



# Ten-Minute Field Trips

Third Edition, Revised

A Teacher's Guide To  
Using The Schoolgrounds  
For Environmental Studies

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## Using the School Grounds for Environmental Studies

Regardless of whether we look on the environment in its narrowest sense of the immediate surroundings, or in its all-inclusive sense of this ecosystem—this spaceship, Earth—the area surrounding the school is by far the best starting point.

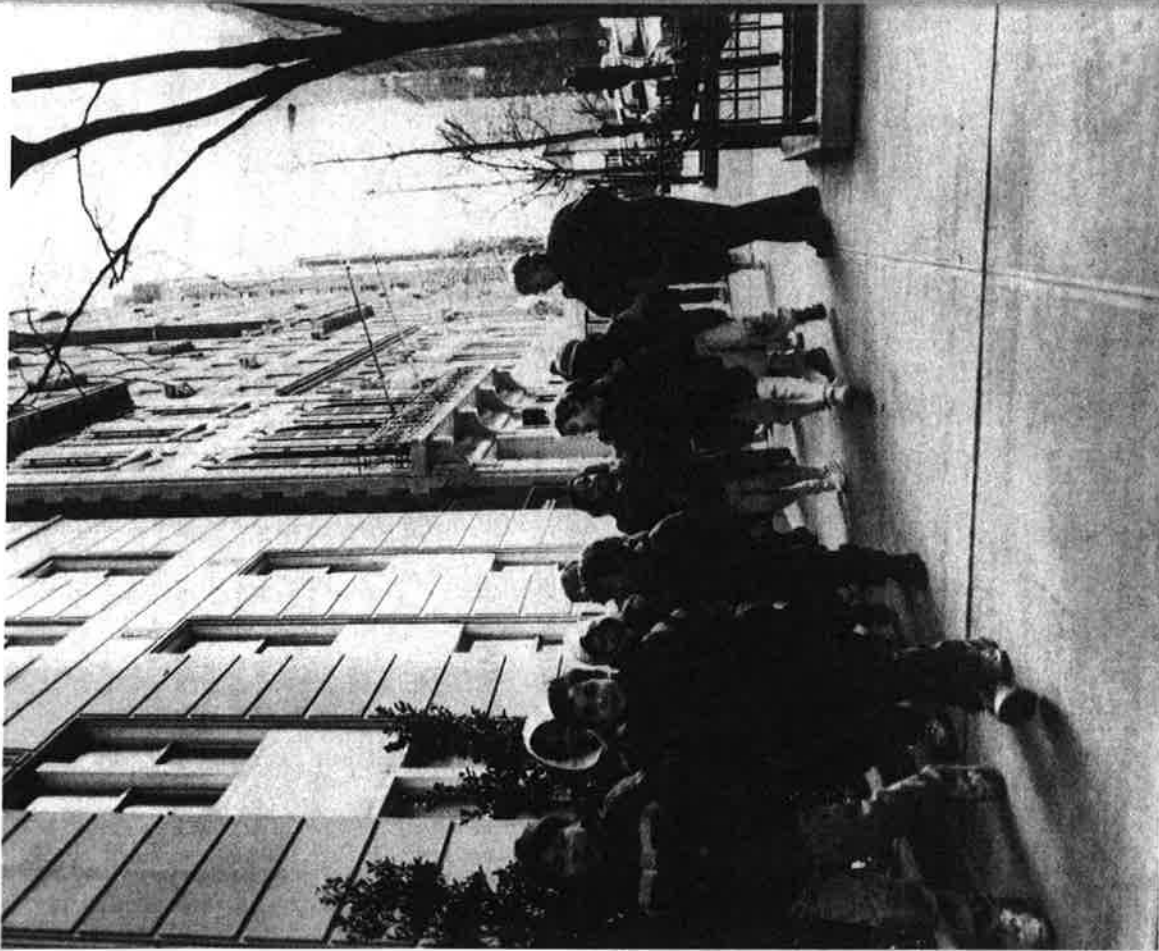
This means that the best possible facilities for teaching environmental studies are available to all schools, regardless of whether they are urban, suburban, or rural. By using school grounds effectively, teachers and children can learn about all the natural forces as they relate to their situation. Temperature changes, precipitation, air currents, pollution, the forces of disintegration and decomposition, plant and animal relationships, and people relationships are things that occur everywhere, but their intensity and effect vary with the locality.

