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About Society

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## **The Effects of Institutions on Human Behavior**

Curriculum Unit 87.05.03  
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The genes you are born with influence your behavior. Your social environment including your family, friends, school, and neighborhood also influence your behavior. The core of this unit will deal with those institutions as determinants of who we are, and what we become.

The purpose of the unit is to investigate the effects of institutions on human behavior. It will explore various niches that are encountered as man exists in the ecosystem and will discuss both the effects of heredity and the environment on human behavior. It is with this in mind that the stage will be set so that our primary goal is to provide a framework which can be related to our everyday ideas for our changing behavior.

The unit is designed to provide knowledge, understanding and awareness. It can be taught in grades five through eight. It will consist of subject content, lesson plans, a list of resources, field trips, a children's reading list, a teacher's reading list and a bibliography.

Teachers of any subject can use the unit as a springboard to help students understand themselves. It is hoped that the biology teacher will use the unit to teach a fundamental course in human behavior. The teaching time will vary, but it is suggested that the unit can be taught in two to three weeks.

### ***Introduction***

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It has been my impression that behavior geneticists have a gimmick rather than a theory. Some geneticists feel that organisms' individual differences are largely due to genetic variation and will continue to push this point. This has served to upset the environmentalists. Both seem to be in the same boat as anyone else: Up the creek without an over-all guiding theory.

Data from many species and many types of investigation support the view that hereditary influences upon behavior are not exceptional but are almost universal. The exact nature of the relationship between nature and nurture in the production of individual differences is not settled.

The general issue of the significance of genetic contributions to individual differences may be approached

through population genetics and through physiological genetics.

The first method seeks an answer to the question, “How much does genetics contribute?”, the second is oriented to the inquiry, “How does genetics make its contribution?”<sup>1</sup> The first question has no logical meaning when applied to an individual, for his whole genotype and total life experience contribute to every aspect of his behavior, and their influences cannot be separated. With respect to populations, however, one may ask how much of the observed variation in behavior is attributable to genetic differences and how much to environment.

Knowledge of heritability is paramount when one attempts to change phenotypes by selection. But, one can also change phenotypes by manipulating the environment, and here it is important to know how genotypes interact with specific environmental factors.

The population aspects of behavior genetics have not been widely studied with quantitative techniques. However, it appears that a great portion of the behavioral variability of both wild and laboratory races is attributable to heredity. Surveys of genetic variation and behavior in populations of small mammals would be very useful in developing general laws for the nature-nurture relationship.

In mammals and, more specifically, in man the adaptive nature of behavior is largely insured through the process of learning. Genetic variation provides a mechanism for adjusting to different environmental conditions including perhaps different social roles. However, the use of biological analogy should not be taken to mean that nonstandard behavior lies predetermined within us, but that the capacity for creative thought may enable an individual to meet the challenge of a new environment by applying culturally learned modes of adaptation in new ways. The modeling effect of society upon the individual and the creative effect of individual deviation from society’s norm both play an important role. Both modes of behavioral adaptation are the product of organic evolution through natural selections.

Natural selection differs in several important ways from artificial selection as usually practiced in laboratory experiments, it would be highly instructive to study the evolution of behavior in the laboratory using natural selection instead of directed selection. Such experiments would test the hypothesis that major changes in the nature of selection will always influence behavior in a relatively permanent fashion by changing the composition of the gene pool.

Our knowledge of human genetics is limited. It cannot determine the outcome of man in his environment based on genes alone. An organism can tolerate a fair amount of deviation from biological ideals or norms. The more variety it can tolerate, the broader the niche it will be able to occupy. So too a culture with a ready supply of diverse adaptive models will be able to adjust to changing conditions.

## ***Behavior***

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Behavior is not easy to define. It is sometimes described as a response to the environment. Perhaps the simplest definition is that behavior includes all the acts performed by an animal.

## ***Characteristics of Behavior***

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Behavior is selective. Out of a number of possible responses to an environmental stimulus, the animal makes one. This is not to say the animal chooses which response it will make. That is determined by a complex of factors, both internal and external. Behavior is a reversible response to the environment.

Another characteristic of behavior is that it can be more or less modified by experience. This is one of the definitions of learning.

