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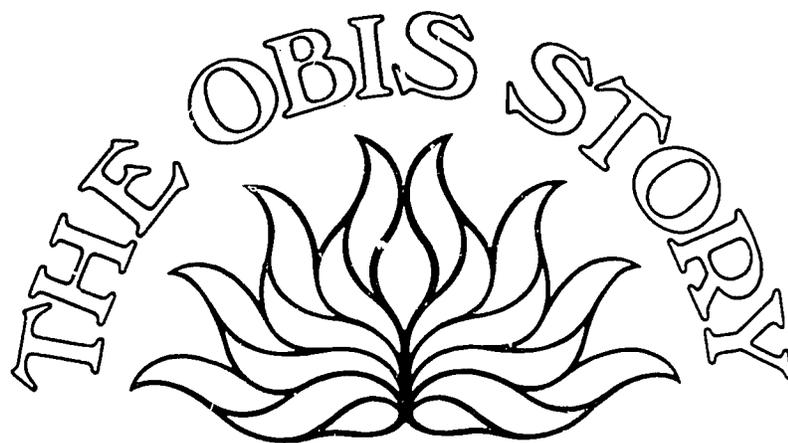
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ABSTRACT

Active participation in a variety of outdoor activities by small groups of youngsters aged 10 to 15 is the focus of the Outdoor Biology Instructional Strategies (OBIS) project, designed to provide the firsthand outdoor experience necessary for understanding biological relationships. OBIS provides community-sponsored youth organizations and schools with 100 learning activities for use at outdoor sites, such as lawns, playgrounds, city lots, and parks, common in a man-managed environment. The OBIS Trial Edition, developed and tested over 6 years, consists of 4 Sets of 24 varied activities and a Trail Module of 4 related activities, all emphasizing biological interactions and environmental interrelationships. Their short duration and easy-to-follow format, including notes on preparation, all necessary biological information, inexpensive or homemade equipment, and follow-up, make OBIS activities suitable for both experienced and inexperienced outdoor education leaders. Because each activity is based on a single principle, leaders need not follow a rigid sequence of activities to ensure concept comprehension, although several activities may be sequenced in a program to suit the leader's needs or for integrated study of a specific subject. All trial activities are listed and briefly explained. The OBIS system also includes a training Primer, a Newsletter, and Resource Centers throughout the country. (SB)

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OUTDOOR BIOLOGY INSTRUCTIONAL STRATEGIES

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Are you looking for something different to engage your classroom students, a Scout Troop, a church-camp group, a

4-H club, a group of campers, or a group that is visiting your nature center? OBIS could be the answer.

OBIS TAKES THE DISCOVERY APPROACH

Outdoor Biology Instructional Strategies (OBIS) is a program with a variety of outdoor activities for youngsters to enjoy. While engaged in these activities, youngsters also learn more about the environment in which they live. OBIS activities emphasize interactions of organisms with each other and with their environment. The activities are also concerned with interactions of people with their environment. In the OBIS activities, the learner is an active participant rather than a passive recipient of someone else's information. Games, simulations, craft activities, experiments, and analyses of data are examples of various strategies used.

2

4



DURING CLASS AND AFTER SCHOOL

These activities are designed primarily for ten- to fifteen-year-old youngsters. However, both younger and older participants, including families, enjoy participating in OBIS activities. The activities are suitable for and are being used in outdoor school programs as well as by community groups.

OBIS folios have an easy-to-follow format and are written for the teacher or leader. An OBIS leader is usually a teacher, Girl Scout leader, den mother, scoutmaster, camp counselor, volunteer, parent, student, or almost anyone who enjoys working with children.

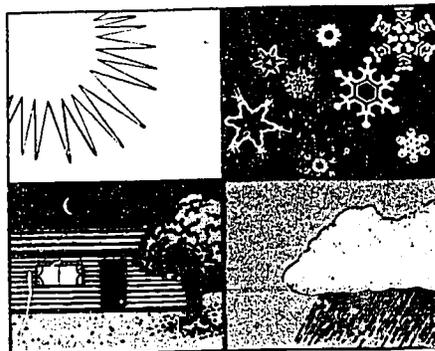


CHOOSE A SITE

OBIS activities can be used wherever you happen to find yourself: lawns, parks, school yards, backyards, street parkways, vacant lots, streams, rocky or sandy beaches. Some of the activities apply to any type of site, while others are designed for specific sites. Areas that support heavy human use are actually preferred to untouched, pristine environments.

