of children to be served and the stage of development of the program. Some school districts own their own resident outdoor schools.

In resident outdoor schools the program is planned and administered like any other phase of the educational program.

Boards of education assume the responsibility for instruction, making it possible for an adequate number of teachers to be at the outdoor school with each classroom of children. With elementary school children, parents, with specialties and skills, often participate in the venture.

In an increasing number of instances, colleges cooperate with schools and combine teacher-education with outdoor education by making it possible for prospective teachers to spend a week living with children. Boards of education also provide a kitchen staff, transportation, and necessary instructional materials.

The home, as it does when the children are in school, pays the cost of food. Civic organizations or community chests assist those who otherwise might not be able to pay the fee for food. Some classes earn part or all of their own money as a class project.

#### **THE RESIDENT OUTDOOR SCHOOL PROGRAM**

The program at the outdoor school is usually rich and varied, tailored to meet the needs of the group involved. Weeks and months are often spent in careful planning for the occasion. As has already been indicated, many of the activities in the pre-planning are interwoven with the regular class activities. "What shall we do at the outdoor school?" involves considerations of food, clothing, and shelter, and specific learning activities.





The outdoor school is a child's community, with all of the usual problems of health, sanitation, safety, and care of public property. The student has the appropriate problems of the young citizen. The outdoor school store and bank, the council, and the service projects are all examples of the real life situations faced by the pupils. These and more are interspersed with adventure experiences and explorations into the outdoors.

Learning to live democratically, acquiring skills in outdoor living, and an understanding of the physical environment are outcomes of the many direct learning experiences in the outdoor school setting.

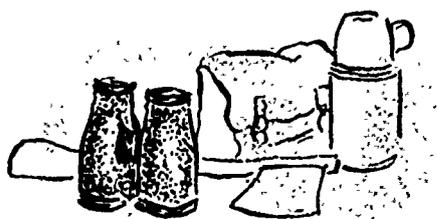
To describe adequately the potential activities of a good resident outdoor school program would require a separate pamphlet. The scope of such a program has already been indicated in the outline beginning on page 14.

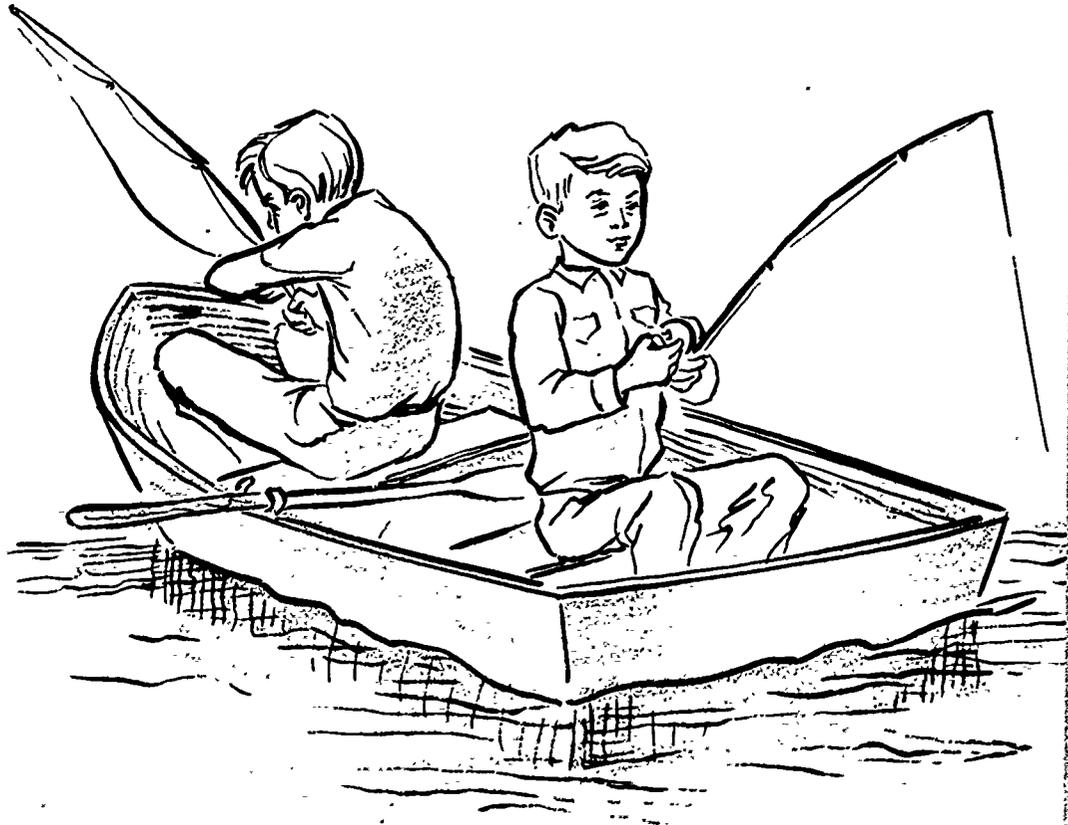
With the outdoor school as a base of operation, many activities appropriate to the area can be carried out. In programming, the emphasis should be on whole and complete experiences, with large time blocks available. Some of the favorite activities provided in outdoor school programs include exploratory trips to nearby places of special interest such as an Indian burial ground, a bog, or an old lumber camp, projects to improve the camp environment, cookouts, construction of shelters, development of nature trails across the area, orienteering with a compass, building shelters for game animals, planting trees and shrubs, lake and stream improvement, and soil conservation projects.