## ***Sociocultural Environment***

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In much the same sense that man receives a genetic heritage which is the product of millions of years of evolutionary history, he also receives a sociocultural heritage which is the end product of many thousands of years of social evolution. This heritage varies greatly from one social group to another but the various cultures of the world have enough in common to enable us to talk about human culture. Every group, for example, has its language, family and social structure, customs, values, music, and art. These institutions are characteristically human and tend to be transmitted by similar means in every society. Group membership and instruction, status, role and interpersonal relationships are the chief means by which the sociocultural environment exerts its influence on individual development.

## ***Group Membership and Instruction***

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Each society teaches its concepts, values, and accepted behaviors to its children. This instruction is largely accomplished by social institutions such as the home, school, and church. Such systematic instruction, together with the examples set by adults or other models tends to make for some degree of uniformity and to establish what may be called the basic personality type of the particular society.

Societies can shape the development of their members in very different ways. The individual's basic personality structure is affected by the various subgroups to which he belongs—groups based upon his family membership, religion, occupation, social class, age and sex. Each subgroup tends to foster certain patterns which may in turn be subject to the restrictions imposed by society as a whole. The fact that each individual belongs to a somewhat different pattern of subgroups tends to produce individual differences, just as common membership in the larger cultural group makes everyone somewhat alike.

The groups with which an individual identifies, or with which he would like to be identified, are called his reference groups. It is in reference to their norms and values that he sets his goals, models his behavior, and evaluates his worth. Sometimes reference groups from which the individual is excluded have greater influence than membership groups.

## ***Status and Role***

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In every social structure there are a variety of distinguishable positions—doctor, teacher, carpenter, parent, student, child, and so forth. Each contributes in some way to the total group functioning and is given a certain social status. Status brings with it both privileges and responsibilities. Parents shape the personality development of a growing child by administering various rewards and punishments, society enforces its basic rules of behavior by conferring and withdrawing the privileges of status.

To clarify what is expected of a person with a given position and status, society establishes various roles for its members to play, each associated with a certain pattern of expected behavior. <sup>2</sup> Each person, young or old, tends to develop the skills, behavior, and values that his role seems to demand. If he deviates too far from what is expected from him, he is likely to run into difficulties in his social relationships. Society may even, revoke his status if it feels that his behavior violates the obligation of his role and is detrimental to the welfare of the group as a whole.

Everyone must play a great variety of roles, depending on the different subgroups to which he belongs. Usually the individual thinks of his various roles within the context of some broad role that he considers more important than others. The role with which he most closely identifies himself carries the highest status, or perhaps the one that seems to represent the personality type preferred by his society. The specific and sometimes conflicting demands made by each of the roles he plays are influential in shaping his development and behavior.

## ***Interpersonal Relationships***

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Man is a social creature. His personality development reflects his experiences with other people. Interpersonal relationships contribute to individuality rather than similarity of development, for no two of us have exactly the same acquaintances nor do we have an identical relationship with the people we do know in common.

Even parents relate to their various children in somewhat different ways. The experiences of love and hate, of friendship and distrust, of shared experience and misunderstanding which marks our association with other people are in each case unique.

Although we have many kinds of interpersonal relationships in the course of our lives, those that have the greatest influence in shaping our development are those with our parents and with members of our peer groups.

## ***Parent-Child Relationship***

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Parents may be warm and accepting or cold and rejecting, rigid disciplinarians or given to over indulgence. Each particular patterning of parent-child relationship tends to shape personality development in a somewhat different way. A child whose parents make him feel loved and wanted and who allow him freedom to be himself will develop a picture of himself and the world and patterns of behavior very different from those of a

child who feels rejected, misunderstood and unreasonably constrained.

## ***Peer Group Relationship***

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As the child grows older and participates increasingly in activities outside the family, his relationships with people outside his family become increasingly important in his development.

As the child reaches adolescent, his peer group becomes increasingly important to him. The adolescent's success or failure in winning social acceptance from both boys and girls is a major influence on his further development.

Although we have singled out parent-child and peer-group relations as perhaps the most important, it is apparent that many other types of interpersonal relationships with brothers and sisters, grandparents, teachers, and neighbors may play a significant part in shaping personality. Even a chance meeting with someone may change the direction of our lives.

