

Where do the children play?  
On Adventure Playgrounds!

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## INTRODUCTION

Our cities are expanding so fast they are destroying play spaces for children. Not too long ago, children who lived in the city rode on its buses, knew its shopkeepers, and watched its workers. Urban lots gave children places to run and dig, build canals and dams, and construct forts and club houses. Fences around construction sites had holes cut through so children could watch the crane, the bulldozer, and the concrete masons. The city was a place both for adventure and for learning.

But today, city streets and freeways slash through the urban landscape. Gone are the urban lots and the workers who knew the neighborhood children, the caretakers who instilled community values without demanding or expecting parental obedience. Instead, we have urban centers devoid of children, apartment complexes which do not permit children, or do not provide play spaces for the ones they do permit. Potential play areas like schoolyards and vacant lots are littered with trash and broken glass. Neighborhood streets carry increasing loads of traffic. Adult work places no children. And, increasingly, the potential of an Atlanta.

The world of the adult and the world of the child are separating. The child's play spaces are disappearing, and the children turn to electronic game centers.

Not only is the community guilty of child neglect. Children's days are spent in classrooms where they are seen as passive recipients of information and teacher guidance. Field trips have become luxuries. Neither real life adult experiences, construction projects, nor active playgrounds are provided.

At home, the family is feeling the pinch of hard economic times. Child abuse, which is more prevalent than any of us know, and child neglect, which is surfacing as a problem of even greater magnitude, are on the rise. Mommy and Daddy, of necessity, have gone to work. The pace of whatever homelife there is is often so frantic that the children are rushed, over-scheduled, and over-stimulated. Television has become a pacifier, an alternative to family meals, discussions, and activities.

How are children responding to these transformations?

Many survive and presumably prosper. But there are an increasing number whose lives are altered forever by the social and physical transformation of the urban landscape.

Two patterns of response are particularly frightening and may help explain a whole range of child behaviors: helplessness and alienation.

Across a whole range of modern living situations, children do not control or have direct responsibility for their own actions. At school they are told what to do, when to learn, and how to learn. There are reasons for everything. Some children are supervised constantly. Many have to be driven everywhere rather than bicycling or walking. Summers are a problem with all those extra hours to fill. Toys are increasingly completely finished and require little imagination. Television consumes an enormous amount of a child's time. As a result, they may know a lot, but they may be able to do very little. Such dependency makes many feel helpless.

Psychiatrists tell us that learned helplessness is a response children exhibit when they perceive that significant events are beyond their control or ability to predict. Children become helpless when they perceive that their own behavior does not affect either rewards or punishments. Rather than fight, or think, or continue to try, children give up, become passive, and remain totally dependent. They suffer a severe loss in self-esteem. Learned helplessness in childhood may lead to depression in adulthood. According to Dr. John Watson,

The perception of having no control is no longer viewed as a symptom of depression, but rather as its most fundamental cause.

In fact, the incidence of clinical depression among children is increasing. According to the Texas Institute for Families, referrals for psychological evaluations for children and parents are on the rise. Suicides of children under 14 years old have increased many hundreds of times in the past 15 years. And pre-teen drug use, the ultimate pacifier, is penetrating deeper and deeper into the elementary grades.

The lack of motivation may be the core of such problems as crime, drugs, apathy, and misuse or rejection of responsibility. Wolfgang Edelstein has pointed out that:

motivation has to do with the autonomous exploration of the physical and social world (including the self).....Obstacles to exploration subvert the dynamics of development....Motivation then tends to be replaced by anxiety and apathy...Learning turns meaningless--and alienating.

Alienation manifests itself in many ways. FBI statistics reveal that 50,000 children every year disappear from their homes, and more than 150,000 youths run away each year. The fastest rising category for major crimes are those committed by children under 15. Kenneth Wooden, in Weeping in the Playtime of Others, cites Paul Lerman who found that 57% of the youth offenders brought before the courts in 19 of the largest 30 cities in the US were charged with serious felonies: homicide, forced rape, armed robbery, aggravated assault, and theft.

In 1973, Senator Birch Bayh reported to the Subcommittee on Delinquency that:

On any given day, there are close to 8,000 juveniles held in jails in the United States. It is estimated that more than 100,000 youths spend one or more days each year in adult jails or lockups.

Even more frightening are the increasing number of crimes committed for no apparent reason, such as this one reported in the Houston Post:

Two fifth-graders Thursday told arson officials they set fire to Burrus Elementary School "because they didn't have anything else to do".

Every school in the Houston Independent School District system was damaged by vandals in 1980. What can we do to solve this quiet crisis to reverse this devastating loss of potential? Our own belief is that the developmental needs of children should be the cornerstone of any policy that seeks to address these problems--only a better understanding of the lives and needs of our children will give us the directions for providing and building for them.

Primary among the needs of children between two and twelve are discovery, exploration, and growth of competence and mastery within the physical and social worlds. This requires constructing, experimenting, taking risks, and imitating real life processes with the caring support of adults. From such experiences, the young child can be expected to grow toward adolescence with a sense of personal power--competence in the physical and social world as well as a sense of cooperation.

Unfortunately, as we have seen, the environment where children are expected to spend most of their time (schools, daycare centers, extended day programs, local parks, in front of the television or video games) does not provide those crucial opportunities for exploration and mastery.

Our hope is that communities will realize that this gap does exist and will search for services which can provide these valuable experiences for children.

To that end, we would like, in this book, to encourage schools, parks and recreation departments, and childcare providers to develop adventure playgrounds--places where children, under the watchful eye and helping guidance of trained adults, can move things around to their own liking, where they can build and experiment, where they can develop self-reliance and self-mastery, and where adventure begins with a smile.

Children will run freely and feel the wind, trying to do everything at once. They try to get their minds around all the options for activity. But soon their interests cause them to choose one place to begin; then the transformations become clear. On top of smiles, we see absorption and commitment, and stretching of personal capabilities. A house rises. A tunnel is completed. A play emerges. A difficult climb is made.

A four-year old convinced that he could build nothing, and feeling helpless in a carpentry center, emerges an hour later with a painted wooden lion and calls

to his father, "Look what I can do!" Children attracted to a huge earthen slide stay to help younger children, take them for rides, and experience pride in managing the operation. Children swinging watch longingly at others traverse rope walks, and then slowly and cautiously try those ropes for themselves, mastering both the ropes and their own fears. Whole families spend hours in the carpentry center building doll houses, model airplanes, doghouses and furniture for children's bedrooms, all the while growing a sense of family unity as well.

Out of many such moments of growth, children come to feel their personal power. They share many cooperative efforts and carry out real tasks which contribute to the life of their own community.

The idea of the adventure playground is not new to Europe, having been developed in the 1930's but it is relatively new to the United States. In cities where these playgrounds have been tried, vandalism and apathy have decreased, and community and youth participation has mushroomed. Thousands of children who otherwise would have been watching TV, playing pinball or video games, or remaining alone and unsupervised have had creative, constructive experiences which expand their competence, broadened their ability to cooperate, and involved them in productive efforts. After having studied the adventure playground and having evaluated our own experiences in building and operating one, we have come to believe that the adventure playground is a positive expression of a community's care and respect for its children.

In fact, it now seems clear that to provide children with constructive opportunities, conscious community planning is required. The adventure playground provides a model for the community involved in its children's growth. It can be a community resource for the education and development of children into competent and compassionate people. We hope in this book to provide enough details on both the need for such experiences and on how to develop such a program.

To do so, this book is divided into three sections.

The first section establishes the developmental needs of children, based primarily on the work of Jean Piaget. It also looks at what current child services can and can't provide to meet those needs.

The second part relates the history of the adventure playground concept, details the specifics of planning and establishing an adventure playground and discusses the role of the playleader as both provider of experiences for children and advocate in the community for their special needs.

The final section describes our own experiences in developing and operating an adventure playground at Mountain Park in Houston. Though by no means a blueprint, our experiences should help proponents of the adventure playground identify various elements, material requirements, and maintenance and safety considerations which are relevant to establishing such a play environment.

Having seen the smiles on the faces of thousands of children, and all that grows after the smiles, we have learned that playgrounds can be much more than

a place to blow off steam or keep children off the street and out of trouble. As teachers, we recognize that there are limits to the opportunities school experiences can provide. So we hope that schools will try to incorporate features of the adventure play concept into their afterschool programs, that recreation leaders will recognize such play as an option for the creation of new play spaces for urban children, and that community leaders will view adventure playgrounds as a tool in meeting the challenge of integrating metropolitan youth into the life of the city.

Any community which expresses care for its children through building an adventure playground will be rewarded with miles of smiles, and a lot of growth as well.



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PART I

OUR CHILDREN'S DEVELOPMENTAL NEEDS:

ARE WE MEETING THEM?

"The dream: an institution, its staff and members working together, giving a group of children the means, the encouragement and the freedom to be themselves....Little is required beyond professional direction, a place to meet that will let fantasies and ideas come alive, and a strong enthusiasm for children. If this comes under the heading of a special pleading, so be it. Children today need all of that they can get."



## Chapter 1

### The Developmental Needs of Children

#### Introduction

Children's needs must be met if they are to grow into fully compassionate and competent people. Needs vary according to age and situation, but there are stages, transitions, and guidelines which we can observe. The needs of an infant differ from those of a child, and those of a child differ from an adolescent's. A framework for understanding these needs, such as the one provided in this chapter, may help educators, parents, and recreation leaders push for programs designed to best help a child grow and develop.

#### Infancy -- The Growth of Security

The world of the newborn infant is unlike any other reality. Tucked in our memories resides the knowledge that we were once as gods, encompassing the whole of reality. Everything existed for us, and everything was us. Omnipotent is not quite the right word, because power was not an issue. When you are everything, you need power over nothing. Such is the world of the infant, whose sole job through its early life is to regulate his or her existence, to learn when to be hungry, when to feel pleasure and pain, how to coordinate the rudiments of body movement, and how to coordinate action as a first form of thinking. Jean Piaget calls this period of life "sensorimotor operation." The senses unfold, develop, extend, and are regulated by the child in an entirely egocentric manner.

As any new parent can attest, an infant's attention is self-oriented. When something disappears from view, it ceases to exist for the child. Beyond sensation, nothing exists.

In this period, the child needs quite literally to be reassured that it was all right to be born. As when a mare helps her colt get its feet and makes sure it gets fed, so too must the human parent see to the child's basic needs and help orient this new resident to the world. The sensorimotor period can be seen as one in which parents help the child find its legs.

What is clear about the mood and content of this time is its obviously preparatory nature. The child is getting the machinery in order. The parent is reinforcing the child and contributing to his or her power, strength, and sensibility so the child is able to continue its very existence. The child needs an ally and bonds emotionally and cognitively to dominant adults at the same time adults bond to children. This mutual bond and dependence is critical in the initial years of a child's life. The next job of the parent is to help the child with the task of discovering the world.

## Children -- The Growth of Personal Power.

Usually just as the child starts to move about freely, he or she makes a startling discovery: objects exist independently. Though it will take years to consolidate, and though all of us fail to incorporate it completely, this discovery marks the beginning of a whole new stage of existence for the child.

Reality splits. Instead of one world which is all child, there are now two worlds: the child, and everything that is not the child. In discovering the independent existence of the external world, the child discovers its own existence.

Adults begin to notice that "our child is becoming a person." And this is true from the child's perception as well. This discovery of independence is critical, for it gives the child a work agenda for at least the next ten years.

Survival necessarily dictates that the child understand what the external world is. Children must find out its potentials, dangers, and reasons so they can answer the question, "How will I survive?" The task of the child is to come to know the external world, and himself or herself as a person in that world. Time, space, causality, consequences, social relations, movement, speed and morality--all must be explored so the child can build a world that works well for him or her and which maintains his or her real and psychological existence.

How is this exploration to be pursued? Piaget tells us thought and intention are always expressed concretely by young children. If the chore of two- to twelve-year-olds is to create a functional concept of the world, then they must literally create the world, a fact we should take seriously since it reveals the primary chore of childhood. Concepts are not best learned by children through verbal or abstract generalities, so they must be acted out and constructed by them. They know only what they can experience, only later gaining the ability to control action through abstract thinking. As Herbert Ginsberg writes:

The single most important proposition that the educator can derive from Piaget's work is that children learn best from concrete activities. . . . One of the major sources of learning, if not the most essential one, is the intrinsic activity of the child. The child must act on things to understand them. . . . Children must have a chance to be active, to touch and feel things, to find out what they do, to explore and so forth. This is what real knowledge is about. . . . Higher levels of understanding--intuitive and verbal--depend upon the lowest; that is motor. Manipulation of things is a prerequisite for higher verbal understanding.

Piaget is not alone in these findings. Jacques Maritain writes in Education at the Crossroads that:

education must start with experience in order to complete itself with reason. . . . The intelligence of man is not only in his head, but also in his fingers. Not only does manual work further psychological equilibrium, but it also furthers ingenuity and accuracy of the mind and is the prime basis of artistic activity.

With this theoretical basis, it becomes clear, as Joseph Chilton Pearce explains, that nature has designed a child to be able to structure a knowledge of the world:

It takes years because the world is filled with many things and its processes and principles are strict. The child is programmed to interact with the actual world; a place of rocks, trees, bugs, sun, moon, winds, clouds, rain, snow and a million things; a world that runs on principles where cause and effect balance, where 'fall down go boom' means skinned knees, where 'fire burns' means don't touch.