School grounds are almost always reflectors of the neighborhood in which they are located. The hard-topped play area of a metropolitan school is touched by rain, wind, pollution, noise, and overcrowding in the same way as the streets that surround it; similarly, the bare soil of a hillside school develops gulleys in the same way as the farms that surround it.

From the teaching standpoint, school grounds have the added advantage of being easily accessible. Repeated trips to observe changes may be made in a day, or over a period of several days, or even a year. Not only does the proximity of the school grounds make meaningful observation possible, it provides the opportunity to initiate projects to improve the environment.

Thus, the school grounds can provide an opportunity to teach the three things needed if we are to develop responsible environmental action. These are:

1. an awareness and understanding of the interrelationships in the natural world;



These nine year olds are going on a fact-finding field trip. When all students know the purpose of the trip and can experiment, measure, and record on their own, total participation and individual learning will follow.

be answered by some longer trips. These trips away from school will be much more meaningful if they are based on many school ground explorations. A class that has had a lot of experiences with trees and animals will not be overpowered by a city park, a woods, or a botanical garden, but will approach this bigger area with the skills of observation and scientific inquiry developed and practiced in the school situation. There will be more questions to answer, possibly more materials to take along for recording, measuring, and collecting; but the concept of setting up goals and formulating questions before the trip, then returning to interpret data, will be well established, as will be the techniques of working in pairs, in small groups, or as individuals, and reporting back at a given time or signal.

A group of children who have done a survey of litter on their school ground and street and have decided that they need to visit the city disposal plant to get more information may not like what they see or smell, but they will be able to take the field trip without dramatic gagging and fussing because they are already familiar with the problem and have made the trip with definite goals in mind.

Just as the many school ground trips which follow are only samples which must be adapted and added to by the individual teacher, so the advantages listed above are also only samples of the types of things that can grow out of an exploration of the school ground by children working with teachers who are willing to tap one of the richest possible sources for environmental learning.

## Of the Value of Saying "I Don't Know"

Dr. Liberty Hyde Bailey, one of the greatest botanists of all time, dedicated one of his books to "a teacher who allowed a boy to grow." Frequently Dr. Bailey told about walking through the wild Michigan countryside of 1870 to a one-room country school and telling his teacher that he wanted to study nature. He then recounted how she looked at him and said, "Liberty, I don't know a thing about nature but we'll learn together. How many trees are there between your house and this school?"

When he answered that he didn't know, she said, "Liberty, that's the first thing you'll need to learn—to be observant." The following day when he came to school and told her how many trees there were, she said, "What kinds?"

All too often teachers are afraid to say "I don't know," or "We'll learn together." Yet this attitude is exactly what is necessary for really good teaching.

Children are born curious. My 14-month-old niece has a vocabulary of thirteen words and one phrase, "Whazzat?" It will only be a short time before "How" and "Why" are added.

"How" and "Why" are the basis for progress, scientific research, philosophy, indeed for humanness. All normal people start life asking, "What—How—Why." But most of them get discouraged long before they reach high school age by adults who can't be bothered and ignore or even reprimand the questioner, or by well-meaning adults who feel they must tell all and leave nothing for the child to discover.

Children's natural curiosity is the most valuable asset a teacher can have. A child who is really interested in space will learn to read if there is enough material available on the topic. A child who wants to know how caterpillars transform to moths and butterflies will spend many hours caring for and ob-

2. a concern about the misuse of this planet;
3. a willingness and ability to initiate and support positive action on the basis of this knowledge.

In addition to these primary advantages, there are many other important advantages to using the school grounds as the main base of operation for field trips. For example, there is no scheduling problem; no waiting for a bus date; no need to hurry up a topic or to try to rekindle interest in a topic completed weeks before. Dangers are also minimized. There are no streets to cross, no transportation problems, and the same insurance that covers children in the school building covers them on the grounds.