## ***The Family As A Social Institution***

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In the 20th century there was considerable concern among sociologists that the family was losing its functions. In 1929 the American sociologist William F. Ogborn, reported that trends in American society indicated that economic, protective, recreational status-endowing educational, and religious functions of the family were being transferred to other institutions. The major function remaining in the family were affectional and procreative. <sup>3</sup> Other sociologists, such as Ernest W. Burgess, considered the shifting of a family functions to outside agencies as a form of adaptation to modern urban society. <sup>4</sup>

Following World War II there was a resurgence of interest in the family as a social institution. William Lloyd Warner indicated how family and lineage were closely interwoven with the social class system in contemporary society. <sup>5</sup> Other sociologists turned their attention to ways in which family life and kinship affected an individual's destiny. Assistance given by parents to their married children, visiting between kinsmen, and the organization of voluntary associations among relatives have suggested to social scientists that family and kinship institutions have retained important functions in modern urban society.

The relationship between social trends in modern society and the character of family and kinship is complex. First, some trends in society and family have continued in the same direction over a long time. Second, although other social trends have continued, their effect on family relations seems to be reversed after a certain point is reached. Third, still other social trends have changed and have produced corresponding modification in family and kinship.

The family affects characteristics of the society. Much of the study of family problems has come from the conception of the family as a unity of interacting personalities. This conception has stimulated research to discover those factors that disrupt family unity and create problems in interaction.

The role of the family in developing healthy personality attributes has received attention. Studies of children

in institutions show the necessity of mothering, such as carrying, touching, and talking to the infant to void emotional and intellectual deficiencies in young children. Lack of a father may also inhibit the development of appropriate behavior patterns in boys and girls. <sup>6</sup>

## ***School As A Social Institution***

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School is the setting for a major portion of children's lives. For well over a thousand hours a year, children are influenced by what happens there. It is important, therefore, to examine what the school environment is generally like for them and what aspects of it require change.

The most pervasive but often overlooked aspect of social life is its institutional quality. While it is commonly believed that the main concern of schools is instruction, schooling is a much broader experience than being taught what is contained in textbooks. Students learn not only facts, skills, and concepts but also rules of membership in a social institution. Often this learning experience may have greater impact on students ultimate well-being than do those experiences we commonly identify with the academic curriculum. The school's rule routine, and procedures form what has been called a "hidden curriculum" (Jackson 1968) designed to mold individual behavior to the requirements of institutional living. <sup>7</sup> This curriculum is necessary by the fact that personal interests can rarely be accommodated in schools. Students must often yield when their own wishes and plans inconvenience other people or interfere in other ways with the efficient operation of the school.

Spontaneous desires must often be held in abeyance until the proper time and place. Mastering the hidden curriculum is also made difficult by confusion as to what is expected when institutional requirements conflict with educational demands. It is common for students to be expected to be passive and conforming in school and yet at the same time intellectually curious and aggressive.

Membership in school requires a set of psychological adjustments. One of these adaptations is learning to live in school without the assurance of the adult acceptance that children take for granted at home. Teachers after all, cannot be as intimate and patient with their students as parents can be with their children.

When students are viewed in terms of their I.Q. achievement test scores, social class background, and conformity to classroom rules and procedures, the possibility that they will be stereotyped rather than seen as individuals is decreased. All too frequently these categories are merely used by teachers to make quick predictions about a child. If the predictions are negative, the temptation to ignore or reject him is great. What we need are conceptions of the teaching-learning process in which teachers would not have to depend so greatly on tight categories of perceiving children. Without this dependence, teachers might be less threatened by these traditional indices of what to expect from students and thus more open to who they really are.

A second demand made in schools is that students manage their lives in highly congested social environments. We confine students to quarters in which their ability to stretch their feet, walk around, and spread out their possessions is limited.

Because classrooms are crowded places, students are usually required to do things together most of the time. Individually, they have little opportunity for private action. Personal pursuits sooner or later conflict with the teachers rules or the wishes of classmates. As a result of crowded conditions, a sense of privacy and

individuality is difficult to achieve. In an environment which is essentially unresponsive to individual differences, according to Adams and Riddle (1970), one student is practically indistinguishable from another. <sup>8</sup>

Schooling is, thirdly, and experience in withstanding continual evaluation of one's words and actions. Probably in no other setting is one so often judged as a person. To make matters worse, these judgements are typically voiced before an audience of peers. As

Dreeben (1968) suggests, classroom praise and criticism, although intended to help the learner, may threaten him instead. <sup>9</sup>

To cope with this threat to their self respect, many students find it necessary to devote their mental energies to strategize how to avoid failure and shame. The strategies they use depend on the intensity of that threat. Those whose position in the class pecking order is secure maintain the teacher's favor by zealously complying with the academic and social expectations of the school.