The child needs to learn how to interact physically and mentally with the world to insure his or her own physical survival. Oftentimes, adults seek to guarantee children's survival so as to send them on to higher level thinking tasks, but is such accelerated development beneficial for children? Piaget says children's development must be grounded in physical experience. It is the chore of childhood. It helps children acquire knowledge independently, gives them confidence in survival, and allows them to freely move on to abstract thought.

Children also learn through social interaction, both with adults and with peers. The degree of learning is exactly proportional to the extent of a child's interaction with objects, people, and thought. According to Piaget, we cannot teach children solely by presenting them with material which they will learn simply by digesting; without their participation and active involvement, nothing can be learned. The key is interaction.

Experience, maturation, social interaction and the child's own involvement are the critical elements which propel growth forward. As the critical accomplishment of infancy was a bonding with the prime adults and a structuring of the senses, the critical accomplishment during the next ten years is the progressive withdrawal from dependence in favor of an independence which is self-reliant, self-discovered, competent, and in open communication with the outside world. The general goal is very simple: raise powerful children; do not obstruct or impede their growth. Help them come to a sense of personal power.

An environment that promotes personal power is one which helps children develop mastery and control over their surroundings, that fosters children's innate curiosity and creativity, that allows for personal choices and decisions, that encourages them to speak their minds with conviction, that encourage them to take and overcome risks, and that help them respect themselves, their community and their environment.

### Goals for Childhood--Personal Power in the Physical World

It's not difficult to break down the elements necessary for a child to come to know, understand, and participate in the physical world and to find a way to fulfill those needs.

#### PERSONAL POWER IN THE PHYSICAL WORLD

Children must experiment.

Adults can provide:

- a. Materials
- b. Freedom to explore
- c. Freedom to arrive at independent answers
- d. Respect for the self-choices of children

Children must construct.

Adults can provide:

- a. Materials
- b. Tools
- c. Time
- d. Respect for the self-choices of children

Children must take risks.

Adults can provide:

- a. Trust in children's abilities
- b. An environment which offers many levels of risk challenges
- c. Respect for the self-choices of children

Children must imitate

Adults can provide:

- a. Materials
- b. Time
- c. Freedom for the child to reproduce the characteristics he chooses
- d. Interaction with peers and adults

Children must have adults

Adults can provide:

- a. Interest
- b. Advice
- c. Support and structure

The Need to Experiment: Children make guesses, ask questions of themselves, and receive the feedback from the material world which can answer their questions. For a time in infancy, everything goes in the mouth; then there is a time when everything is smelled. The child uses the senses to gather information, then combines and coordinates that information into concrete conceptual knowledge. This process of experimentation based on the child's own experiences is an essential part of development.

Thus, if we want children to be experimenters, we must offer them appropriate materials, respect their right to experiment, and let them tell us about their discoveries. When children are asked by adults how they think things work, they will answer with a logic consistent with their thinking. It is less important that they get the right answers than it is that they learn to explore and to find answers by themselves. They can do this if we, as adults, facilitate their experiments and open honest dialogues with them. In this way, their own conceptual understanding of the world can grow.

The Need to Construct: Children must have materials, tools and time to build their own creations, to master these materials and tools so they can function competently in the real world. We all know the pleading of children who say, "Can I do it, please?" While it is often more time-consuming, it is worth that time to invite the child to share in our constructions. Since children have not yet reached competence, we must protect them, supervise some of their efforts, but let them generate and do their own work.

In their art work and their construction, we must recognize and respect their efforts and not interfere when they paint the grass blue or use 100 nails to secure a piece of plywood. The children will come to know that grass is not blue without our telling them, and the board will shred to tell them they've put in too many nails, but if adults tell them they haven't done it right, the children may stop painting, or stop constructing, and so lose the chance and opportunity and necessity of coming to know the world better.

Joseph Chilton Pearce, in The Magical Child, writes:

The child (from the ages 7 through 11) is fascinated with the world and becomes analytic. He wants to take the world apart and see what makes it tick, and he will, in the coming years, take apart the clock, the watch, the electric mixer, the sewing machine or whatever is available. This too is learning, and the parents make available things for the youngster to operate on, not just educational toys but things of the real adult world. They allow the child to bumble through projects, helping only if asked. They have patience when he cannot reassemble what he takes apart, which is often the case. . . . Doing things is the order of the children's day; they think by doing.



The Need to Take Risks: The whole movement of childhood is a progressive extension of self into the world. By coordinating their own bodies with the physical world, children grow in confidence in themselves. They trust in their abilities, and come to know their own limits. Joe Benjamin in Grounds for Play notes:

Everything a child does is progressive and is based on an instinctive mechanism for safety first. A boy will not jump from the top branch of a tree until he is quite ready and certain he can do it with safety. Preparations for a jump may first consist of many mock attempts, especially when there is an audience, but even then will be abandoned if the feat is judged too difficult. No shame is attached to this, and the wisdom of the decision will be readily accepted by the children.

Children know their limits and must grow to stretch them. If adults impede this growth and keep children from discovering and extending their limits, children will still be impelled to find them, perhaps less competently and in more dangerous situations. But they will also have received the message that adults do not feel that they are competent and that they should not trust their own sense of physical limits. As a result, children will further depend upon parents and other adults to tell them what is safe and what is not safe. This runs counter to the goal of personal power gained through effective risk taking.

Many children are afraid of exploring the physical world. Most often, they are surrounded by adults who are equally afraid. Think of the adults who advise or command children to put their heads under water at the local pool, but who never get in the water themselves. Fearful adults impair children's willingness to be confident and competent. Children need an environment where risk has been carefully built and designed into the physical setting. The premise of Outward Bound, an outdoor education program presently being adopted by the Job Corps for training teams, is that success in recognizing and overcoming limits and risks is a powerful force in both increasing personal and promoting group cohesion and pride.

The Need to Imitate: Children must imitate. They must have materials to copy and personal models to emulate. Imitation is a reproduction of physical reality, in its general characteristics first, and then with significantly more details filled in. Through imitation, children learn to interact with the material world. As they increase their strategies for interacting, children watch, seek to become more successful, and notice what is successful for other people. Pearce found that

in cultures where children are allowed to interact with adults, these children immediately imitate adult survival practices during the years from seven to ten or eleven. This is their play, and they develop great skill at it.

The Need for Adult Support: To develop personal power, children must have independence. There must be times when they can pursue their own interests as well as determine the extent of their participation and the nature of their interactions with others. Without a growing wealth of experiences where their choices are respected, children's assessments of themselves often become negative; they tend to feel incapable of surviving or functioning in the external world, an assessment that can have frightful repercussions.

But children need adults. They depend on the interest that adults show in them when they spend time with them, participate in their activities, and share ideas with them about the organization of the material world. Such an allegiance gives a child the message that his or her work is valid and worthwhile.

Children also need adult advice. However, rather than answering all their questions and appearing to be all-knowing, adults can best support the child by serving as facilitators who can help identify what it is the child needs to know, and how to gain the knowledge sought. An adult who understands this is one to whom the child will bring discoveries, and one with whom the child will exchange awe and inspiration at the order of the world.

The ages from two to twelve are the times to learn survival, to learn to structure a knowledge of the world, and to learn how to move confidently about in it. The process may be long, but adults can and must provide some support and structure for children lest they become too independent while they are still relatively incompetent or so overburdened with responsibility that they fail, are judged failures, or judge themselves failures. In providing that support and structure, adults need to remain aware that their goal and priority must be to increase the personal power of every child, by aiding in their experimentation, construction, risk taking and imitation.

#### Goals for Childhood--Personal Power in the Social World

Hans Furth, perhaps the foremost of the American interpreters of Piaget's work, has said that, for a child,

understanding the social world is basically not a different process from understanding the physical world. . . Developmental experiences are as crucial in social as in physical understanding. . . The general conceptions young children have regarding the social world are genuinely of their own making. They are images, ideas, and theories constructed by children as a result of their developing thinking capacity. It is a true creation, a making of something from within that was not there before. In this process of creative development, environmental experiences are indispensable.

Children need the same experiences in their interaction with the social world as they do with the physical world. They need a chance to experiment with human relations and a chance to construct their own social relations. They need to be able to take risks, they need many role models for imitation, and they need adults who will listen, advise, support and structure without commanding and without preempting the personal power of the child.

#### PERSONAL POWER IN THE SOCIAL WORLD

Children must experiment.

Adults can provide:

- a. Access to many people
- b. Freedom to explore
- c. Genuine feedback from adults and peers
- d. Progressively increasing independence.

Children must construct.

Adults can provide:

- a. Access to many people
- b. Openness to conflict
- c. Collaborative rather than submissive discipline
- d. Time and Freedom.

Children must take risks.

Adults can provide:

- a. Access to many varied groups
- b. Acceptance of the child's self-expression
- c. Encouragement.

Children must imitate.

Adults can provide:

- a. Access to many varied groups
- b. Time
- c. Freedom to reproduce the characteristics the child chooses
- d. Many adult models.

Children must have adults.

Adults can provide

- a. Interest
- b. Advice
- c. Support and Structure
- d. Friendship



The Need to Experiment: In the social sphere, experimenting means that youngsters must find the meaning of friendship, anger, honesty, compassion, pride, jealousy, cooperation, selfishness, timidity and assertiveness. Children must find out how all these emotions and personality characteristics work in the service of, or to the detriment of, human relationships. A child will learn these things by experimenting and by asking questions. And children ask so many questions! Each one is a part of the child's continuing experiment to find out what makes a difference, and these questions, this "testing", may more accurately reflect a child's testing his or her own knowledge than testing an adult's knowledge.

The only way for children to learn about social relations is by experience. Adults are important because their responses to children's verbal and non-verbal questions give children clues as to how they might want to behave in the social world. Children do not learn verbally or symbolically or through obedience, but rather because they experiment and generalize on the basis of the feedback received from their experiments. This is why it is possible to say:

#### Children Learn As They Live

- A child that lives with ridicule  
Learns to be timid.
- A child that lives with criticism  
Learns to condemn.
- A child that lives with distrust  
Learns to be deceitful.
- A child that lives with antagonism  
Learns to be hostile.
- A child that lives with affection  
Learns to love.
- A child that lives with encouragement  
Learns confidence.
- A child that lives with truth  
Learns justice.
- A child that lives with praise  
Learns to appreciate.
- A child that lives with sharing  
Learns to be considerate.

A child that lives with knowledge  
Learns wisdom.

A child that lives with patience  
Learns to be tolerant.

A child that lives with happiness  
Will find love and beauty.

---Ronald Russell

The Need to Build Social Relations: Children must construct a world of social relations. In this mobile, urban age, few people will remain constantly in the life of any child more than a few years. Thus, all contacts, all the growth in friendships and hatreds, will serve a general rather than a specific purpose. They help children learn how to get along with other people. As such, each encounter with another person contributes to the building of a structure for human relations.

Piaget tells us that initially children do not know or understand each other very well. Their conversations are sort of parallel monologues, with neither party understanding the other. Each child is caught up in his or her own world unaware that any other might exist. Children often do not even know that they are not understanding each other. Growth toward mutuality and reciprocity in social relations is long. None of us will make it all the way there.

Conflict is a part of social learning. Piaget notes that disagreements among children are the prime source of growth in the ability to understand another person's point of view. In the physical world, when what the child wants to build is blocked, the child must think up another way to build what he or she has in mind. The same is true for social relations, where growth is achieved by understanding the match or mismatch between one person's intentions and the limits of other people. Conflict helps.

We must allow children the opportunity to work through their own conflicts with other people. To solve children's conflict or to dictate the terms of a solution robs the child of his or her role of experimenter, tells the child that he or she is not capable of dealing with the social world, and binds the child dependently to the adult for safety and survival.

Adults want children to learn how to share, how to be compassionate, how to collaborate, and how to prosper and survive rather than submit. These lessons need to be learned through experience and cannot be ordered or dictated by adults.

This is precisely the danger of adult control over a child's social relations. The child feels a need for personal power. If adults have forced all the positive behaviors on the child, the only responses which the child can truly own are the negative ones. If the child shares because he is told to, he does not own that behavior and may well drop it when the adult is not present, not out of cruelty but out of the need to feel autonomous. Thus, a forced lesson in sharing has the opposite effect, and may happen more often than we think. George Leonard, in The Lives of Children, goes so far as to say:

I am convinced that when children remain vicious and violent toward each other, it is because their motives are invaded by those of adults, and they cannot evolve their own better terms of relations.

Children can come to own the best of their parents' and teachers' values and humane beliefs, but they must be given opportunities to discover and internalize those values for themselves.

Throughout their growth, children must have access to people, all kinds of people. Children need time and independence, time to be alone with friends and strangers who may become friends. They need to experience the genuine feedback of their explorations, and they need to feel that adults trust their abilities.

The Need to Take Risks: Children must take the risk of being one's truest and best self among others. We all know how difficult this can be for ourselves, but let's look at it for children.

Children need to experience and try on many roles -- the cooperator, the aggressor, the facilitator, the passive, the active, the youngest, the oldest, the weakest, the strongest, and all the combinations and in-betweens. There is learning as well as risk in each of these roles. Healthy children can experience them all, and accept other people in those same roles. Ultimately, a sense of personal power will enable the child to mold a combination of roles in a way that will allow him or her to participate in the social life of the community.

Opportunities for such risk-taking are too often restricted. If children are always with their own age group, they may become stereotyped as oldest, youngest, smartest, weakest, or funniest, and they may keep that role for many years. Urban studies show that children living both in high rises and in affluent one-acre lot neighborhoods share the same restriction of number and diversity of opportunity for interactions and social experience.