## A SAMPLE ELEMENTARY OUTDOOR SCHOOL PROGRAM

(60 Campers—3 Program Groups)

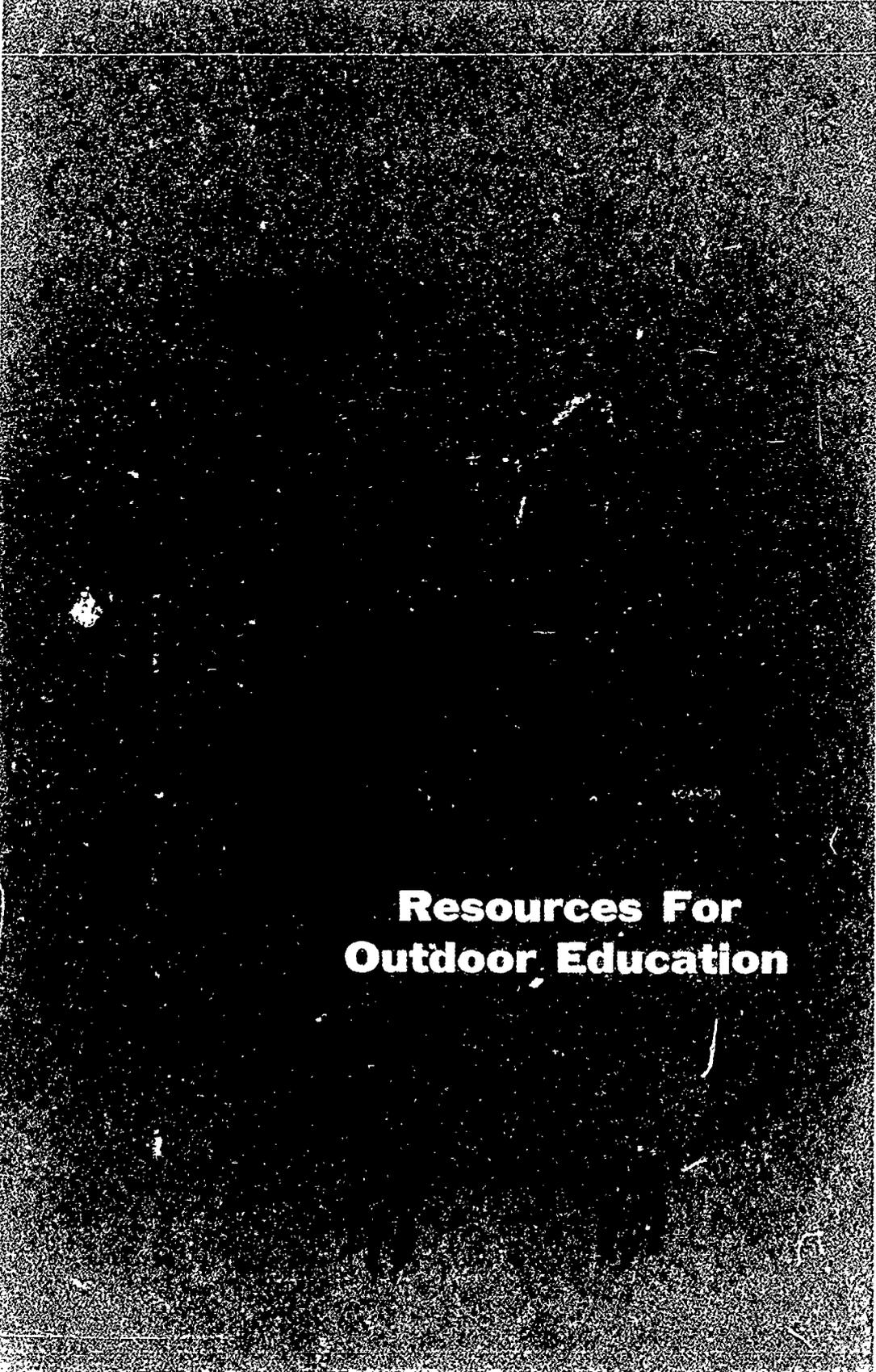
DAY	INDIANS	EXPLORERS	LUMBERJACKS
MONDAY	Planning Hike Around Lake Cook-Out Writing and Telling Paul Bunyan Stories	Planning Hike To Abandoned Farm Crafts	Planning Camp Cruise Tapping Trees Square Dancing
TUESDAY	Blacksmith's Shop Nature Scavenger Hunt Indian Dancing	Logging Make Ice Cream Cook-Out Archery	Treasure Hunt Plant Trees Fishing
WEDNESDAY	Boiling Sap Crafts Folk and Square Dancing	Hike Around the Lake Fishing Creative Writing	Fire Building Compass Hike Crafts Air Riflery