When we witness students in school laughing, daydreaming, or complaining, it is hard to believe that many of them are apprehensive. The problem of observing the apprehension created by classroom evaluation is that children respond to it in ways which disguise their real fears. However, it is visible if one looks closely enough. It is reflected best in the choices apprehensive students make in the classroom. If the teacher's judgement did not threaten them, they would choose to use their mental energies to tackle new ideas rather than scheme how to hide their shortcomings.

School is a place where children are not accepted at their present stage of development. Growth is expected. But children grow only after they feel safe that is, they seek out new knowledge most fully when they are convinced that penalties will not be invoked if they fail. Failure itself is not anxiety producing. The persistence which infants show in their attempts to master the environment suggests that human beings are not naturally afraid of failure. It becomes a problem when a person believes he will lose something of value to him if he does not succeed. The problem is how students can be evaluated so that their successes and failures are viewed as helpful information rather than as indications of reward and punishment.

A fourth condition to which students must adjust in school is the pervasive authority of school personnel. Even in schools where students have voice, the privilege to do so can be withdrawn at any time. If students are dissatisfied with school's decisions, they have no official power to press their grievances. In short, the school authorities are very much in control.

When we think of a man with character and personal strength, we think, in part, of a person who recognizes desirable qualities in others who is loyal to those he befriends, and is able to give help as well receive it. We frown on a man who exploits the weaknesses of others, who submits too readily to those more powerful than he, or who envies his peers. The social attributes which students are encouraged, intentionally or not, to adopt in schools are more likely to create the latter man. If we want schools to help children learn how to build human relationships as well as develop academic skills, we must be careful not to put students in a position which makes it difficult for them to respect and cooperate with each other.

Our concern might depend on the extent to which we tolerate conditions in our adult lives, in our responsibilities at work and in our relations with the major institutions of society. It might be helpful, to assess the psychological quality of schooling by asking what kind of images of themselves children develop as a result of going to school. Does their schooling help them to believe in themselves, that is to see themselves as competent, resourceful, capable of altering some parts of their environment? If children do not form positive

views of themselves as a result of their schooling, we are obligated to rethink how schools can be organized so that children will view them as a valuable resource in their lives.

## ***The Community As A Social Institution***

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The community is one of the oldest forms of human social organization. The private individual has little value apart from the group. The family is responsible for an individual's behavior, and this behavior is determined by sharply defined traditional roles based on age, sex lineage, and family position. Thus, individual choice and rational decision making are precluded.

The community regards itself and its traditions as divinely created, and the elders of the community are highly respected as the transmitters of this sacred tradition, ceremony, and ritual. Violation of tradition results in ostracism or even death.

The ideal type of community emerges as an intellectual concept when social change threatens to destroy a locality's isolation, traditionalism, and social solidarity, and the decline of the community has been a recurrent theme in theories about society from ancient to modern times. This decline has been attributed to contacts with other cultures because of depletion of natural resources, trade, conquest, the growth of city and national states, industrialism, mass transportation and communication, mass democracy, and the emergence of mass society. The ideal type of community is considered to create social and psychological limits on the individual that constitute boundaries within which he can comfortably live. The decline of the community is reputed to destroy these boundaries of self and create a sense of loss that results in personal alienation or social disorganization.

The rise of modern mass industrial urban society has undoubtedly destroyed the "natural boundaries" created by social isolation. But the need for a sense of limits within which personal identity and response can be expressed has led to the construction of "discretionary communities", where the psychological benefits of community life can be gained without recourse to the social isolation of an ecological community. These newer forms, including occupational and professional groups, neighborhood groups, social cliques, and ethnic, political, and purely cultural groups, become the functional equivalents of the older, ecological, isolated community, and they make it possible for their members to avoid the social and psychological problems of an infinite, multidimensional mass society. Their members can find a focus for their relations, loyalties and interests. <sup>10</sup>

## ***Lesson Plan I***

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### **Society and Institutions**

The largest group to which a person belongs is a society. A society refers to all the people who live within a certain geographic area, share a common way of life, and have a feeling of solidarity that binds them together as a unit. The most familiar societies are nations with formal governments. When we speak of American society, for example, we usually mean all the people who live in the United States. However, not all societies



are nations. Many tribes with fewer than a thousand members comprise complete societies. They have their own languages and unique life-styles that they pass on from generation to generation.