To overcome such environmental constraints on risk taking, children need strong support and encouragement from adults. For instance, a child takes a grave risk in speaking openly to another person, especially to an adult. The courage of that effort must be respected and nourished. Adults should expect that children will refine their efforts at open and honest communication on the basis of many less-than-perfect attempts. Only through taking risks can such a refinement take place.

The Need to Imitate: Children must imitate to grow in social awareness. Opportunities for imitation connect directly to the child's need for risk-taking. Risk-taking focuses on the inward efforts of understanding self and others, while imitation focuses on observing many models upon which to base new strategies. Everything important about risk taking is important in fostering imitation, but there is one significant addition. Children need many adult models. No adult or pair of adults can or should bear the burden of representing the whole of the adult social world. Perhaps this is at the root of many of the conflicts between parents and children. Kurt Vonnegut, among many others, has pointed out the danger of too few adult models:

Human beings are supposed to live in stable, like-minded extended families of fifty people or more. . . . In a nuclear family children and parents can be locked in hellish combat for twenty-one years or more. In an extended family, a child has scores of other homes to go to in search of love and understanding. He need not stay at home and torture his parents, and he need not starve for love.

Vonnegut goes on to say that no person can incorporate the whole society for another person. Children need many models. Since most children from nuclear families, we need to provide them with opportunities for other peer and adult models.

The Need for Adults: Children need to see and feel an adult's interest by sharing experiences. They need an adult's advice, because adults have talents in the social world and enjoy greater understanding. Adults are guides or models for the child, but they cannot dictate the exact path to take. Children need the support and structure that adults provide to assure them of their security and love. Without that structure, children may become discouraged or apathetic or alienated. Finally, children need adults for the same reason that all of us need people--for friendship.

## Chapter 2 Child Services -- Are They Enough?

### Introduction

We believe there is a connection between the presence of relevant developmental opportunities and children's total health. When we look at the various child care environments, and try to evaluate the ability of these various settings to promote children's full growth through exploration of the physical and social worlds, we find some significant gaps.

### Schools

Many educators have acknowledged the need for a wealth of physical experiences which can allow the child contact with the physical world. Such a realization is the backbone of the Houston Independence School District's commitment to outdoor and environmental education. The HISD outdoor education curriculum statement explains the need to supplement the class environment in this way:

The essence of learning in real life situations is through problem solving. It is the way most people learn outside the classroom. . . . Outdoor education wisely used provides unlimited opportunities to practice the precise seeing, hearing, feeling, tasting, and smelling that not only lead to more effective multisensory learning, but to the learner's well-defined concepts of the world around him.

However, it is obvious from observation that the conventional curriculum does not encourage children to experiment in the physical and material world. Willard Waller has noted:

Teaching is predominantly telling and questioning by the teacher, with children responding one at a time or in chorus. The textbook is the most highly visible instrument of teaching and learning.

Beyond kindergarten, literacy is the prime mode of coming to know and understand the world. The major objective of the school system is to increase children's literacy and abstract reasoning ability. But Piaget has pointed out that without a strong foundation of practical experience with the physical world, children will have large gaps in learning the structure of the real world. The abstract, concept method of teaching does not involve the students in their strongest and most powerful learning ability, but in their weakest.

Although first through fifth grade children need to experiment to come to know and understand the physical world, they have neither the materials, the time, the freedom, nor the guidance and modelling necessary to do so in the classes at their schools. Rarely does a classroom have animals, take apart machines, glue and paste, play in water and sand, pulleys and simple machines. By sheer

lack of materials, experimentation in the physical world is inhibited. A prescribed curriculum holds teachers accountable for the information to be imparted. Thus, for the student who desires and needs to experiment autonomously, school is often a place where, according to Mary Alice White,

what the pupil is going to learn is for him faraway and mysterious. . . . He senses that he is going to be taught whatever the teacher has decided she is going to teach.

Since materials are restricted in the class setting, construction is primarily limited to the arts and crafts classes and an occasional social studies or science project. The teachers generally provide the topic and directions for the projects, and this in itself limits autonomous construction. Films and books about animals will never take the place of real animals. Talks and tests can never compare with coming to know how the world works by testing out your own ideas.

The only opportunity for risk-taking is in physical development classes, and on the playgrounds, where children match their bodies against the limits of gravity and motion. However, these programs are too often restricted by the lack of apparatus to challenge the children at their respective levels. The teacher serves as the initiator, and the provider of limits, and is ultimately responsible for the risks that children take. This creates a conservative climate for risk taking which only the most dedicated teachers seem able to overcome.

During play periods, after lunch, and during break times, only the younger children have access to even the most primitive of construction materials; sand. The older children find no loose materials or tools on their playgrounds. None of the physical apparatus is moveable. They play chase, compete at ball games, and socialize, but they do not construct. The environment does not allow or support that activity.

Children must imitate and reproduce the physical world in order to understand it. Because schools restrict children's access and time with materials in the physical world, they inhibit the kind of imitation which leads toward autonomous exploration. Perhaps because children are so willing to imitate and so wanting to please adults, the following story repeats itself countless times.

#### LITTLE BOY

Once a little boy went to school. He was quite a little boy and it was quite a big school. The little boy found out that he could go into his room by walking right in through the door from outside and he was happy. School didn't seem so big anymore.

One morning when the little boy had been in school for awhile the teacher said, "Well, today we're going to make a picture." "Oh Good!" thought the little boy. He liked to make pictures. He could make all kinds of pictures - lions and tigers and chickens and cows and boats and trees. And he took out his big



box of crayons, and he began to draw. The teacher stopped him and said, "Wait! It's not time to begin yet." And she waited, looked around the class and waited some more - until everyone else looked ready. "Now," said the teacher, "today we're going to make flowers." "Good," thought the little boy. He liked to make flowers and right away he began to make the most beautiful flowers you could ever imagine - pink and orange and blue and yellow and brown and red. But the teacher said, "Wait!" I'll show you how to do it." It was red with a green stem. "There" said the teacher, "now you can begin." Well, the little boy looked at the teacher's flower and looked at his own flowers and liked his flowers better than the teacher's flower, but he didn't say this. He just stuffed his feelings, turned his paper over and drew a flower like the teacher's. It was red with a green stem.

And pretty soon he learned to wait, he learned to watch, and learned to make things just like the teacher. Pretty soon he didn't make things of his own anymore. And then it happened.

The little boy and his family moved to another house in another city. The little boy had to go to another school. This school was even bigger than the other one - with no door to the outside from his room. He had to walk up some big steps and down a long hall to get to his room. And the very first day he was there the teacher said, "Well, today we're going to do a picture." "Good," thought the little boy and he waited for the teacher to tell him what to do; she just walked around the room. When she came to the little boy she said, "Don't you want to make a picture?" "Yes," said the little boy. "What are we going to make?" "I don't know until you make it," said the teacher. "How shall I make it then?" asked the little boy. "Anyway you like," said the teacher. "Any color?" said the little boy. "Any color you want," said the teacher. "If everyone made the same pictures and used the same colors, how would I know who made what?" The little boy looked at the teacher and said, "I don't know. I really don't know."

Then he opened his big box of crayons and he made a red flower with a green stem.

author unknown

Schooling has some other inherent disadvantages. Children are grouped by age, and often by ability. This restricts the children's access to many roles in social relationships. The overall competitiveness and constant comparison focuses attention on differences between students and on their incompetence rather than on cooperation and recognition of divergent talents and thinking. By law and intent, children are hardly ever alone to explore their own peer relationships. They do not share in the rules and discipline by which they are controlled, and their conflicts are not accepted as legitimate means of confronting differences of opinion. The small number of adults around the children constitute a less than adequate number of role models for them, especially for males. Finally, children are not generally encouraged to become progressively more independent, and may acutally become less so as a result of schooling.

### Day Care

Day care for children below school age may consume as much as two-thirds of a child's weekday.

More and more mothers of pre-school children are working outside the home, a majority full time. By 1980, more than half of the mothers of children under 12 were in the work force, and most of those were either single, divorced, widowed or separated. Of all three, four, and five-year-olds, 75% attend some form of out-of-home care.

Day care centers are as different as can be, in number of children as well as in educational philosophy, but some patterns do emerge. Most seem pitched between two models of child care: one which performs primarily a parenting function and the other a schooling function.

In either case, the primary mode of learning is through teaching: the child is taught how to do things correctly, as with tying shoes, pasting, cutting, or learning the alphabet. The concept teaching curriculums, as in the popular Montessori schools, provide children with many more materials than do the elementary schools, but these materials are generally not for experimentation, exploration, and construction.

Day care centers particularly impinge upon the child's risk-taking efforts. Especially in those centers which perform a parenting function, there is a tendency for the day care workers to be over protective of children, to restrict their activity, limit their independence, and continue to bond them to an infantile form of dependency.

Children in day care centers have little opportunity to build wheel toys, to make their own doll houses, construct their own sleds, or have a hand in cooking their own meals. The playgrounds of most centers share the same lack of moveable materials with their elementary school counterparts.



In most day care centers, although surrounded by a great number of peers and adults with a lot of time on their hands, children's social growth is still limited. Conflict is not an acceptable means of communicating or settling differences. Children do not share in making the rules by which they are governed. In addition, children are rarely, if ever, alone since day care centers are generally more crowded than elementary schools. Many children are intimidated and frightened by the large numbers of children, and frustrated in their attempt to attach themselves to dominant adults in an environment where staff turnover is generally quite high.

### Extended Day Care Programs

Many public and private schools have begun extended day, after-school, or full day programs, largely because working parents need to have their children supervised throughout the day. In extended day programs, the children primarily enjoy free play. There may be movies and children may have access, under supervision, to the gymnasium and its equipment.

Unfortunately, most of the extended day programs are held in a school setting, with the same major barriers to experimentation and construction as children have during the regular school day. Many afterschool programs for elementary aged children are held in day care centers to which children are bussed before and after school. The materials in those centers are intended for children much younger than the elementary-aged child, and the physical challenges available in such settings are not adequate to meet the capabilities of the older-age child.

The adult supervisors of extended care programs generally serve only as babysitters. They negotiate conflicts, maintain standards for behavior, and provide limited equipment. In most cases, their role is a passive one, much the same as any parent would expect of a babysitter in his or her own home. In such a setting, children interact freely among themselves in a limited environment, but much the same as parents don't expect great learning or development to take place during babysitting hours, they should not expect much more during these program hours. Parents can usually be assured that their children are being supervised, and there are some social gains. But as of yet, no curriculum has emerged for a more constructive use of this time.

### Non-Institutional Play Opportunities

Children, of course, do not spend all their time in institutional settings, and neighborhoods do offer some free play opportunities.

Some children are at least nominally supervised by adults responsible for their safety and well-being, but some are not. The so-called "latch key" children are responsible for themselves after school until their parent comes home from work. For economic reasons, or out of a misplaced trust in their child's competence, more and more adults are leaving their children alone for hours at a time. Safety, the lack of adult structure and support, and the child's responses to such responsibility are matters of concern. We believe that children need adults; without them, they are in danger.

Most of the parks we visited in Houston were set up for sports, especially basketball, and for climbing and swinging. Where there was an adult staff, children had access to indoor play space, board games, and an occasional arts activity. Occasionally, there was an adult who involved him or herself in the children's play rather than in simply maintaining the facility.

However, considering the population at the nearby schools, the parks that we visited were simply not used very much. The climbers at many of the newer parks, the metal jungle gyms, and the swings do not seem to attract children.

We observed a similar situation at the Woodlands, a new community outside of Houston. The tot lots and playgrounds with wooden climbers throughout the village system aren't used very much, and the climbers are regularly taken apart and vandalized. Richard Louv in his article "Loose on the Playground" offers an explanation:

Recreation experts agree that children tend to use traditional play equipment such as slides, swing sets and cement turtles a few times, and then get bored with it. Clare Cooper-Marcus, associate professor in the College of Environmental Design at the University of California points out, "Once children have figured out the normal uses of play equipment, they start creating their own risks, like climbing up the slide, swinging on the poles, anything to break up the static nature of the apparatus."

In the environments where we had expected to find children throughout the metropolitan area, we noticed fewer and fewer vacant lots. We found few places with equipment or materials which children could act upon and change. There were few environments where children had opportunities for construction activities. Importantly, we found very few opportunities for free play with adults. We found more evidence of vandalism than of constructive play. Some of the vandalism could certainly be viewed as an expression of the children's natural instinct to make an impact on their environment. But the prevalence of destructive modes of expression is frightening.

### Television

The Carnegie Council on Children reports in All Our Children, The American Family Under Pressure, that the average child spends between two and four hours a day in front of a television set, and that by age sixteen, that child can be expected to have watched from 12,000 to 15,000 hours of television. Between the hours of 8 a.m. and 2 p.m. on Saturdays, 50% of all American children between the ages of two and twelve are watching television. The council also found that,

"(television) teaches children the use of violence, offers material consumption as the answer to life's problems, sells harmful products, habituates viewers to constant stimulation, and undermines family interaction and other forms of learning such as play and reading."

We would only add that television, as a means of learning about the physical and social world, is far removed from the concrete activities developmental theory recognizes as essential for growth.

### Conclusion

Our study revealed a pervasive absence of opportunities to explore the physical and social world. Since we believe that such experiences are necessary for children to develop a sense of personal power, we advocate the addition of environments which are consciously designed to provide these opportunities for children. One such environment is the adventure playground.