PICK YOUR TIME

When can you do OBIS activities? Some are suitable for night or day, rain or shine, winter or summer. Do them on a one-time basis, once a month, once a week, or every day for a week or two.



5

3

LEARNING THROUGH PARTICIPATION



Why OBIS? OBIS wants to stimulate curiosity in the youngsters about life and the world around them. In order for youngsters to become aware of the environment in which they live, they need to participate in some thought-provoking activities. OBIS does not believe that children of this age group are satisfied with the "sniff and appreciate" approach to ecological understanding. Instead, OBIS encourages youngsters to investigate the interrelationships of plants, animals, and the physical environment, including the role of humans in the natural scheme. Youngsters not only develop observational skills that they can continue to use throughout their lives, but also gain some understanding about their environment.

In order for people to make intelligent decisions about their future environment, they must have knowledge of the one in which they live. Firsthand experience in the outdoors forms a basis for the understanding of biological relationships. This understanding is necessary to raise the public consciousness required to support appropriate management of the environment.

4

THE "HOW TO ..." OF OBIS

How can you lead an OBIS activity? The optimum size for a group is one leader and about twelve participants, but teachers who have good rapport with their students can easily work with a larger group. OBIS activities are easy to lead, easy to prepare, and require mostly simple or homemade equipment. No previous experience is necessary! Any biological information necessary to lead an activity is presented in the folio.

Each activity may be done independently, in a sequence, or as a lead-in to or culmination of other activities. Leaders decide how or whether they will sequence the activities. Most activities take a little less than an hour, but many are open-ended.

6

How OBIS Activities are Developed

How are these activities developed? Unlike many development projects, OBIS considers the testing of activities with youngsters to be a vital factor in the development of activities. The development process is one of devising a strategy, trying it out numerous times with youngsters, and making the necessary modifications. If the activity doesn't work with kids, it is not printed for trial use by other groups. Folios currently available are still in trial editions.

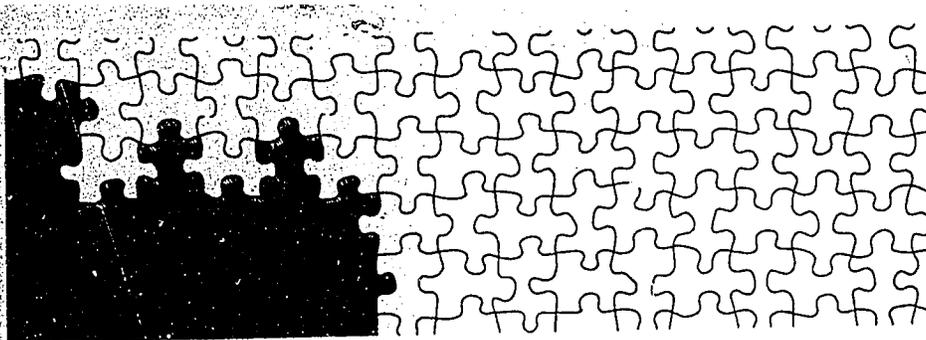
THE BIOLOGY OF OBIS

Most of you have probably experienced the thrill of lifting up a log or an old board and discovering the myriad of organisms living underneath. Spiders, worms, sowbugs, crickets, salamanders, and fungi

are some of the organisms that often form under-the-log communities. How are these organisms able to survive in this environment? What structural or behavioral adaptations enable them to exist under these special conditions? And what might this community under the log have to do with us? These are the kinds of biology questions you will find in OBIS activities. Along with such questions, OBIS provides investigative tools for the youngsters to use in finding possible answers.

The OBIS challenge is to help children understand some of the interactions between animals, plants, and the nonliving environment. To meet this challenge, OBIS uses the outdoor site as the laboratory in which youngsters have the opportunity to learn. We believe that youngsters gain more understanding by investigating biological events where they naturally occur — in the outdoors.



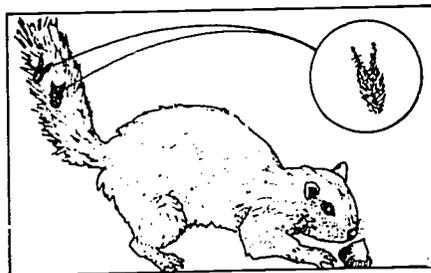


Where Do We Fit In?