Every society, whether large or small, has certain basic needs that must be fulfilled if it is to endure. Among these needs are: to create new members so as to replace old members as they die, to train the young and instill in them the norms and values of the society; to explain the meaning of existence and reinforce moral values; to provide food and shelter; to maintain order and security.

In simple societies, these needs may be met by the group without any formal organization. For example, the young may be trained without schools. But as societies become more complex, they form patterns to meet their basic needs. The distinctive and stable pattern of norms, values, statuses, and roles that develops around a basic need of a society is called an institution. Five major social institutions are:

1. The family. The institution that is responsible for replenishing the members of a society, regulating sexual behavior, and providing for the rearing of children.
2. Education. The institution that is responsible for teaching children the values, norms, roles, and the accumulated knowledge of a society.
3. Religion. The institution that is concerned with explaining the meaning and purpose of life, offering hope for the future, and providing moral guidance.
4. The economic system. The institution that is concerned with the production, distribution, and consumption of goods and services in a society.
5. Government. The institution that is responsible for maintaining order within a society, enforcing its norms, and protecting it from outside enemies.

The five major institutions usually compliment each other, and often their functions overlap. In our society, the family, school, and church or synagogue all teach moral values to children. Cooperation between two or more institutions is often essential if they are to succeed in their goals. The educational system depends on parents to prepare their children for school work. Parents depend on the schools to educate their children and prepare them to take their places in society. The public schools depend on government for their funding.

Institutions may also be in conflict with each other within a society. For example, the government's desire for environmental protection may conflict with the economic system's desire for maximum profits and productivity.

## ***Social Control***

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Every group seeks to encourage conformity to its norms. Any process that helps to achieve this end is a form of social controls. Without social control, social patterns would fall apart. Probably the most effective process of social control is something that we usually call our conscience. Most of us do not steal, for example, because we have been taught-and believe-that stealing is wrong. "I wouldn't be able to live with myself," we might say when we are tempted to do something wrong. When we conform to rules because our sense of self-respect demands it, the process of social control is internal.

Because internal social control doesn't always work, groups also apply external pressures to persuade or compel members to conform to their rules. Thus, teachers may assign detention hall, parents may deny car and dating privileges, students may gossip about each other, and employers may withhold raises. The most visible form of external social control is exercised by people and organizations specifically empowered to enforce conformity to society's laws. Policemen, judges, and prison guards are the most obvious agents of external social control. When social control takes the form of punishment, sociologists call it negative sanction.

The following article from the New York Post shows how a group may use social control to enforce its standards:

Birmingham, England-When 58-year-old Arthur Steele retires from the Birmingham main post office in two years, he will have gone three years without a single workmate having spoken to him. It is an almost monastic ordeal by silence for postal driver Steel, who made the mistake of working for four-and-a-half hours on the day the national postmen's strike started in January 1971. Since then, for a whole year, he has been ignored officially at work and there is unlikely to be any letup. Mike Edwards, secretary of the Birmingham postmen, make this clear. He said, "We are not prepared to forgive and forget."

Group norms aren't always enforced by imposing negative sanctions. Conformity to norms is often gained by offering rewards. A soldier who shows courage in battle may be awarded a medal or promotion. A student who shows outstanding abilities may be elected class president. All such rewards are meant to encourage behavior that groups believe is desirable. We call these rewards positive sanctions.

## ***Activity***

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Describe the form of social control and the type of sanctions which would probably occur in the following situations:

A student turns in another student for cheating.

A student turns in a lost wallet containing \$20.

A student answers a teacher's question with a wisecrack.

## ***Lesson Plan II***

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### ***Home Living***

Complete six activities.

1. Make something to show a family's life story.

Label important events in the family (birth of children, a move, starting school, marriage, divorce, graduations).

Select two of the events and discuss with others the changes they made in the family.

2. Watch several television programs or movies about families. Look for the jobs each family member does, the way decisions are made, discussions between adults and children, the ways families share and help each member, and how they solve problems. Talk about how the families were like or unlike families you know.

3. Do something extra special on several occasions for each person in your family without their knowing about it. Share what you did with your class and tell what the reaction of each person was (if you know it).

or Make a traditional holiday craft object from your own family's heritage. Plan a way to tell others about this item.

4. Find out about several agencies that help families in the community.

Find out about the people who work in these agencies, the kinds of help they give to families, the training and education they need, and their salary ranges. Add the information to your journal.