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## PART II

### ADVENTURE PLAYGROUNDS

The principle behind Adventure Playgrounds is that the children will gain in happiness, confidence, and self-discipline if they have a place where they can freely develop their own ideas of play, and the distinctive feature of an adventure playground is that it provides tools and materials which the children can use in a variety of ways as their interests change. With this special material an adventure playground also has a special type of supervision in the person of a leader whose duty it is to support the children in their enterprises and help them over technical difficulties.

Mary Nicholson

## INTRODUCTION

The developmental framework we suggested in the previous chapters shows, without a doubt, that a large gap exists between what urban children need from their environment and what they are actually getting--a gap that seriously impedes their physical, social and psychological growth. We've also suggested that the frustration they feel when their needs are either ignored or belittled can lead to serious consequences. In fact, we believe this gap is directly related to the growing feelings of helplessness and alientation seen by educators and parents alike.

As adults, we constantly explore our world, always working to deepen our understanding of how it works. That exploration and that knowledge help us develop an assurance that we have an active, not a passive, role in that world. Children, too, need that assurance. The rest of this report will discuss a type of play environment that provides children with opportunities for that crucial exploration of the physical and social world.

The model for such an environment is called the Adventure Playground, a concept popular in Europe for some time. Designed to provide the opportunities which American urban children are missing, Adventure Playgrounds offer youth an alternative to helplessness and alienation. In our judgment, they deserve a place in both recreational and educational programs for all urban children.

Now it is time to move away from theory towards a practical application of the developmental framework of the previous chapters. The following pages offer a brief history of the adventure playground movement and a discussion of the characteristics of four types of play areas, their advantages, disadvantages and requirements. The final section of the book offers a detailed report of our experiences of establishing and operating an adventure playground at Mountain Park in Houston, Texas.

## CHAPTER I

### HISTORY

The inspiration for consciously designed adventure playgrounds comes from several sources. In the 1930's, C.T. Sorenson, a Danish architect designed a beautifully landscaped park and playground in Copenhagen. Visiting the park after its completion, he found no children there. He soon saw why. They were all building and playing in the debris left over from the construction. Learning from that experience, Professor Sorenson became a leading proponent and developer of adventure playgrounds in Scandanavia.(1)

Many people visited Sorenson's playground in Copenhagen, including Lady Allen of Hurtwood. She, like many other concerned citizens in England during and after the war, was faced with a very special problem. They had to provide play opportunities that would keep the children from digging and building in the unsafe rubble of burned out bomb sites. By watching the children's efforts, she had learned that:

Children of all ages are happiest when they can move things around to their own liking. They have an irresistibile urge to build houses and dens, dig holes, make gardens, look after pets, make bonfires, and cook meals out-of-doors.

Recognizing the importance of these activities, she wrote:

Children need a place where they can develop self-reliance where they can test their limbs, and their senses, and their brains, so that brains limbs and senses gradually become obedient to their will. If a child is deprived of the opportunity to educate himself by trial and error, by taking risks and by making friends, he may...lose confidence in himself and lose his desire to become self-reliant. Instead of learning security, he becomes fearful and withdrawn.

Lady Allen set about converting many of the bombsites into safe but challenging adventure playgrounds. In London alone, there are more than 200 adventure playgrounds. Many are open after school and in the summer to meet the needs of what one playleader called the "Key children", the "Shilling Children", and the "Nothings". Mick Fitsmaurice explains:

The Key children have the front door key around their necks and have access to a cold lunch left by Mum before she goes to work. The Shilling children have no key and no access to their homes while Mum and Dad are working; and the shilling given them often buys sweets. The Nothings are pathetic, though fortunately small in number. After breakfast time they have nowhere to go and nothing to eat until either Mum or Dad return from work.



England's Adventure Playgrounds are supported by the National Playing Fields Association, a non-profit organization which operates the programs until public funding can take them over. Since vandalism has reduced by 75-95% and road accidents by more than 50% in areas where adventure playgrounds are established, supporters have little trouble justifying the programs.

Through the work of the International Playground Association, a private foundation, the concept of adventure play has come to the United States. According to a 1978 survey of the American Adventure Play Association, adventure playgrounds now exist in twenty American cities in eight different states. All but one of the programs are conducted by local government agencies.

Adventure playgrounds nearly always outdraw conventional playgrounds by a considerable margin, in many cases by a rate of 10 to 1 over "slide and swing" parks. Adventure playgrounds can be maintained at a fraction of the cost of conventional sites; very little mowing, trimming, irrigating, fertilizing, painting or equipment repair due to wear and tear or vandalism are required.

On each of these playgrounds, in Holland, Belgium, England, Japan, Italy, Israel, Tunisia, New Zealand, Hong Kong, Canada and the United States, children have the opportunity to organize their own activities, to build, to take risks and experience danger in a controlled environment, to dismantle old radios and TV's, to play with sand, dirt and water or climb trees. In spite of the appearance of danger, adventure playgrounds have proven to be as safe or safer than conventional play yards. Trained play leaders or facilitators supervise the children's activities on all the sites. In fact, all but one of the existing American playgrounds are provided liability insurance protection by the agency's regular carrier with no additional insurance premiums.

In 1980, we planned, built, and operated a demonstration adventure playground program at Mountain Park in Houston, Texas. The Mountain Park Adventure Playground, located on an eight acre site in Southwest Houston, was operated by the Mountain Park Foundation, a not-for-profit educational community foundation. The playground was a demonstration project intended to serve as a model for similar programs on school grounds and in neighborhood parks.

Since we learned much in the planning and operation of the program, the last section of this book describes it in detail. We hope our experience will be valuable in developing other such adventure playgrounds.



## CHAPTER 2

### PLANNING AN ADVENTURE PLAYGROUND

#### Introduction

The design of any playground should reflect the priorities of its builders. Our primary priority is meeting the developmental needs of children. As we pointed out in chapter three, most municipal parks and playgrounds, though they provide many services, do not adequately meet the needs of children. In this chapter, we will provide guidelines for the development of playgrounds which will better serve those needs.

We will discuss three types of adventure playgrounds: interest center playgrounds, integrated center playgrounds and child created playgrounds. We will point out the extent to which each furthers our goals for urban children. This discussion should help playground planners evaluate existing play sites, plan new programs, and examine their own beliefs about the needs and rights of children.

Planners, whether they are architects or playground committees, must ask themselves what they believe about the purposes of play areas before they choose a design. For instance, if planners believe that children need to be controlled and need to learn to be managed and base their design on that belief, the play area will make controlling children easy. The environment and the activities will be adult-ordered and adult-supervised. In other words, the design will express the belief that children must be controlled.

If planners believe that children should be taught to reproduce and maintain the adult version of the world, they will develop play spaces which encourage adult activities and reinforce adult concepts. Children will be restricted to assigned spaces and to the designer's concept of play. The design will convey the belief that children should reproduce the adult world rather than create the world themselves.

Finally, if planners believe that maximum organization minimizes maintenance-- a theory that has less to do with children than with the efficient operation of a public facility--the playground will be arranged less to serve the needs of children than to facilitate ease of maintenance.

Each of these beliefs seems to ignore the necessity and the right of children to develop a sense of personal power. Each highlights the importance of the need for developmental goals to guide the design process. Obviously, any group planning to develop a playground needs to make sure that design is based on sound developmental goals.

What follows is a list of design criteria which we believe should be considered whenever a playground is developed. A well-designed playground should:

- provide opportunities for self-management;
- provide materials which generate problem-solving challenges;
- be designed for consistent and intensive use;
- provide appropriate physical and social experiences;
- conform to health and safety standards
- provide sufficient storage and maintenance facilities;
- conform to the community's budget capabilities;
- preserve and accommodate community aesthetic values.

Let's take a look at each of these.

A developmental program must above all allow the children to have control over their environment and their actions. Children who are powerful co-voyagers with adult play leaders must have the opportunity to organize the global features of the program and to decide what features to incorporate and what elements to construct. They must not only be able to choose what activities they will participate in, but also how long they will devote to each. They should be given the freedom to invent their own tasks, games and the rules for those games. In other words, a playground should provide opportunities for children to make choices. The experience they get from participating in the overall governance, rulemaking, and conflict resolution in the playground world will prepare them for participating in those same processes in other social environments. Progress toward effective self-management is the foremost of the developmental criteria. A designer who supports the rights of children to make choices will incorporate such opportunities into the plan and program of a playground.

Children need problem-solving activities on playgrounds, and designers should provide materials which generate problem-solving challenges. If they do not, children will invent their own problems. If the fixed elements on a playground are too simple, children try to change their static nature. Such creative activity on conventional playgrounds often leads to vandalism. Designers have two options. They may design problem tasks for children or they may provide sufficient room and materials for children to generate and solve their own problems. Problems naturally present themselves when children attempt to bring their ideas to life. And these problems which result from the children's own initiative will be the ones they will expend the most energy on resolving. Overcoming obstacles to reach a self-generated goal is a way for them to recognize and prove their power. The playground must provide opportunities for such wonderful feelings of competence.

To be fully effective, a playground must be easily accessible and must regularly attract different-aged children for intensive play. Although sometimes necessary, user fees may prove to be a barrier to consistent use. Of course, siting is an important consideration. But above all, the playground must be compelling to children. Children won't use an easily accessible playground if there is little or nothing to do there.

A developmental playground must provide children aged two to twelve with appropriate physical and social experience. Each age group and competence level should be able to find a wealth of opportunities for experimentation, construction, imitation, risk taking, and access to adults. Simply, the

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playground must be designed to meet the developmental needs discussed in the second chapter.

The health and safety of the children must be protected through quality design, rigorous maintenance, and provision of adequate first aid on the playground site. Safety must be considered in the design and layout; no amount of supervision or after-the-fact maintenance can overcome bad design. The proposed safety standards for design of playground equipment prepared by the U.S. Consumer Product Safety Commission should be followed. A summary of the standards prepared by the Friends of Bellaire Parks is included in the Appendix of this report, along with a summary of the recommendations of the English National Committee for Safety on Fixed Equipment on Playgrounds, published in 1978.

Provision of adequate first aid training and a supply of first aid materials is a necessary concern for playground designers. In addition to safe design and first aid provisions, a quality playground must provide protection for children from traffic, deviant characters and weather. Some sort of separation of the playground from traffic is advisable. Traffic buffers of many kinds have been constructed, some using chain link fence or brick walls, others using earthen mounds, and heavy shrubbery. Planners may wish to consult with state and local highway authorities for advice on containment walls in areas of heavy traffic.

Only one thing will protect children from the intrusion of deviant and criminal elements: adequate supervision. If the community does not know where its children are, it may fall prey to those who would injure or abuse them.

Children must be protected from the consequences of extreme weather. Provisions for adequate shade and some relief from heavy rains are advisable. Areas designed for rest and passive play should be provided to enable and encourage children to recharge their energies.

Although designers must be concerned about the well-being of the children, they must not sanitize the playground to such an extent that children will not use the park, or will use it recklessly in an effort to generate their own risks. Supervision should not be so stringent that the development of the child's personal power fades into a mountain of safety "do's and don'ts". The designer must craft a playground where children can safely discover risks and exercise their sense of control. Though the playground may have the appearance of danger, it must be safe.

Security for equipment, materials, and fixed elements is an important consideration for the designer. The materials must be kept from thieves and vandals, but still remain accessible to children. One way to reduce the amount of vandalism throughout the community is to provide more meaningful opportunities for youth, which is what the adventure playground is all about. Communities with adventure playgrounds have experienced radical decreases in the rate of vandalism. Supervision of the playground is another important element in eliminating theft and vandalism. Adventure playgrounds are generally protected from vandalism by local children and adults because they



feel that the playground is theirs. Even so, adequate storage facilities are a must for a playground rich in materials. Parks which restrict children's access to materials for fear of vandalism defeat themselves in two ways. They do not have better vandalism records and they have taken away the materials which children need for useful and productive play.