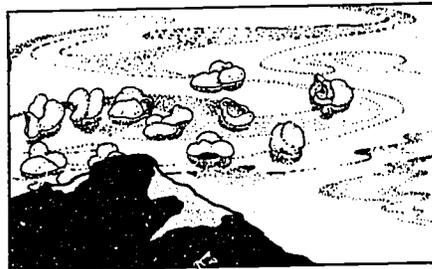
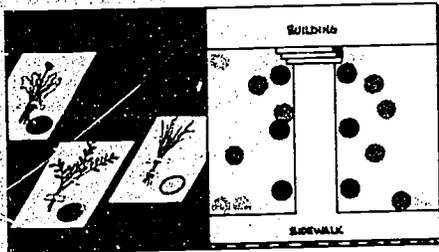
Our life on this earth is dependent on the life of other organisms. Directly or indirectly, other organisms provide us with food, clothing, and shelter. We eat other organisms and their products. Animal fur or hide and plant fibers are used for clothing. We convert plants into construction materials. In short, other organisms are essential to our daily life. In turn, our activities both directly and indirectly influence other organisms, whether they are the bacteria and micro-organisms in the soil, the algae and fish in our streams, or the trees in our forests.

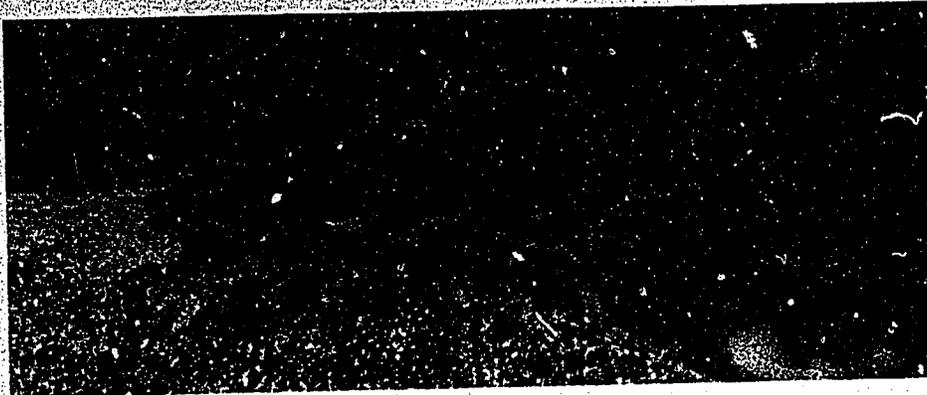
OBIS brings these interrelationships home to the youngsters. In the OBIS ac-

tivities *Plant Patterns*, *Animal Diversity*, *Junk-in-the-Box*, and *Can Fishing*, the youngsters look closely at the human influence in the distribution and kinds of organisms present in an area. In *OBIS Oil Spill* youngsters simulate effects of an offshore oil spill on plants, animals, and the human recreation potential of an



area. *The OBIS Trail Module* explores both the impact of a foot trail on a hillside area and the effect the steepness of the trail has on the people who use it. Youngsters directly interact with their environment in each OBIS activity. An important aspect of every OBIS experience is the opportunity for the youngsters to notice their own impact on the activity area.





Taking the Simple Approach

OBIS activities are designed primarily for use in man-managed environments. These are the most common environments and are the ones with which the youngsters are most familiar. They can actively investigate such areas without causing irreparable damage to an environment. OBIS uses inexpensive or homemade equipment, which enables more leaders to use the materials, and more children to be exposed to outdoor biology. OBIS activity leaders usually

have a limited background in outdoor biology. The leader's own sense of discovery in participating in the activity often enriches the youngsters' investigative enthusiasm.

OBIS activities, for the most part, are written to stand on their own. Thus it is not necessary to follow a rigid sequence of activities in order for the participants to understand a particular concept. Children can learn and understand a biological principle in just one activity — or they can do a series of activities for more extensive understanding. The leader has the choice.



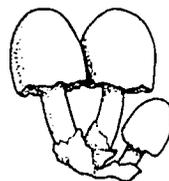
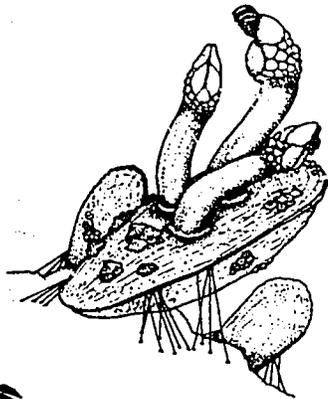
Simplifying Complexity