The trip can be a natural outgrowth of the topic at hand: "Let's go outside and look at the rock outcropping at the corner of our school grounds." "When the sun comes out, maybe we could set up a shadow study." "Where do most of the earthworms on our school grounds live? How can we find out?" "What kinds of pollution problems affect us here at the corner of 81st Street and Broadway?"

Responses to challenges of this type are most often enthusiastic because children love variety and they thoroughly enjoy discovering answers for themselves. This enthusiasm is quite different from the unbridled exuberance that frequently characterizes field trips taken to totally unfamiliar surroundings where youngsters sometimes respond with frenetic physical activity or by bombarding the teacher with hundreds of questions.

In fact, teachers frequently avoid field trips because of their concern for the safety of the group or because of the ego-shattering impact of feeling ill-equipped to answer children's seemingly limitless questions.

If teachers regard the school ground as a three-dimensional reference library, many of their fears about going outside will be dispelled. We all use encyclopedias without knowing the total contents of the volumes or even paying attention to more than one article. The same thing should be true of teaching outdoors. A class going out to learn about the flying ash from an incinerator leaves the classroom with a definite goal. It has nothing to do with the names of the trees in front of the building, or the oxidation of copper on the rain spout, or any of the other observable phenomena.

So while the possible number of field trips is limitless (the ones described in this book are just samples), the teacher should deal with only one topic at a time.

And while it would be very hard to justify taking a one-hour bus trip to observe one tree for ten minutes, it is perfectly logical to leave the classroom for that length of time to focus in on one topic that is being discussed at the moment.

In fact, 10- and 15-minute trips are ideal for many topics. Others may be even shorter. A kindergarten or primary class studying shadows or an upper elementary class studying the sun may go out for five minutes at hourly intervals throughout the day to make observations. A class that returns to the building and discovers that their outdoor study has left some questions unanswered or raised new questions can easily return for further investigation.

Because they are short, school ground field trips can be a learning experience that enriches the curriculum even in the most tightly structured teaching situations.

Because they involve learning by observing, thinking, and doing, school ground field trips can bridge the reading and language barriers in situations where these are hurdles to learning.

Because activities carried out on the school grounds bridge the gap between abstract ideas and the real world, they make learning meaningful and often interest youngsters who are bored or have failed to relate to the classroom situation. This bridge-building between the classroom and the environment is tremendously important, not only because it gives purpose to classroom studies, but also because it gives purpose and direction to the trip.

Suppose primary grade children are studying about trees. Bark, branches, leaves, buds, flowers, and seeds can be just so many unfamiliar words to learn; but if the class goes outside and examines a tree and begins to talk about it, the words are discovered naturally. Back in the classroom, the children may make a big tree and add and label the parts, or every child could draw the tree, or the class may talk about the tree, or make a song about the tree.

If then the question arises, "Are all trees alike?" the class could go out another day and discover that the answer is both "Yes" and "No." "Yes," all trees have bark, leaves, a trunk, and branches. "No," some trees are bigger than others; some are older than others. The leaves on the trees along the street are different from the ones on the trees at the back of the play area. Some trees have needles instead of broad, flat leaves.

Back in the classroom, conclusions can be drawn, stories written, and charts made. After a very short time, children begin to notice trees in new places—at home, along the street, in a park, and in photographs in magazines and books. New ideas come up—ideas that can be tested, confirmed, or rejected on the basis of more trips. Each trip should have a follow-up session back in the classroom of recording, comparing, and fitting the pieces into the whole.

The children in one kindergarten in New York City who constantly used the school ground as a learning center were ready to enter first grade as readers at the end of the year. They were stimulated to learn by their interest and enthusiasm about the things they had dictated to their teacher for classroom charts after they had gone outside to learn.

A sixth-grade class in Massachusetts joined forces with a junior high school after they conducted a survey of school incinerator ash. Together they got more than 1,000 signatures on a petition which resulted in community action.

Several classes in a grade school in Kentucky that experimented with new vegetables in their school gardens influenced the type of crops produced by adults in the area.

Thus, the small area of the community that we know of as a school ground can be the basis for developing skills, attitudes, and concrete changes in the total environment.