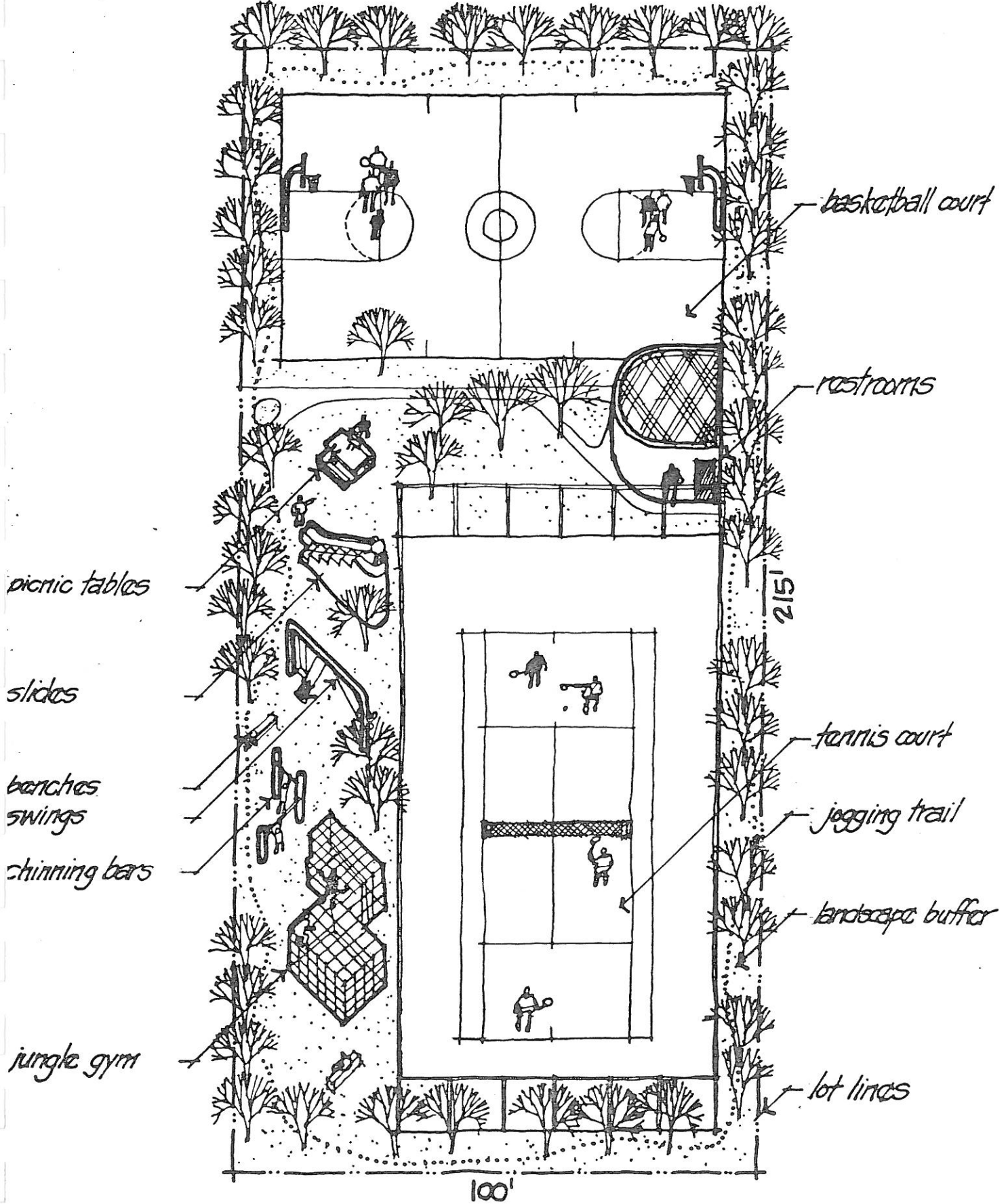
The provision of supervisory staff is often regarded as an impossibility because of budget constraints. In the long run, however, community parks may do better to use some combination of volunteer and paid staff to supervise a quality play environment rather than pay the costs of vandalism, maintenance of litter and broken glass, and the potential dangers which untended children face in the present urban setting.

Ease and consistency of maintenance can be designed into the physical layout of a playground. Playground equipment should be designed for long-term use and monitored closely for signs of disrepair or vandalism. Materials should have homes which are clearly defined and easily found by the children. Adequate numbers of trash bins and barrels should make littering an obvious act of bad taste rather than a pragmatic decision. Finally, children should be encouraged to take responsibility for the proper care and maintenance of the playground.

Budgets must be considered by designers and supporters. While many raw materials for construction of a playground can be contributed, costs of implementation and operation depends on the design. A community may do well to devise a staged growth plan to allow today's children access to some play opportunities along with the promise of future additions.

Designers and supports of playgrounds must consider local community standards and concerns for aesthetics. No one should expect the children's playground to be in perfect or even close conformance to those standards, but the design of the playground must avoid needless conflict with local residents. Most will be delighted to see productive play, but some may feel that a playground with a great deal of activity encroaches on their desires and rights. Their views can be respected without infringing on the activity needs of children by erecting visual and noise barriers.

Now that we have covered the design criteria for a park, let's see how four different kinds of playgrounds measure up. First we'll examine conventional neighborhood playgrounds.



picnic tables

slides

benches  
swings

chinning bars

jungle gym

basketball court

restrooms

tennis court

jogging trail

landscape buffer

lot lines

100'

215'



PARK

5-15

## THE CONVENTIONAL PLAYGROUND

The American public park never has been designed or intended for the exclusive use of children. The conventional park is located in neighborhoods and provides a range of experiences for all age groups. Many playgrounds are used most intensively by adolescents playing basketball or by adults in night athletic leagues. But parks are not being used intensively by the children of the community. Why? Fixed features dominate most conventional playgrounds. a rare park where anything other than trash cans and picnic tables can be moved. Most playgrounds are not supervised, though a small percentage do offer afterschool supervision. Users provide their own materials, including sports equipment. Safety and first aid services are presumed to come from the neighboring residential areas and are the responsibility of the users.

In other words, the conventional park holds few advantages for children. Although children can choose their own activities, the choice is limited. Access is generally convenient, so children could easily use the park intensively if it were attractive. Maintenance and security for the fixed elements are minimal at the conventional park, and the ongoing budget expense assumes only maintenance and repair costs. But overall the advantages flow to adolescents and adults, who through competitive sports have learned how to generate games with almost no materials, games that require vast rule structures and highly coordinated physical skills beyond the competence of most children under twelve years of age.

Opportunities for control by the children are almost non-existent. Children do not participate in the design or construction of parks, and they cannot move anything on the premises. They cannot dig or construct and they compete for use of the athletic spaces with adolescents and adults. Fixed equipment may be used intensively upon installation, but its limited static form is thoroughly explored in very little time. Dozens and dozens of fairly expensive wooden climbers now go unused or are vandalized in an effort to exhibit some small ill-guided display of control or power.

Opportunities for making choices are limited by the static nature of the structures and by the absence of loose materials. There are few physical experiences for children to share, so they ride their bikes through the park, but they do not stay.

But children cannot be stopped from inventing problems which require physical efforts to solve. So, to stretch their own capabilities, they use the fixed equipment in inappropriate ways. "How can the slide be twisted?" may be a problem solving question rather than a wanton act of vandalism. "How far can you jump off the climber onto the asphalt?" may be a problem solving question rather than a case of daredevil stupidity. Because conventional playgrounds provide few problem solving challenges for children, they abuse use of fixed equipment.

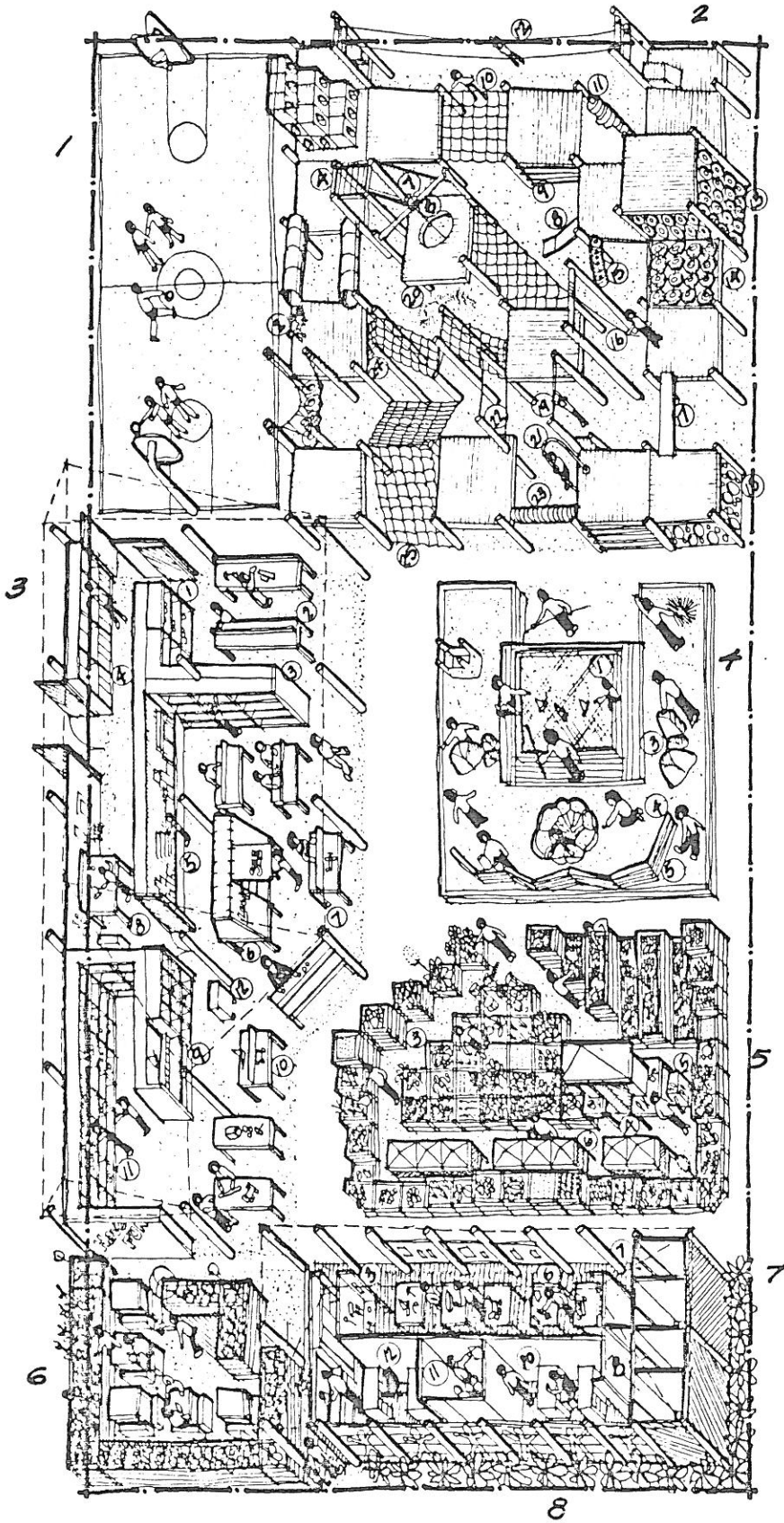
There are significant health and safety concerns which must be raised with respect to the conventional playground. In 1976, research done by the National Bureau of Education for the Handicapped disclosed that each year



nearly 400,000 accidents requiring emergency medical treatment involve school and public playground equipment. In 1975, the Greater London Council inspected all of its equipment over five years old and condemned more than half of it, including 70% of all its slides and big swings. Many swings and slides are planted in concrete or asphalt slabs. The impact force necessary to cause a concussion in a child is fifty times the force of gravity, and it takes a fall from a height of less than one foot onto asphalt or concrete to achieve that force of impact. Unfortunate as it may be, some people see concrete or asphalt as an invitation to shatter glass bottles, and the play spaces are made even more unsafe.

Most playgrounds are not supervised, so critical time is lost between an accident's occurrence and emergency first aid or professional medical treatment. The absence of supervision makes the public playground a likely spot for deviant and criminal elements to intrude on the lives of children.

It is important that designers and recreation planners recognize the limits of the conventional neighborhood park. The restricted opportunities for constructive play and the questionable protection of children's health and safety beg for an alternative.



- 1 COURTS AND GAMES
- 2 CLIMBING NETWORK
- 3 CONSTRUCTION CENTER
- 4 SAND AND WATER CENTER
- 5 GARDEN AND NATURE CENTER
- 6 REST/PICNIC AREA
- 7 ARTS AND CRAFTS CENTER
- 8 OFFICE

## THE INTEREST CENTER ADVENTURE PLAYGROUND

Adventure playgrounds come alive through activity. An interest center adventure playground is designed and developed to create separate activity areas for different play experiences. These include gardens, carpentry and arts and crafts centers, music and drama areas, climbers, sand-and-water areas, take-apart centers, ponds and nature life areas, board and courts game areas, cooking centers, and bicycle repair and racing areas.

An adventure playground which is organized around centers is typically planned and built by adults. Walls or low fences separate one center from another. Physical activity centers with climbers and swings are usually separated from gardening, arts and crafts, or construction centers where activity requires more controlled attention. The flow of tools and materials to inappropriate parts of the playground is controlled through the use of entrance gates. Circulation corridors are chosen to define the mood, atmosphere and intensity of activities.

The basic goal of an interest center playground is to provide a rich, widely varied menu from which children can select their own activities. The adventure playground developed at Mountain Park was just such a playground.

There are both advantages and disadvantages to a playground designed along these lines. The interest center adventure playground has the advantage of being consciously constructed and designed to give children the freedom to select from a wide variety of activities. The children can shop in areas such as carpentry, painting, gymnastics, puppetry, or sand and water play. A well designed playground will provide centers for a whole range of interests, so that children of any age, sex, or personality type can find an environment for constructive activity.

Choice making is encouraged in many ways within this format since children typically control how long they might stay in any given area. Activities should be open-ended rather than replications of adult models so that children can follow their own inclination, within the boundaries of the materials available and the space limitations of the center itself. As children have access to many materials, they will have to confront and overcome many problems, some physical, some social. Security for both materials and children is enhanced by this approach, since activities are separated and access to materials and tools is controlled. Since areas are delineated and buffer zones are established in the design, the likelihood of conflict or competition for the use of space is reduced.

Educational studies have long shown that some children work better in an environment which is clearly organized and separated by function. In a structured physical environment, some children can experiment more confidently. While other types of adventure playgrounds wait for the children and play leader to evolve that organization, the interest center adventure playground builds that organization into the very structure of the playground from the beginning.