Biology can be fascinating yet elegantly simple. Direct experiences, simulations, games, and creative art experiences are all part of OBIS strategies. Using diluted food coloring, children learn about animal respiration by actively searching for inlets and outlets of water breathers. True, the youngsters do not learn about complex reflexes of breathing. But, more importantly, they see food coloring emerging in squirts and steady streams, from "different places" than they expected: from the left sides of tadpoles, from the fronts of crayfish, and at different rates according to the animal or the

temperature. The biology of OBIS is a mixture of obvious and subtle experiences with local organisms and their great diversity of adaptations, both structural and behavioral. Adaptations result in survival and reproduction: the name of the game for all populations. In emphasizing both plant and animal adaptations that can be seen; touched, heard, or smelled by the youngsters, OBIS approaches the youngsters at their level. Once introduced at the youngsters' level, each principle may be enlarged upon by the leader and the children as far as their experiences will permit.

The OBIS approach is concrete because we found it had to be so. If the youngsters can't understand what they are doing, what value is there in proceeding?

The theme of OBIS revolves around ecosystems. Natural selection, successional changes, periodic changes in life forms, food chains and webs, species dominance and density, behavior of organisms, interactions of organisms with their environment, and population structure are the biological topics that we weave into the activities. The ecological theme provides the flexibility to help children of different ages, capabilities, interests, and backgrounds to learn biology in the outdoor settings where interactions take place.



8

10

CURRENTLY AVAILABLE OBIS MATERIALS

Five different sets of OBIS activities are currently available: OBIS Trial Editions Set I, Set II, Set III, Set IV, and The OBIS Trail Module. These OBIS trial editions each contain activities for trial use. An OBIS activity is presented in an individual folio, which consists of one major high-interest activity. Each folio may be used as a one-day outdoor experience, or several folios may be linked together in a sequence to provide an integrated study of a specific habitat, biological concept, or investigative technique. Included in each folio is information regarding preparation, equipment, and follow up appropriate to the specific "action."

Included in Sets I, II, III, and IV, in addition to 24 activities, are three introductory folios: *What is OBIS?*, *Leader's Survival Kit*, and *OBIS Toolbox*. These three sets also include Action Cards, Equipment Cards, and Technique Cards for use with various activities.

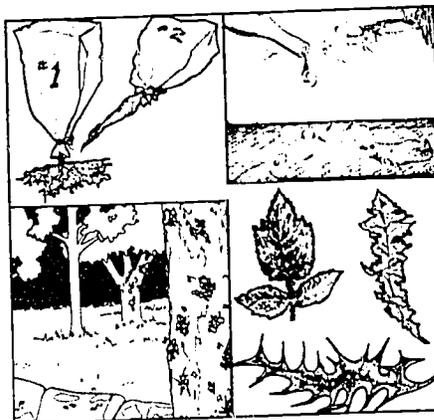
OBIS Trial Edition Set I

The first 24 folios make use of crafts, simulations, and basic investigative techniques. (See page 10.)



OBIS Trial Edition Set II

The second 24 OBIS folios lean a little less toward crafts and more toward the use of living organisms such as lichens, grasshoppers, crabs, crayfish, insects, litter animals, and birds. (See page 11.)



OBIS Trial Edition Set III

The third 24 OBIS folios deal predominantly with animal behavior, and with adaptations and diversity of both plants and animals. (See page 12.)

OBIS Trial Edition Set IV

The fourth set of OBIS folios features simulations, crafts, biological techniques, and organism investigations for the forest, desert, and snow. (See page 13.)

The OBIS Trail Module, Trial Version

This module provides a selection of four activities on a specific theme rather than the usual potpourri of investigations. The theme of this module is the evaluation of trail requirements and the impact trails have on people and the environment. (See page 15.)

OBIS Trial Edition Set I

Adaptation – Predator-Prey

By creating and sharing predator devices, the children discover the variety of structures that animals use to capture food.

Animal Movement in Water

The students try to discover how aquatic animals move through water.

Animals in a Grassland

In this introductory activity, the participants use sweepnets to sample the variety of animals living in lawns.

Attention!

To explore visual communication, each youngster creates an eye-catching design intended to attract a specific member of the group.

Bean Bugs

In this simulation activity, the children learn how to census a population of organisms too numerous to count.

Great Streamboat Race

The participants enter cork boats in the Great Streamboat Race to discover the rate and direction of currents in a stream.

Habitat Sun Prints

Using a novel recording technique, the students "photograph" organisms and objects from different habitats.

Habitats of the Pond

In this activity, teams hunt for organisms in different areas of a pond or lake. The term *habitat* is introduced.