5. Take a look at household tasks with family members. Talk about each person's responsibilities and activities outside the home (jobs, school, hobbies, volunteer work, etc.). Then list the tasks done at home and plan ways to cooperate and share to get the work done. Follow your plan for several weeks, revising it if necessary.

6. Make up a skit, short story, or picture story about family life 15 years from now. Include people you would like to be there and what each person might be doing.

7. Collect pictures and/or stories from newspapers and magazines that show how families spend their time and money. Include pictures of families from your own city or town and state and from different parts of the United States and the world.

Discuss which customs are like or unlike your family's. Why do you think this is so?  
Share your finding with others.

## ***Lesson Plan III***

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### ***Field Trips***

#### *My Community*

Complete four activities

1. Plan a walking tour or bike tour of your area. Figure out the interesting, beautiful, and/or unusual things to see along the way.

Design a pamphlet to describe the tour and include a map and/ or careful directions and illustrations or photos, or you can lead a group on your tour.

2. Explore the richness of the many peoples of your community or country by visiting the library, historical society, town or city hall, places of worship, museums, state or country fairs, restaurants, delicatessens, bakeries, and/or specialty stores. Find out about the unique contributions made to your community by individuals and/or groups of people. Share what you have learned with your class.

3. Look carefully at the pedestrian and vehicle traffic flow at two or more points in your community. Choose one point in your community where you think you might change and improve the traffic flow. Design a diagram or model to show you ideas.

4. What does your community produce or provide that other parts of the country would miss if your community disappeared overnight? What do other communities or other parts of the world produce that you could not be without? Think of the many products or services originating in your community and those which must come from outside. Design a display to tell about everyone's interdependence-what other depend on from your community and what you depend on from communities near and far.

5. Preserve one or more buildings with pictures or photographs. Mount a display of your pictures or photographs.

or Plan and guide a walking tour to include these buildings.

6. Locate an early map of your town or area and compare it with a present-day map. Look for areas that have remained the same and those that have changed. Construct something that shows the changes in your community.

7. Add your own activity here, if you wish.

## ***Lesson Plan IV***

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### **Natural Environment**

Your world is more than people and buildings. The air, land, water, plants, and animals are part of your world. They are part of your natural environment. You can help make the environment better for you and all the other living things you share it with. Do the activities below to learn more about your environment.

#### **Activity I. Adopt A Tree**

Adopt a tree and learn as much as you can about it. Look at it. Touch it. Find out what kind of tree it is by studying its trunk and leaves or needles and then trying to find the same kind of tree in a guide to trees. Your library may have such a book. Watch how the tree changes through the year. Do animals live in it or use it in some way?

## ***Lesson Plan V***

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### **Mini-Environment Study**

Get a piece of string about two feet long. Go outdoors and find a grassy area to study. Lay the string in a circle on the area. The inside of the circle is your mini-environment. Sit next to your minienvironment and study what is happening inside your circle of string. What's there? Are there plants? Are there animals? What does the soil look like? Are there rocks? What colors do you see? See if anything changes or moves. Look at your mini-environment with a magnifying glass.

## ***Lesson Plan VI***

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### **Care Of An Animal In The Laboratory**

Ecology also involves the interrelationships between animals and plants and animals and the physical environment.

#### *Student Activities*

**Activity** *Take care of an animal in the laboratory through one life cycle, or at least for several weeks.*

- A. Choose an animal to care for.
- B. Refer to the Reference Booklet on Animal Care and other references for information.
- C. Obtain the animal and raise it in the laboratory.

## *Summary*

- A. Make an oral report of information gathered on each animal to share information.
- B. Make a written report of information gathered on each animal to be used as a reference by others.

Beginning the animal unit in first semester creates the following problems: During Christmas vacation and semester break the animals are left without care or to the teacher's care. Student interest in the labor of cage care begins to wane after a few months. At the same time, they become personally attached to their animals (despite efforts to teach objectivity) and will not tolerate the removal of the animals from the classroom even though the needed data has been collected and tedium for their care has set in.

Beginning the animal care unit in February or March avoids all the above problems. Student enthusiasm for their animals is still high by the beginning of summer vacation so that the year ends on a note of enjoyment of the project. At the same time the arrival of summer necessitates the termination of the project, thereby placing the onus of getting rid of the animals on the calendar instead of on the arbitrary decision of the teacher. Also, it is useful to have a project with commands high interest, as animal care does, in the latter part of the year when other academic interests begin to slump.