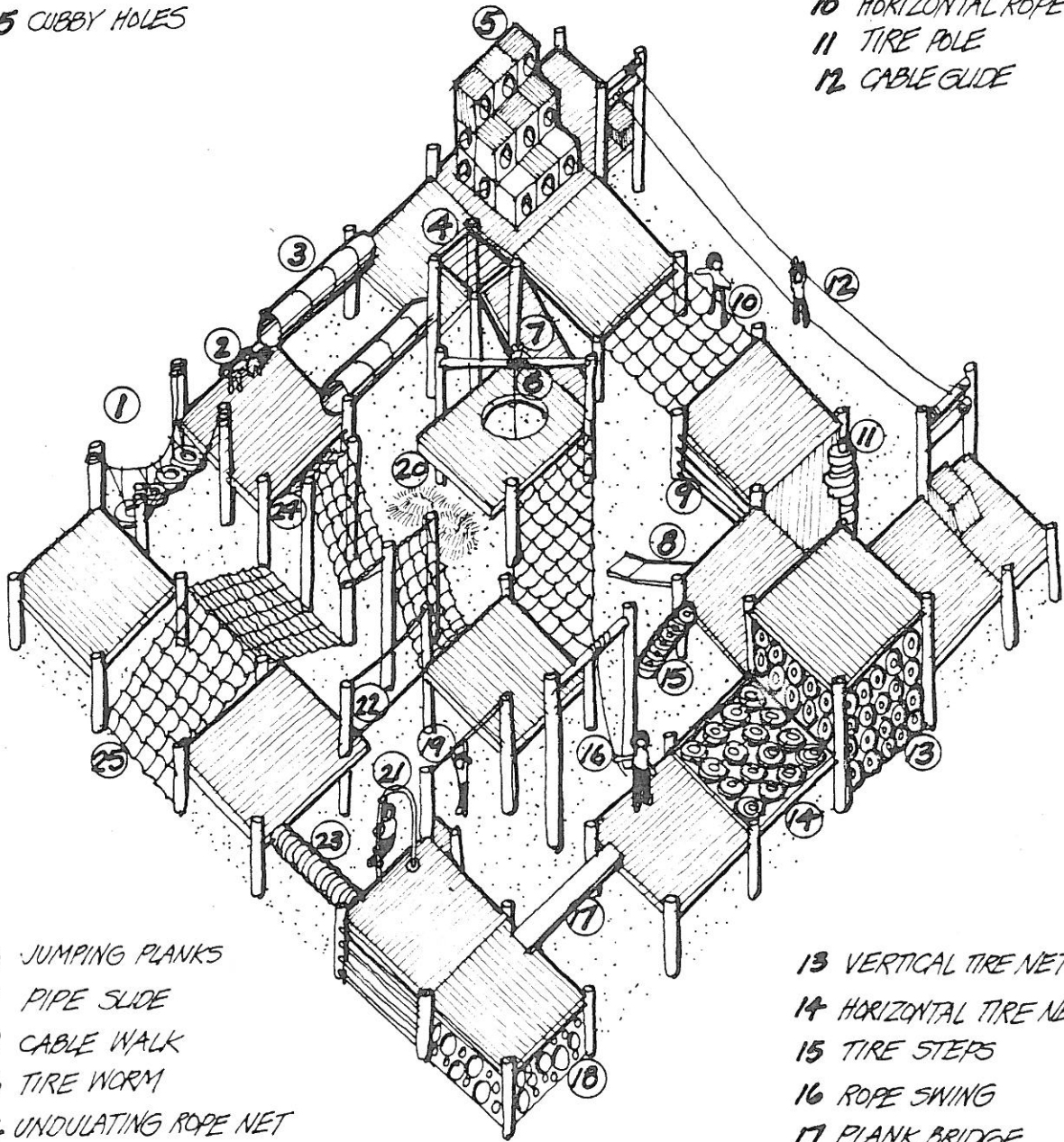
In an intensely developed playground, children accept and work within the structure of the environment rather than creating their own. The overall design of the playground is fixed. There is limited opportunity for children to invent their own activities, or for them to participate in changing the spatial organization of the playground. While the interest center approach presents the children with a wide and varied menu, it does not allow them to "cook" according to their own global recipe. They are empowered to operate within an adult controlled environment so long as they stay within the boundaries of center definition. They do not control--the physical environment controls. The more intensely the playground is developed and pre-planned, the less the children control the physical organization of their own activity. To that extent, their personal power to invent, define, and create their space is limited.

Budget constraints pose a further problem for the interest center approach. Construction of such a site is expensive and lengthy. Staff salaries are a significant budget expense. In centers where children use tools and materials, two people are needed to orchestrate the varied activities. Such a playground may well need to charge a user fee which may allow fewer children to use the playground consistently or intensively.

For the purpose of this study, we have designed a one-half acre adventure playground containing a sand and water center, a climbing network, a garden center, an arts and crafts area, a carpentry and take apart center, and a court games area. The design has been done consciously to facilitate analysis of the various relevant components, and without consideration for the normal constraints which tract size, shape and terrain pose for designers. Obviously, there are many other design options and configurations available. Our attempt has been to focus on the design considerations which provide the maximum constructive opportunities to children within the constraints which this format exerts.

- 1 SWINGING BRIDGE
- 2 PLATFORM
- 3 BARREL TUNNEL
- 4 HORIZONTAL LADDER
- 5 CUBBY HOLES

- 6 ROPE ELEVATOR
- 7 RAMP
- 8 SLIDE
- 9 RUNG LADDER
- 10 HORIZONTAL ROPE NET
- 11 TIRE POLE
- 12 CABLE GUIDE



- 20 JUMPING PLANKS
- 21 PIPE SLIDE
- 22 CABLE WALK
- 23 TIRE WORM
- 24 UNDULATING ROPE NET
- 25 DIAGONAL ROPE NET

- 13 VERTICAL TIRE NET
- 14 HORIZONTAL TIRE NET
- 15 TIRE STEPS
- 16 ROPE SWING
- 17 PLANK BRIDGE
- 18 HOLE LADDER
- 19 HAND OVER HAND CABLE

CLIMBING NETWORK 5-24



## Climbing Network

By providing children the opportunity to move through a multi-level, multi-planned highly integrated climbing network, we believe that they will be able to:

Learn to coordinate thinking and action.

The young climber will grow to coordinate three dimensional reasoning and spatial organization. Moving through a complicated network necessitates the formation of thinking strategies.

Develop physical competence.

Through play, children increase their stamina and physical coordination in an environment where there are no performance standards.

Learn to take risks.

A well designed climbing network provides a wide range of opportunities for children to take and overcome risks. To segregate challenges according to competence, the well designed network limits access to potentially dangerous heights by making the paths to those heights difficult to reach by any other than the most physically competent children.

Learn to make decisions.

By maximizing the number of possible pathways from any one point to any other point in the network, a climber gives children many opportunities to make decisions and immediate feedback on the quality of those choices.

## Safety

Much of the safety work to be accomplished in a climber network must be done in the design and construction phase. Incorporating the safety standards for playground equipment, special safety consideration must be given to the following issues:

Design must eliminate the dangers of falls from heights or onto rigid members; preclude the possibility of entrapment of head, limbs or clothes on any element; avoid placement of rigid members in traffic areas; guarantee structural integrity of materials; and assure structural adequacy of the multiple connections.

Sharp corners must be eliminated or covered.

Efforts must be taken to minimize the danger of splinters.

Nuts and bolts must be covered.

Moving objects must not be placed in the line of traffic.

Soft surfaces should be provided under all climbing equipment.



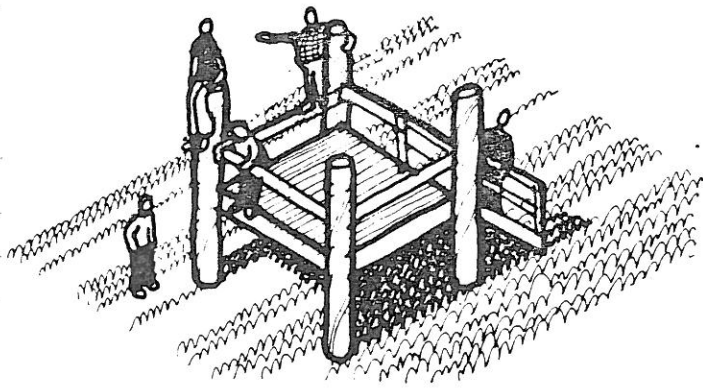
Maintenance

The following precautions can assure safe use of the climbing network:

Regular intensive maintenance checks with prompt follow through on repairs.

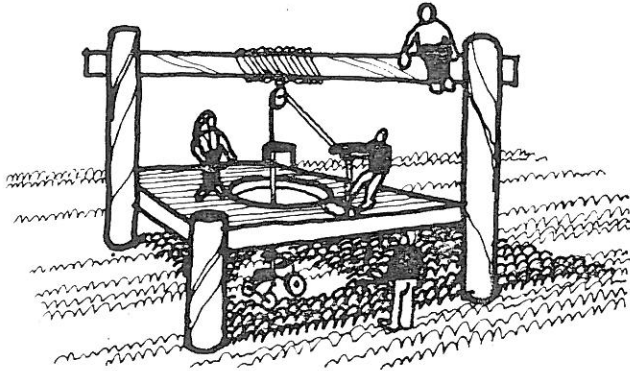
A log of all accidents to help suggest future adjustments.

Adequate supervision.



## PLATFORM

Platform floor height will vary up or down according to the functions working on it.  
Posts should have  $\frac{1}{3}$  of total length in concrete.



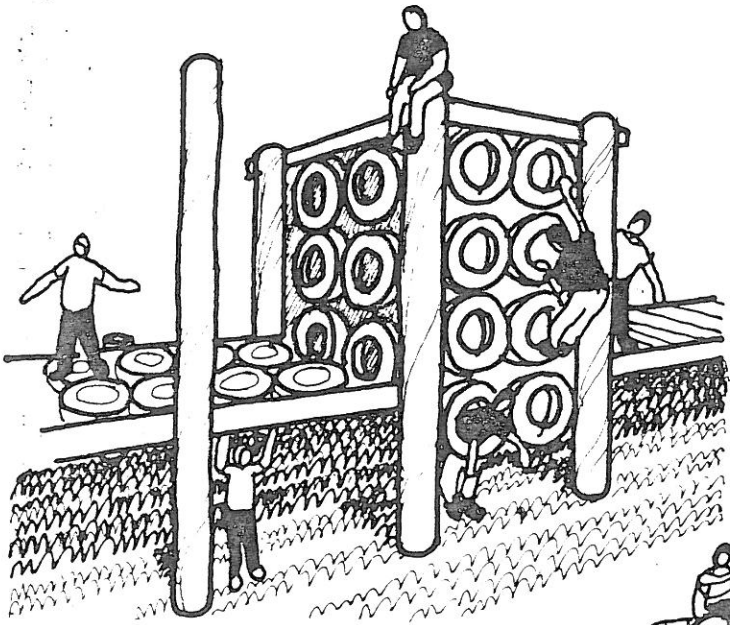
## ROPE ELEVATOR

Rope can be fixed at ground level to reduce possibility of child striking edge of hole and to remove slack that could allow rope to be tied around a child.  
Pulley systems for hauling play equipment work well in this system, but slack rope asks for closer supervision.

## TIRE NET

Used either vertically or horizontally, the tire connection design must provide for adequate drainage holes, otherwise the tires (filled with rain water) are too heavy and stress the connecting hardware in addition to providing breeding area for mosquitoes.  
Used steel belted radial tires should not be used.

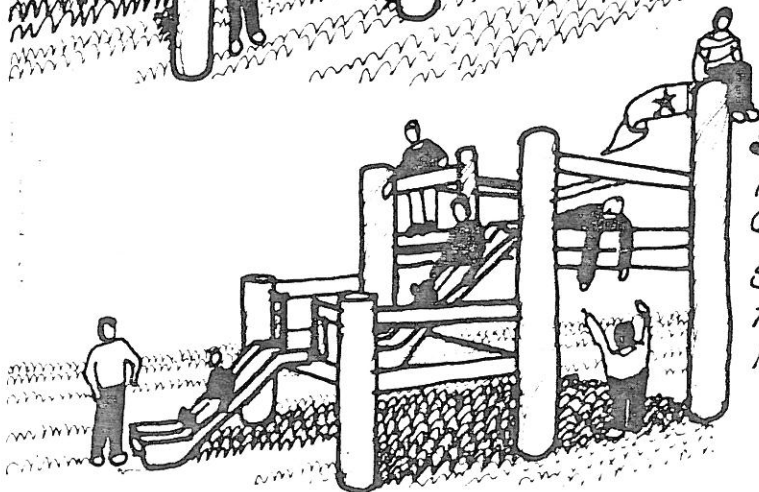
This is an inexpensive, but labor-intensive way to provide many valuable, large scale functions for play.

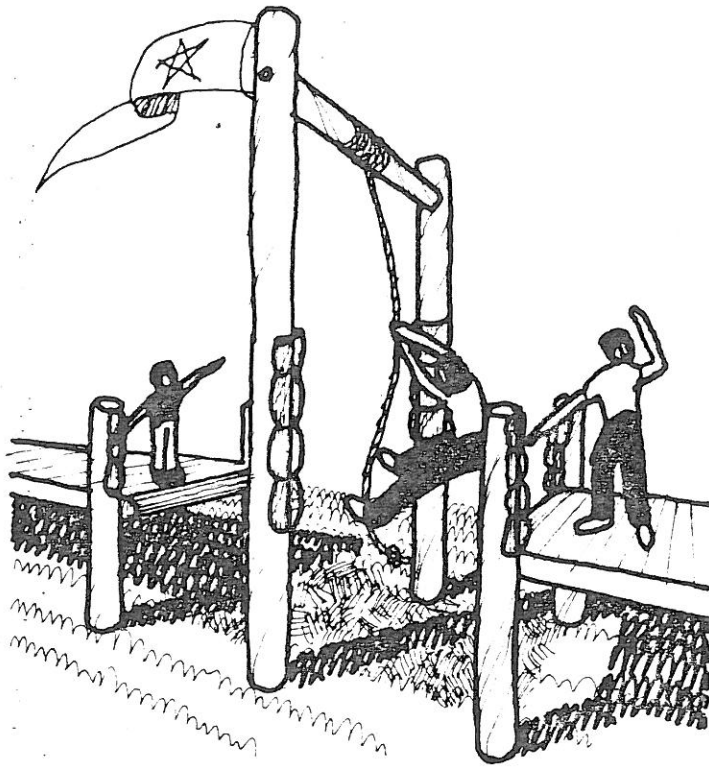


## SLIDE

Platform-borne slides provide greater entry safety.