How Many Organisms Live Here?

Using homemade sampling gear, the youngsters estimate the numbers of organisms living in a small section of a pond.

Invent an Animal

The children design "animals" to blend into specific habitats, and then search for each others' camouflaged animals.

Invent a Plant

In this activity, the youngsters construct models of plants adapted for different environmental conditions.

Mapping a Study Site

Using a mapping technique, the youngsters familiarize themselves with the major features of their activity site.

Moisture Makers

The participants test different kinds of leaves with cobalt chloride paper. The paper's color changes allow the youngsters to compare the amounts of moisture released from different leaves.

Natural Recycling in Soil

The youngsters find out how different types of containers buried in the *soil* affect the decomposition of vegetation inside the containers.

Natural Recycling in Water

The students find out how different types of containers placed in the *water* affect the decomposition of vegetation inside the containers.

Out of Control

The youngsters release a portion of a lawn from human control and then observe the resulting changes over the next few months.

Plant Hunt

An exploratory hunt for plants familiarizes the participants with the diversity of plants in a selected site.

Plants Around a Building

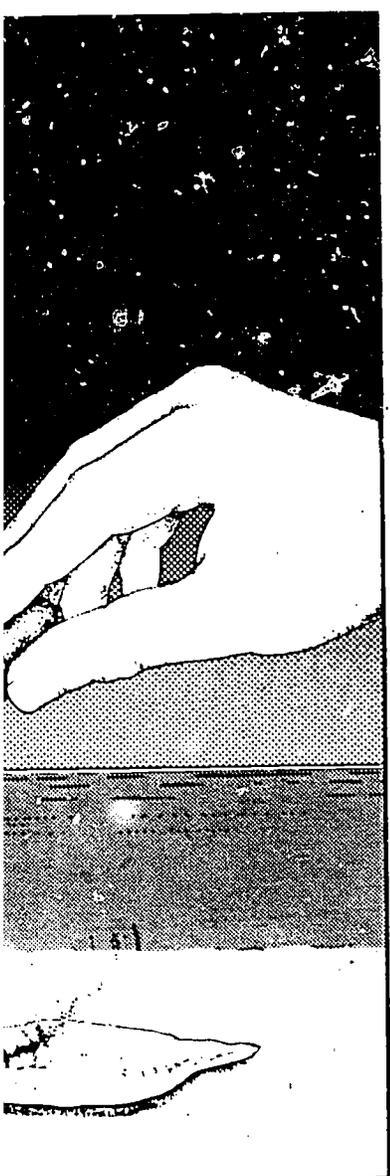
By surveying the plants around a building, the children speculate on how the building affects plant growth.

Seed Dispersal

The students learn about seed dispersal by modifying beans and peas for dispersal by various natural and artificial forces.

WATER BREATHERS

TRIAL VERSION



CURRENT THOUGHTS

- Which animals seem to breathe water, i.e., pump water in and out of their bodies?
- Do any of the animals take in or expel water from areas other than their mouths? Which animals? Where do these intakes and exhausts occur?
- How do the animals circulate water?
- How might movement help an animal survive? (Food, oxygen, warmth, protection, etc.). Tell the kids that special features of an organism (such as gills for breathing or a powerful tail for fast swimming) that improve its chances of survival and reproduction are called **adaptations**.
- What adaptations would you need to live underwater? (Mechanical devices such as scuba are not allowed.)

WHAT TO DO NEXT

	Set
<i>Attract a Fish</i>	//
<i>Hopper Circus</i>	//
<i>A Better Fly Trap</i>	//
<i>Who Goes There?</i>	/



**Outdoor Biology
Instructional Strategies**
Lawrence Hall of Science
University of California
Berkeley, California

Supported by a Grant from the National Science Foundation
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Sticklers

This simulation game introduces the youngsters to the concept of *distribution* by allowing them to identify the distribution patterns of "sticklers," imaginary animals.

Terrestrial Hi-Lo Hunt

Using simple equipment, the participants search for extremes of environmental variables such as temperature and light in a study site.

Water Holes to Mini-Ponds

The students observe and compare changes that take place in fertilized and unfertilized water holes.

What Lives Here?

In this introductory activity, the youngsters observe and identify plants and animals that live in an aquatic site.

Who Goes There?

In this nighttime activity, the kids use a portable flashlight and fluorescent bait to find evidence of animals active at night.