THURSDAY	Breakfast Cook-Out Compass Hike Casting Instruction & Fishing Council Fire	Compass Hike Animal Tracking Plan for Council Fire Council Fire	Cook-Out Boating Visit to a Gravel Pit Council Fire
FRIDAY	Evaluation Clean Up and Pack Go Home	Evaluation Clean Up and Pack Go Home	Evaluation Clean Up and Pack Go Home



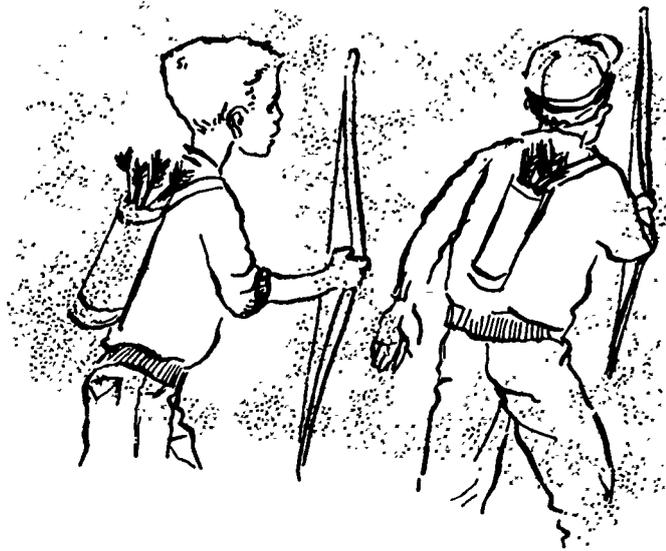


Along with these and many other similar activities will be planned trips and explorations to special points of interest. Depending on the region, these may be marshes, quaking bogs, glacial lakes, sand dunes, high cliffs, desert areas, gravel pits, tropical swamps, lumbering and mining operations, sawmills, abandoned farms, and so forth.