### *Student Activities*

Insist absolutely that cages, food, and the care chart are in the classroom and ready BEFORE the animal is brought in. It is intolerable that a teacher be required to supply a temporary cage and food for a mouse which an overenthusiastic student brings in before preparing to care for it.

Ordinarily, students can supply their own animals, preferably by catching them in the local environment. A few, such as fertile eggs for incubation, need to be supplied by the teacher. Students supply the food for their animals unless the school has a petty cash budget.

To obtain fertile eggs (chicken, duck, etc) write to your State Agricultural Department, capital of your state, and request names of producers of eggs you desire.

### *The Animal List*

The unit on animal care usually needs no special motivation. Rather it usually needs holding down to manageable proportions to prevent the classroom from overflowing with cages and tanks from floor to ceiling.

To keep things manageable, limit the type and number of animals permitted in the classroom. From the extensive list below, make up your own list for distribution to the students. In your first year of conducting this unit, your list of permitted animals may properly be quite limited. As you acquire more equipment, more teaching know-how, and accumulate a backlog of animal references and reports, your list can become more extensive.

Asterisks indicate animals which are important in future biological work.

## Tank Animals Cage Animals

\*guppies chicks, quail, other fowl  
other tropical fish small mammals (mice, etc.)  
\*tilapia skinks, geckoes, chameleons  
small marine fish other small vertebrates  
sea urchins  
sea anemones  
sea cucumbers *Insects*  
other marine invertebrates  
\*crabs (hermit, rock, mole, etc.) \*fruit flies  
snails, (all kinds except African) grasshoppers, crickets  
\*tide pool animals \*cockroaches  
planaria butterflies, moths  
tadpoles dermistid beetles  
\*daphnia grain and cereal beetles  
\*brine shrimp praying mantis  
protozoans stink bugs  
fresh-water mud dwellers meal worms  
marine mud dwellers mosquitoes  
turtles aphids  
crayfish ants  
any other available animal bees  
termites  
any insect which is a local pest at the moment

## Terrarium Animals

toads and frogs

sow bugs (isoped)

spiders

earthworms

## Resource List

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All audiovisual materials listed are available from the Department of Audiovisual Education, Wexler Elementary School, 209 Dixwell Avenue, New Haven, Connecticut. Materials may be ordered on special forms available in each school, and these materials will be delivered to the school and collected.

### Motion Pictures:

*Families* —10 minutes—color—(MH)

Done in animation, the main theme of this film has to do with the interdependence of all human being everywhere.

*Happy Little Hamsters* —14 minutes—color—(pim)

Uses line photography to show a female hamster, Naomi, during her courtship, motherhood, and raising of eight baby hamsters. The day-to-day development of the hamster litter from birth to maturity is documented.

*Home and Away* —26 minutes—color—(MH)

At the age of five, a child usually has his first major confrontation with the outside world when he enters school. It is a giant leap for most children. This film shows how these children can be helped to make an adjustment. It also looks at others who take this crucial experience in stride.

*Human Heredity* —22 minutes—color—(MH)

Uses live action photography and animation with touches of humor to present basic facts and principles concerning human heredity and the influence of culture and environment on behavior and attitudes. Show a class as they discuss the influences of heredity on human form.

*Nature In The City* —13 minutes—color—(pi)

Designed to encourage children to investigate plant and animal life that has adapted to the environment of the city. We investigate the trees, plants and flowers which by their interrelation with the animals form an important part of the ecology of city.

*People Are Different And Alike* —10 minutes—color—(pi)

Shows the people of different lands and climates as they go about their daily activities.

Emphasizes that although mankind varies in racial and cultural traits, there is an underlying similarity in basic needs. Contrasts the cultural differences of world groups and points out that they are often arbitrary and superficial.



## Field Trip Sites In Connecticut

The field trip sites listed in Appendix K, were extracted with permission from three documents. For additional sites, consult these documents.

Connecticut State Department of Education, Energy Resources Inventory for Connecticut Educators. Hartford, CT: 1980

Connecticut Department of Environmental Protection. Connecticut Directory of Environmental Organizations. Hartford, CT: 1980.

Tobin, Michael F., editor. Field Trip Guidebook. Hartford, CT: Elementary School Principal's Association of Connecticut, 1979.