OBIS Trial Edition Set II

A Better Fly Trap

The youngsters construct fly traps from milk cartons and investigate the behavior of flies.

Animal Anti-Freeze

In this activity, the students search for a hibernation site that will protect a make-believe animal from freezing.

Animal Diversity

Using sweep nets, the youngsters sample and compare the bugs living in two different areas: a managed lawn and a weedy area.

Attract a Fish

The youngsters explore the behavior of minnows by "fishing" with a variety of potential baits and lures.

Beach Zonation

The participants investigate the distribution of organisms in a rocky intertidal zone.

Birdfeeder

By experimenting with different types of birdfeeders, the students study the behavior and food preferences of birds.

Crawdad Grab

The youngsters explore crawdad behavior by building crawdad traps and "fishing."

Flocking to Food

The participants use a variety of "beaks" (trowels, spoons, sticks) to hunt for organisms that a bird might eat.

Food Chain

Taking the place of hoppers, frogs, and hawks, the youngsters simulate a food chain and investigate feeding relationships.

Gaming in the Outdoors

By going on a modified scavenger hunt, participants increase their awareness of the variety in their environment.

Hopper Circus

Action Cards challenge the students to investigate the behaviors of hopping animals (beach hoppers, grasshoppers, frogs, and others).

Lichen Looking

The youngsters search for lichens and learn about their habitats, shapes, and colors.

Litter Critters

After searching for small animals living in the ground, the youngsters use their OBIS Litter Critter Wheels to "match" the catch.

Metric Capers

This activity uses an outdoor game format to introduce the metric system.

OBIS Oil Spill

Using popcorn to simulate an oil spill, the students estimate the "spill's" impact on the environment.

Plant Patterns

The youngsters investigate the distribution, patterns and relationships of plants by mapping the location of plants in an area.

Rock Pioneers

After placing bare rocks in the intertidal zone, the youngsters keep track of the plants and animals that colonize the rocks over a period of weeks.

Roots and Shoots

The youngsters try to identify two "mystery plants" by digging up weeds and comparing their roots to those of the unidentified plants.

Seas in Motion

Using tennis balls, water balloons, and other simple devices, the participants investigate the movements and currents of the sea.

Sensory Hi-Lo Hunt

The students use *only* their senses to find

the extremes of several environmental variables: wind, temperature, light, slope, and moisture.

Sound Off!

By using noisemakers to find "secret partners" before being "captured," the participants learn about one type of animal communication.

The Old White Sheet Trick

By attracting night-flying insects to a brightly lit surface and conducting other light-related experiments, the youngsters discover how light affects insects' behavior.

Too Many Mosquitos

The youngsters learn about biological control by finding predators that eat mosquito larvae.

Water Breathers

Using food coloring, the students investigate currents created by aquatic animals moving and breathing underwater.

OBIS Trial Edition Set III

Ants

The youngsters use "super food" to investigate ant behavior.

Beachcombing

The beachcombers search for evidence of animal and plant life on a sandy beach and speculate on the origins of their finds.

Can Fishing

By going "can fishing" the students discover the kinds of aquatic organisms that live in and on submerged cans.

Clam Hooping

The participants conduct a population census of squirting clams on a beach or mudflat, and investigate the clams' natural history.

Envirolopes

Envirolope Challenges direct the youngsters to hunt for a variety of textures, colors, odors, and evidence of interactions in their activity site.

Fly a Leaf

The participants "fly" and race leaves along lines to find out which ones catch more wind.

Follow the Scent

Using scent markers to delineate home territories, the youngsters discover one way animals use their sense of smell.

For the Birds

By feeding pigeons, ducks, or seagulls, the youngsters investigate bird behavior.

Hold It

After making a cork or sponge "creature" that can hold on against water current, the participants investigate the holding adaptations of real organisms.

Isopods

The youngsters explore the differences between sowbugs and pillbugs, and discover the relationship between structure and function.

Jay-Play

After discovering the food-color preference of jays, the students try to change this preference by salting the food of that color.

Junk-in-the-Box

By investigating man-made litter, the youngsters discover which kinds of litter are used by animals for food or shelter. The youngsters are then asked to determine if litter has any value.

Leapin' Lizards

The youngsters use a special "lizard rig" to investigate lizard feeding behavior and interactions.

Mystery Marauders

After gathering evidence that plants in the site are being eaten, the youngsters try to identify the plant eaters.

Night Shine

The youngsters search for aquatic animals that are active at night, and then investigate the animals' responses to light.