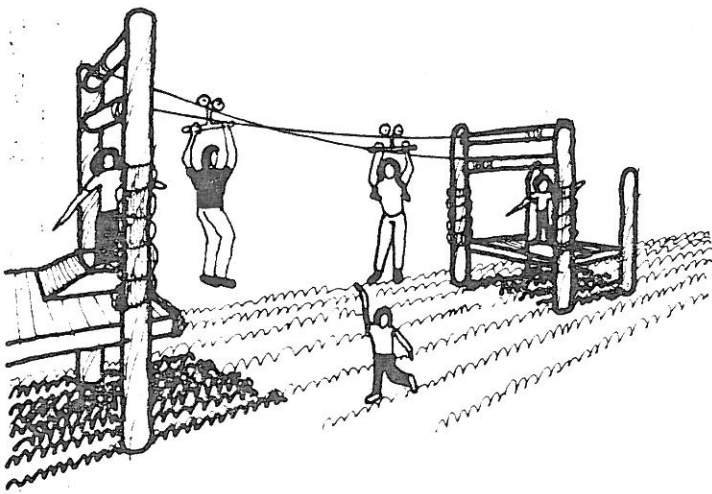
Slides can provide transition between two levels of platforms if soft landing surface is provided.



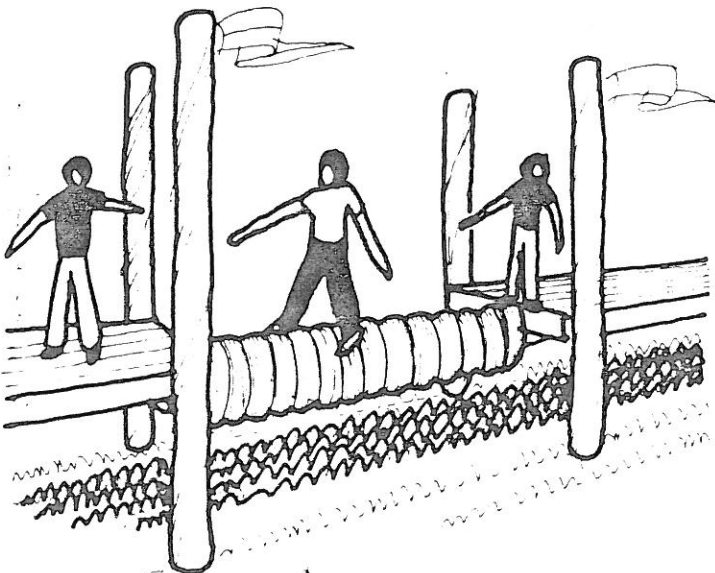


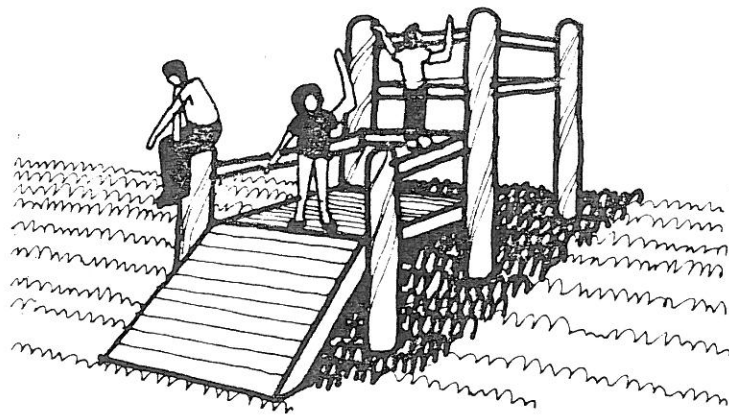
**ROPE SWING**  
 Soft bumper at entry points on platforms  
 and on poles.  
 Soft material maintained below swing  
 path.

**CABLE GLIDE**  
 Provide cushions to assist in termination  
 of rides.  
 A "seat" should be attached to pulley  
 when elevation warrants.

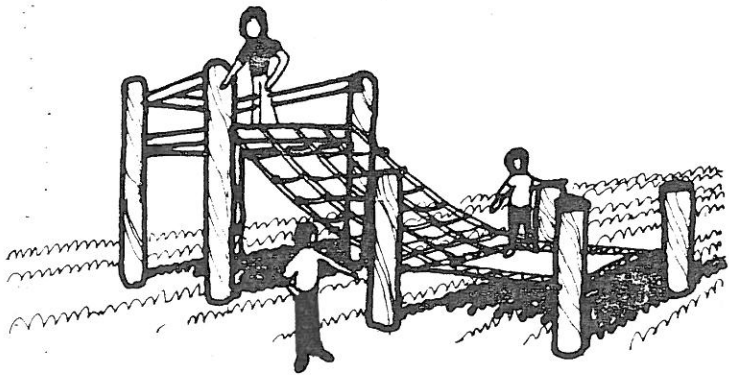


**TIRE WORM**  
 Tires are threaded on an adequate  
 structural member.





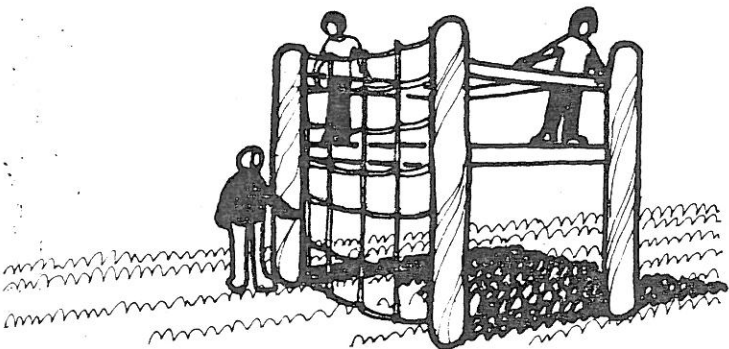
RAMP



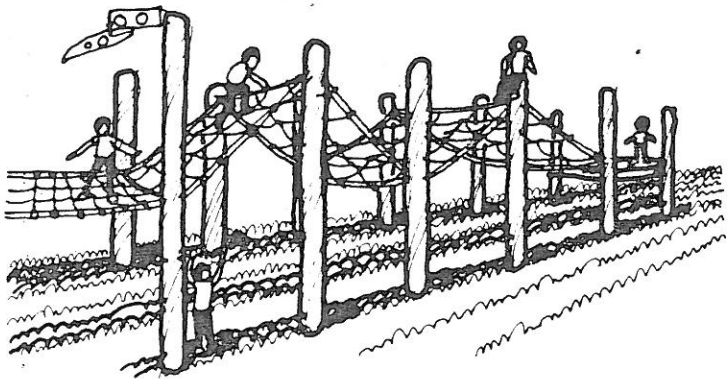
DIAGONAL ROPE NET

Grid size should be sufficient to preclude entrapment of limbs and head.

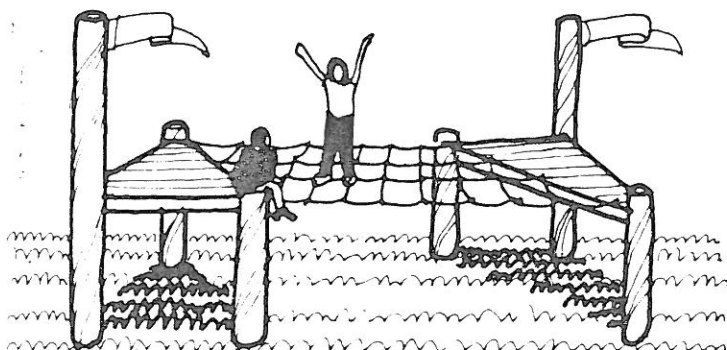
Soft cushion at lower platform threshold.



VERTICAL ROPE NET

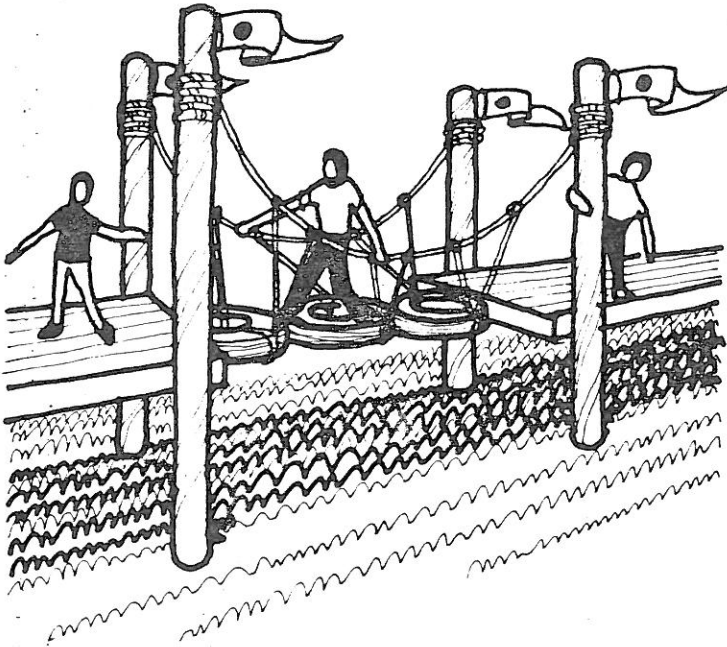


UNDULATING ROPE NET

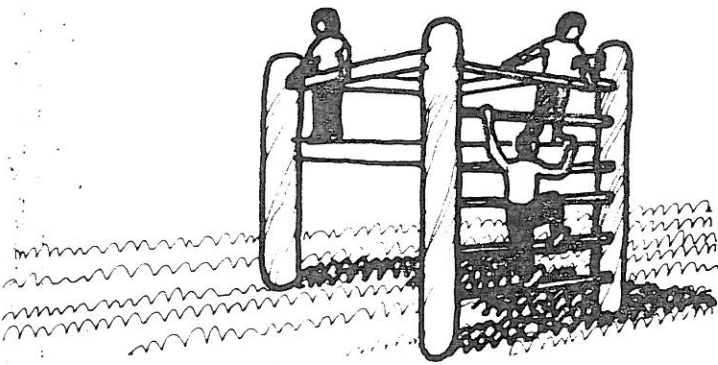


HORIZONTAL ROPE NET

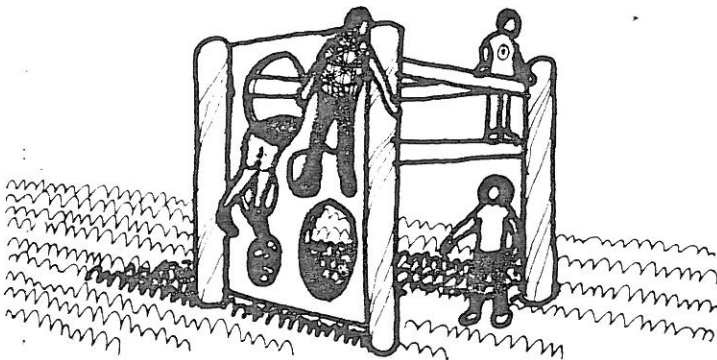
**SWINGING TIRE BRIDGE**  
Some possibility for pinched fingers  
if chain is used in lieu of rope.  
Also labor intense and complicated.



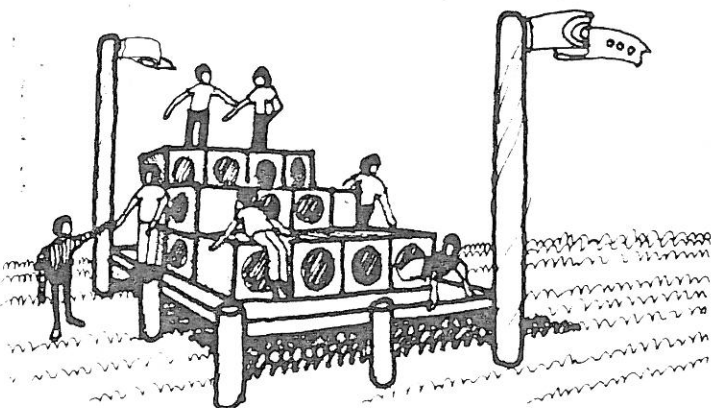
**RUNG LADDER**  
Spacing should preclude entrapment.  
Post or pipe hand rungs.



**HOLE LADDER**  
Holes provide hand and foot holds.  
Holes should be large enough to  
preclude entrapped limbs and hands.



**CUBBY HOLES**  
Crates or framed cubies for private  
moments and role playing. This  
"apartment" system can be built in  
to any platform space.