Many local and state resources are available to schools interested in initiating resident outdoor school programs. In several states educators and conservationists work hand in hand. Many leaders in camping, youth serving agencies, professional organizations, and governmental departments serve as resource leaders. In the local community, many citizens with special interests in the outdoors are pleased to give of their time and talents in outdoor education programs.



**Resources For  
Outdoor Education**



#### A. THE COMMUNITY AS A LABORATORY

Every community is a rich laboratory for a great variety of learning activities, all of which should be related to a well-planned elementary school program. Outdoor education could draw upon the following:

- 1) Libraries with stories of plant and animal life, soil, rocks and minerals, and other types of natural phenomena that are native to the area;
- 2) Areas where problems of the physical environment may be studied and solved;
- 3) Special areas where plant and animal life are being studied, perhaps by a university;
- 4) Historical sites, routes and areas;
- 5) Outdoor pictures, exhibits and other visual aids;
- 6) Arboretums, bird sanctuaries, public parks and recreation areas;
- 7) Yards of parents and other private citizens which have special outdoor resources;
- 8) Personnel from national and state conservation and park agencies, state departments of education, health, and so on;
- 9) Local leaders of nature societies and organizations, garden clubs, Audubon Clubs, Izaak Walton League chapters, sportsmen and conservation clubs, agricultural organizations, nature centers, and individuals with special outdoor interests and talents.

In addition, there are in many communities museums, zoos, and botanical gardens.

### **NATURE CENTERS AND ARBORETUMS**

Nature centers are found in an increasing number of communities. The centers include nature trails, displays, dioramas, libraries and the services of interpretive naturalists. The centers offer rich opportunities for schools and usually have arrangements for scheduled classroom visits, as well as for use by the general public.

### **MUSEUMS**

Classroom teachers will find museums a rich resource for several subject matter areas, particularly science and natural history. Some have a section known as the "live" museum, exhibiting small live animals. Many park areas now have excellent trail-side museums and exhibit halls which portray the many interesting kinds of plant and animal life in the area. All museum facilities should be considered an integral part of the instructional resources of the school.

### **ZOOS**

Zoos hold great interest for children and, like museums, should be used in connection with the school's outdoor education program. The small zoos, particularly, have animals that are native to the area, as well as some exotic species. In some cities, zoos include domestic farm animals, such as cows and calves, ponies, sheep and lambs, goats, and rabbits that are exhibited where children can walk among them, pet them, and watch them feed. Zoos can fit into the school program and be of great educational value in addition to constituting a recreational resource.

### **BOTANICAL GARDENS AND SANCTUARIES**

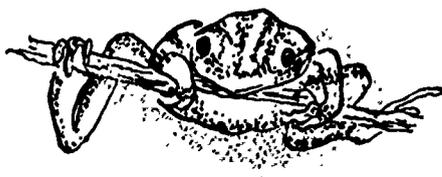
Botanical gardens and sanctuaries offer added possibilities for outdoor education by providing a type of laboratory that is more specialized for the study of plants, animals, and birds.

### **FARMS, ORCHARDS, TRUCK GARDENS, AND APIARIES**

Many owners of private farms, orchards, truck gardens, and apiaries welcome visits by teachers and students for learning purposes.

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### C. FILMS

*Beyond the Chalkboard.* Northern Illinois University, DeKalb 60115.

*Nature's Classroom.* Division of Conservation, Department of Natural Resources,  
Madison, Wisconsin 53701.

*Outdoor Education.* AAHPER, 1201 Sixteenth Street, N.W., Washington, D.C.  
20036.



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