Pigment Puzzles

The students use chromatography to explore leaf and flower colors, and to solve natural "pigment puzzles."

Shake It!

The youngsters try to find a community

that matches a "mystery community" by shaking the animals out of different trees and shrubs.

Silent Stalking

By playing a nighttime game, the participants explore the importance of silent stalking skills to predators and the importance of sound detection to prey.

Swell Homes

The youngsters locate "swell homes" (galls) on plants and find out what lives in those homes.

Variation Game

By playing simple games, the youngsters investigate variations between individuals.

Water Snails

By marking, releasing, and later recapturing water snails, the youngsters discover the snails' preferred habitats.

Water Striders

The children explore the movement and feeding behavior of water striders.

Web It

With the aid of spray misters, straws, and sweep nets, the students investigate the behavior of spiders.

Web Weavers

The children use string art to reproduce the intricacies of different spider webs.

OBIS Trial Edition Set IV

Acorns

By playing a survival game, the youngsters compare the winter food-storage strategies of squirrels.

Bird Nests

The students construct bird nests, place them in their site, and try to locate and identify each others' nests.

Bugs, Worms, & Others

The teams invent populations of make-believe organisms and then investigate real populations living in their activity site.

Cactus Wheel

With a simple hunt-and-walk technique, the youngsters determine the population

densities of several desert plants.

Cool It

By taking advantage of the temperature variations in their site, the youngsters try to keep their "thermometer lizards" from overheating or getting too cold.

Creepers and Climbers

The participants investigate specialized climbing structures and growth patterns of different vines.

Damsels and Dragons

The students investigate damselfly and dragonfly perching behavior and discover how these "D-flies" react to flying decoys.

Desert Hunt

In this introduction to the desert, the teams design OBIS scavenger hunts for each other.

Desert Water Keepers

The youngsters experiment with paper leaf models to find out how different desert plants conserve water.

Flower Powder

The youngsters use artificial bees and paper models of flowers to find out how pollen can be moved from one flower to another.

Helping Out

In a simulated predator/prey game involving wolves and antelope, the participants find out how cooperation contributes to survival for certain animals.

Hopper Herding

The youngsters round up a "herd" of hopping insects (grasshoppers, crickets, and katydids, etc.) and find out how many different kinds are in their herd.

Leaf Living

The students hide and navigate in a kid-sized pile of leaves to experience the environment of animals that live in fallen leaves.

Logs to Soil

After cutting through and investigating rotten logs, the teams make log-profile puzzles for each other.

Population Game

In a feeding game, the youngsters find out how many deer can survive in a herd's "home range."

Night Eyes

Using flashlights, the participants locate and identify mysterious eyes in the night.

Salt Water Revival

During a low tide, the youngsters create an artificial high tide and observe its effects on marine animals.

Sawing Away

After sawing sections from fallen logs, the youngsters count tree rings and study the patterns of tree growth.

Scent Tracking

Using spray misters and liquid extracts to simulate prey scents, the kids play a

game in which predators track a prey by following its scent.

Scram or Freeze

After being introduced to "scram" and "freeze" escape behaviors in a game, the kids investigate the escape behaviors of animals that live under logs and rocks.

Snug as a Bug

The youngsters make homes for imaginary insects, and then search for actual animals' constructions in and on leaves.

Super Soil

The students investigate the differences between a commercial garden soil and local soils.

Tree Tally

The youngsters use the OBIS transect to find the most common tree in a forest.

Wintergreen

The participants find green plants under the snow and determine the light and temperature conditions around those plants.



The OBIS Trail Module Trial Version

Trail Impact Study

Teams attempt to lay out the course of a foot path that will have the least amount of impact on the environment.