Some classes may confine all their field trip activity to school ground studies; others may find that this micro-ecosystem raises questions that can best

servicing caterpillars, cocoons, and chrysalids. Children who are encouraged in their curiosity and given the tools for finding answers for themselves will never be bored.

Youngsters who learn to ask questions, observe, set up possible answers, experiment, keep records, and think independently, will grow up finding life challenging and worthwhile. They will also have the ability to adapt to a changing world because they have learned skills that enable them to keep up with change, not facts that grow obsolete. This ability to adapt is tremendously important.

In the past years, I have frequently been asked how I can possibly be happy living in one of the most urbanized regions of the world when I grew up on a farm in rural Pennsylvania; or more particularly, what experiences in that very different habitat prepared me to be an urban environmental scientist.

In trying to answer that question, I have come to realize that I am keenly aware of, interested in, and concerned about the great interrelationships of this planet earth. The interrelationships between plants and animals and people, living and nonliving, earth forces and human forces, and our past, present, and future, exist everywhere. Names, numbers, or details may differ but the basics remain the same.

I started to learn this at an early age from my parents, who not only did not suppress my curiosity but who gave me tools for finding the answers to the questions I asked.

When as a preschooler I asked, "How do eggs get out of hens?" and my mother said she didn't know, she'd never seen a hen lay an egg, I suspect that she was hedging; but it offered a challenge to me. I spent many hours in the chicken house waiting to see what my mother had never seen.

Usually, a hen got in the nest, faced forward, sat still for a while, and finally left the nest cackling to announce that she'd deposited a fresh egg. But finally one memorable morning, a hen delayed at the feeding trays too long. She didn't have time to arrange the nest and face forward. She flew into the nest and the egg started to emerge. I watched fascinated, then rushed to lunch to regale the whole family with complete details down to the last straining and the final triumphant cackle; but my triumph was even greater than the hen's, for I, by myself, had made this wonderful discovery.

My father rarely said, "I don't know," but he consistently answered questions with questions. Often this worked well. Once in a while, the answer to his question was no more obvious to me than the answer to my own; and I can remember saying in anger, "If I knew the answer, I wouldn't have asked." Nonetheless, learning to break a big inquiry down into smaller questions is a tremendously important skill.

Dad tuned us in to the world around us with words like "look—watch—listen." One day when my brothers and I visited the farm across the street, the horses' watering trough was full of horse hair snakes. Mr. Gruber told us they had grown from horse hairs that had fallen in the water. When we rushed home to ask, "Do horse hairs really turn into snakes?" my mother said simply, "Why don't you try it and find out?" We not only tried horse hairs, we ran a constant series of experiments to find out.

From both my parents I learned to use books to help with answers. When the *National Geographic Magazine* arrived with an article on weeds, mother said, "Now we can find the names of all the weeds we pull in the garden." And we did, and enjoyed it no end because it gave us a way of communicating.

My father was interested in mushrooms, and when he discovered a new one, he made a spore print, then pulled out his copy of McIlvaine's *1000 American Fungi*. Together we studied the text and illustrations. I learned a lot about mushrooms but more important, I came to learn about books as places to go for information. I also learned about the importance of keeping records; for when we discovered a new mushroom, Dad recorded the time and place; and the next year he'd say, "We gathered oyster mushrooms on the dead log at the end of the field this time last year. Let's go see if we can find them again."

With this early background of discovering answers by observation and experimentation, learning to keep records, and using books as reference materials, I was hooked by the natural world at an early age and nothing could deflect me; but more important, I was well-equipped for rich living.

Today many children never have an opportunity to learn to discover their own answers, and gradually they lose interest in the "why" and "how" as they are fed other people's ideas during hours and hours of TV watching.

If schools are going to have a meaningful role in today's world, they must be more than dispensers of information and places to read; they must keep alive the natural spark of curiosity, they must nurture the ability to think, they must permit a child to grow.

Teachers with the vision and dedication to permit children to find out for themselves, to say, "Why don't you try it?" and to learn with the children, will find the school grounds an always-available natural laboratory, which can enrich any curriculum because it brings the real world into the classroom.