Air Quality Monitoring Stations, Air Compliance Unit, Department of Environmental Protection, Hartford, CT 06115

American Indian Archeological Institute, Aertis Road, Washington, CT 06793

Audubon Center in Greenwich, 613 Riversville Road, Greenwich, CT 06830

Barnum Museum, 820 Main Street, Bridgeport, CT 06604

Beardsley Zoological Gardens, Noble Avenue, Bridgeport, CT 06110

Bradley Air Museum, Bradley International Airport, Windsor Locks, CT 06096

Bristol Regional Environmental Center, Wolcott Road, Bristol, CT 06010

The Children's Museum, 567 State Street, New Haven, CT 06510

The Children's Museum, 950 Trout Brook Drive, West Hartford, CT 06119

Connecticut Audubon Society, 2325 Burr Street, Fairfield, CT 06430

Connecticut Trout Hatcheries, Burlington, CT 06013: Central Village, CT 06332: Kensington, CT 06037

Connecticut Humane Society, 701 Russell Road, Newington, CT 06111

Connecticut Yankee Energy Information Center, Haddam Neck, CT 06438

Denison Pequotsepos Nature Center, Mystic, CT 06355

Dinosaur State Park, West Street, Rocky Hill, CT 06067

James L. Goodwin Forest Conservation Center, Potter Road and Route 6, Hampton, CT 06247

Lutz Junior Museum, 126 Cedar Street, Nanchester, CT 06040

Museum of Art, Science and Industry and Planetarium, 4450 Park Avenue, Bridgeport, CT 06604

Mystic Marinelife Aquarium, Coogan Boulevard, Mystic, CT 06355

The Nature Center for Environmental Activities, Inc., 10 Woodside Lane, Westport, CT 06880

Naval Submarine Base, New London, Groton, CT 06340

New Britain Youth Museum, 30 High Street, New Britain, CT 06050

Norma Terris Humane Education and Nature Center, Salem Road, East Haddam, CT 06423

Old MacDonald's Farm, Exit 13 off New England Thruway, Norwalk, CT 06856

Peabody Museum, Yale University, 170 Whitney Ave., New Haven, CT 06520

Elliot Pratt Education Center, Inc., Papermill Road, R.R. 1, New Milford, CT 06776

Project Oceanology, Avery Point, Groton, CT 06340

Roaring Brook Nature Center, 70 Gracy Road, Canton, CT 06010

Solar heating, wind generator, computer controlled heating, Southern New England Telephone Co., New Haven, CT 06506

The Stamford Museum and Nature Center, 39 Scofieldtown Road, Stamford, CT 06903

Stevenson Hydroelectric Station In Monroe, Northeast Utilities, P.O. Box 1337, Stamford, CT 06094

Talcott Mountain Science Center, Montevideo Road, Avon, CT 06001

The Tale of the Whale Museum, 3 Whale Oil Row, Huntington Street, New London, CT 06320

The Thames Science Center, Gallows Lane, New London, CT 06320

## **Books For Children**

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Laubar, Patricia, *What's Hatching Out Of That Egg?* New York: Crown Publishers, Inc., 1979.

Paton, John (ed. *Children's Encyclopedia Of Science*, Chicago, Ill.: Rand McNally & Co., 1977.

Robert, Mervin F., *Your Terrarium*. Neptune, N.J.: TFH Publications, Inc., 1963.

Thompson, Stephanie, *Know Your Human BOdy*. Chicago, Ill.: Rand McNally & Co., 1977.

Wyler, Rose, *Science. Golden Exploring Earth Book*, Racine, Wis.: Western Publishing Co., 1973.

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Blackwelder, Sheila, Science For All Seasons: Science Experiences For Young Children. Englewood Cliffs, N.J.: Prentice Hall, Inc., 1980.

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1 John L. Fuller, Behavior Genetics (New York: John Wiley & Sons, Inc. 1960) p. 317

2 James C. Coleman, Personality, Dynamics and Effective Behavior (Chicago: Scott, Foresman and Company 1960) p. 55

3 Bernard Farber, Encyclopedia Americana (New York: Americana Corporation 1974) p. 6

4 Ibid, p. 6

5 Ibid, p. 7

6 Ibid, p. 6

7 S. Erdle, Personality, Classroom Behavior, and Student Ratings of Teaching Effectiveness, A Path Analysis (Journal Educational Psychology, August 1985) pp. 394-405

8 Ibid, p. 406

9 Ibid, p. 407

10 James M. Mahan, The Education Digest, "Linking The Community To Teacher Education, (Ann Arbor: Prakker Publications, inc. January 1984) pp. 58-60

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