Cardiac Hill

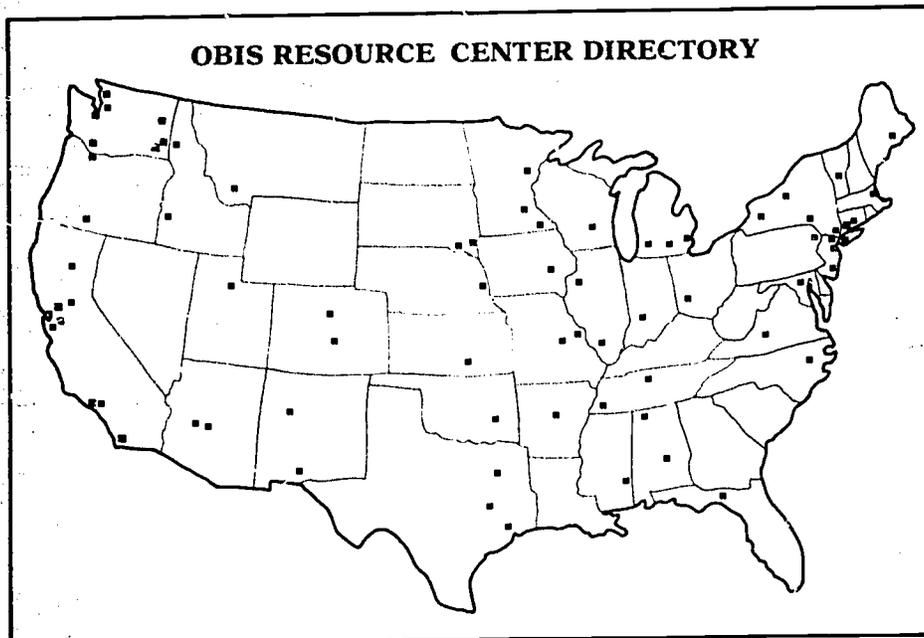
Using heart rate as an indicator, the youngsters establish the maximum steepness for a foot path.

Hold a Hill

The students investigate the relationship between erosion and slope.

Trail Construction

Using their experiences from the previous activities as a guide, the youngsters select the best trail-construction technique for their site.



This directory lists the centers across the country that offer information, advice, sample materials, and workshops. (See

the OBIS Resource Center section for a more complete description of the center.)

PRIMER: HOW TO LEAD AN OBIS WORKSHOP

The Primer outlines the planning necessary to conduct an OBIS workshop for training OBIS leaders. It offers guidelines in structuring a workshop, with consideration given to size of group, site, timing, different types of leaders, suggested activities, and follow up. As more people are trained to use OBIS, the subsequent increase in feedback will increase the quality of future revisions of the activities.



16



OBIS NEWSLETTER

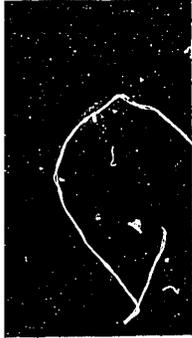
The OBIS Newsletter reports on the progress of OBIS. The newsletter contains announcements of new activities, descriptions of innovative uses of OBIS and different types of groups using OBIS activities. The newsletter will provide you with an update on all OBIS events, so let us add your name to the mailing list.

FEEDBACK

All OBIS activities are in trial version. We depend on the people who use OBIS materials to give us feedback on these activities. We are particularly interested in any adaptations you have to make for your particular environment or group of participants. Improvements, criticisms, and new approaches provide the basis both for revision of existing activities and for development of new activities.

22

OBIS RESOURCE CENTERS



During the years that OBIS materials have been available, the number of requests for information, materials, and workshops has steadily increased. In an attempt to answer all these requests and to gather feedback from OBIS users, we have established OBIS Resource Centers throughout the country.



The director of each center is a person who has workshop experience with either the OBIS staff biologists or the former OBIS Field Centers. These people are well versed in the OBIS philosophy, method of training, and materials. Because OBIS is not able to contribute funds to these centers and must rely on the dedication of the directors, the type of services available will vary from center to center. Each center will provide general information and display copies of the latest OBIS materials and brochures.



Most centers will offer at least one workshop a year, and some centers will be able to offer as many workshops as are requested by community or school groups. Because the directors are volunteers, many of them will have to charge workshop fees in order to recover their expenses.

To obtain the services of a Resource Center, call or write the director nearest you and request whatever arrangements you or your group would like. (The *OBIS Resource Center Directory* is available at no charge from OBIS Headquarters.)



COMMERCIAL PUBLICATION OF OBIS!

Delta Education has been selected as the publisher of OBIS materials. Delta is to release the first module of OBIS activities in June of 1979 and will have all the revised activities published by December of 1980.

Delta has provided several trial versions of the activities which have been revised on the basis of feedback from thousands of OBIS users. Your feedback suggestions are responsible for Delta's plans to offer activities both as individual activities and in modules. Interested

OBIS users will now be able to purchase activities one at a time or in modules of four to eight activities that focus on particular environments such as the schoolyard, backyard, field, beach, and pond. In addition, Delta is planning to offer a complete stock of OBIS equipment.

Starting in June of 1979, contact Delta Education, Box M, Nashua, New Hampshire 03061 for information, newsletters, and order forms for the revised OBIS materials.