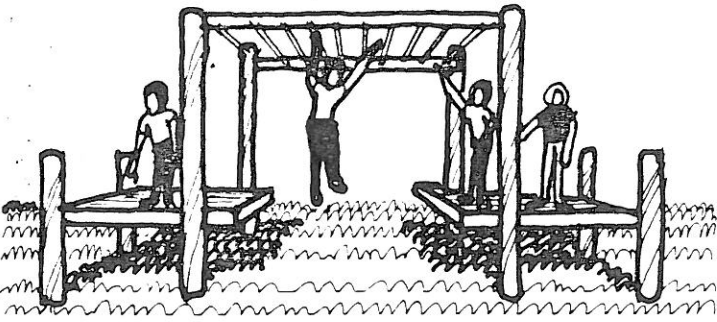




### HORIZONTAL LADDER

Soft bumpers should be connected to entry points of platform to protect against injury on inevitable falls.

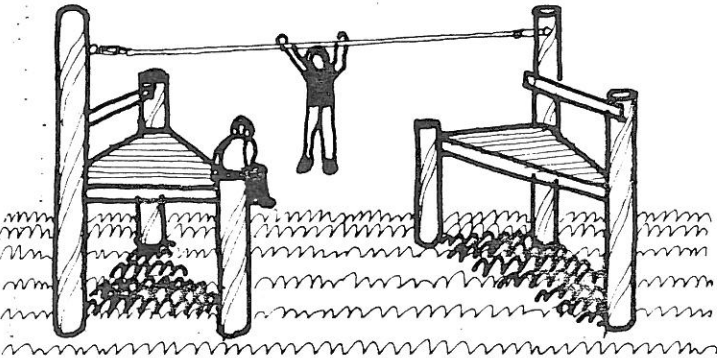
Platform should cantilever out to make transition easier.



### HAND-OVER-HAND CABLE

Soft bumpers should be attached to entry points of platform.

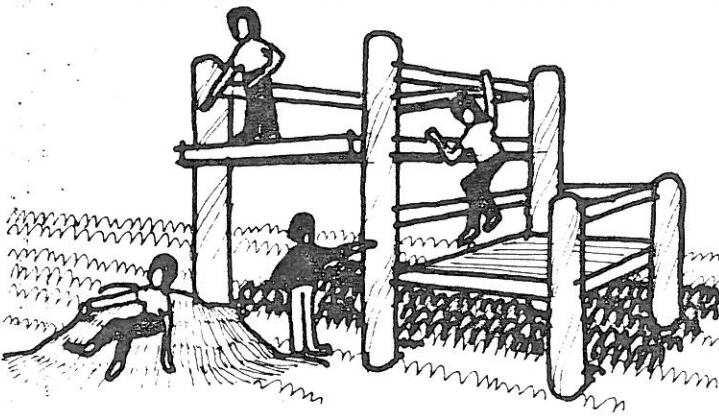
Lower attachments allow gymnastic possibilities.



### JUMPING PLANKS

Soft landing materials should be maintained below system.

This action should not be sited in major traffic path.

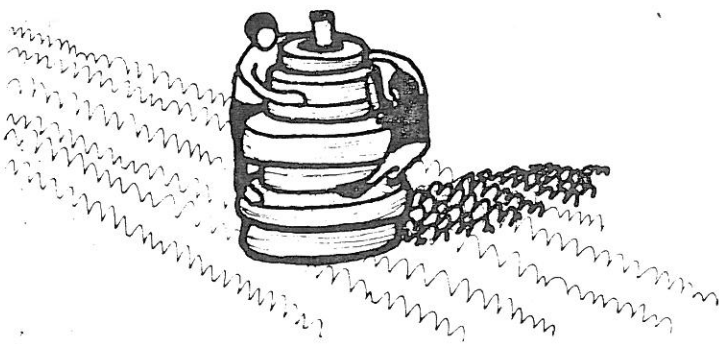


### TIRE POLE

Varying tire diameters helps promote successful climbing.

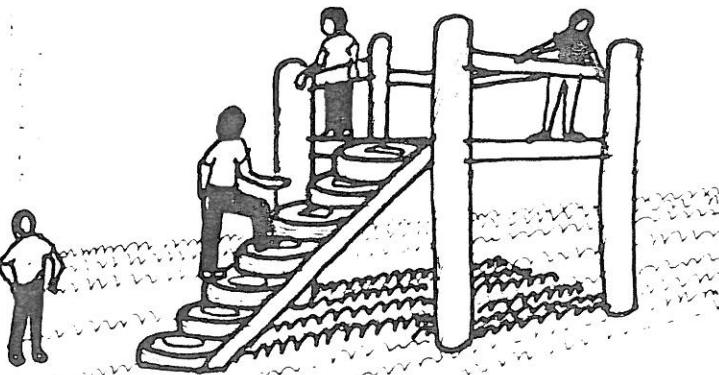
The top tire can be free or fixed under a circular deck.

Children can modify according to interest.

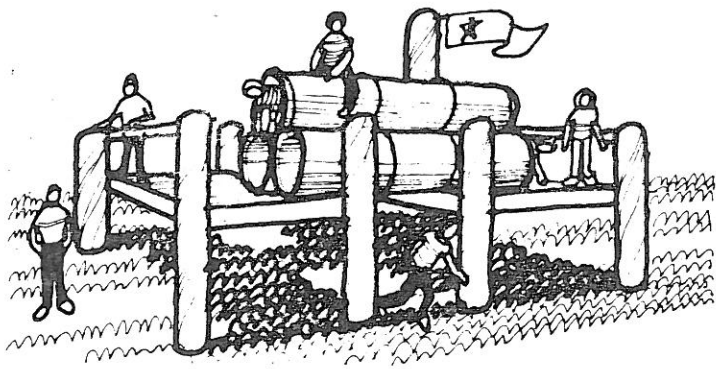


### TIRE STEPS

Complicated and labor intensive.



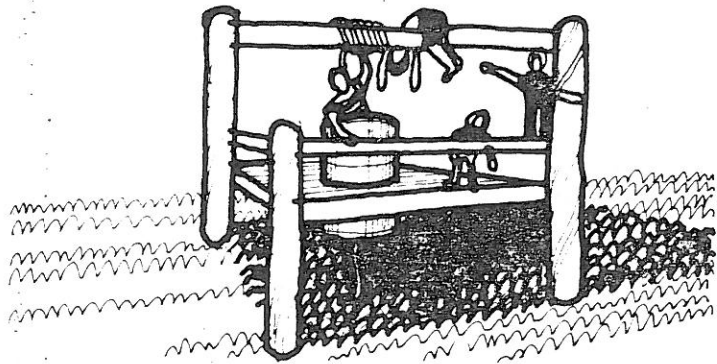




## BARREL TUNNEL

55 gallon used steel barrels with sharp edges removed afford interesting and inexpensive transitions between two platforms.

They can be attached in series over frame to span greater openings.



Barrel variation on Rope Elevator.

## CABLE WALK

$\frac{3}{8}$ " wire rope clamped to heavy-duty eye-bolts and run thru garden hose provides an exciting way to go through the air between platforms.

Rope stretches too much to be efficient.

## PLANK BRIDGE

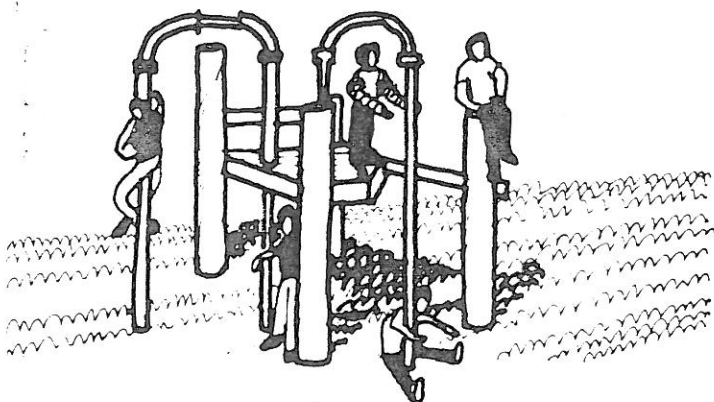
This system can be used without hand rail or line if not too high.

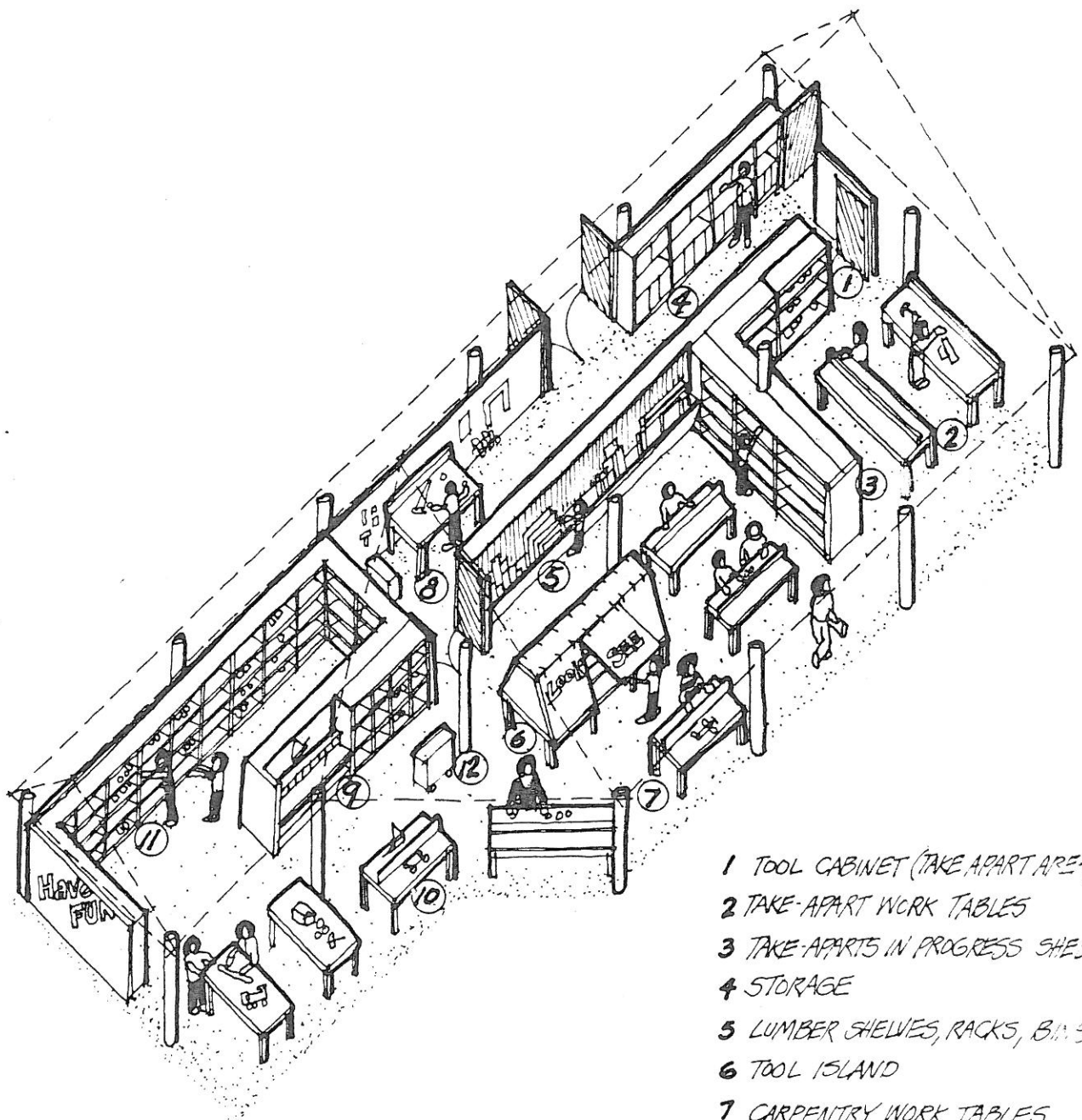
Adventure promotes valuable balancing experience.

Sides should be painted caution color if at a height to be hit when running.

## PIPE SLIDE

Water pipe of varying diameters can be used for "fire-pole" action. Flanges connect pipes to platform. Pipe can be bent into interesting shapes by hand if diameter is small enough.





- 1 TOOL CABINET (TAKE APART AREA)
- 2 TAKE-APART WORK TABLES
- 3 TAKE-APARTS IN PROGRESS SHELF
- 4 STORAGE
- 5 LUMBER SHELVES, RACKS, BINS
- 6 TOOL ISLAND
- 7 CARPENTRY WORK TABLES
- 8 LUMBER PREPARATION AREA
- 9 PAINT CENTER
- 10 EXHIBIT SHELF
- 11 WORK IN PROGRESS + FINISHED WORK SHELVES
- 12 CART

# CONSTRUCTION CENTER 5-33

## Construction Center

By giving children the opportunity to design and construct their own projects with wood, fabric, string and metal, the playgrounds will enable them to:

Coordinate thought and action.

The young carpenter must develop three dimensional understanding in order to construct projects. Children will need to sequence their work and plan for large scale.

Develop physical competence.

As children succeed in implementing their own ideas, they develop stamina, motor control, and body coordination. They gain increased competence in handling tools.

Deepen knowledge of the physical world.

In discovering the properties of the building materials, and in exploring proper use of tools, the children come to know the physical world better.

Develop attention span.

As physical skills and conceptual ability increase, children design more complex structures. These longer projects extend and exercise their span of attention and commitment.

## Safety

Require safety goggles.

Provide bit covers for drill bits.

Intervene in dangerous situations.

Guide children in proper use of tools.

Remove all tubes from TVs and radios before children use them.

Inspect all items taken out of the carpentry center.

Inspect all large scale constructions for structural safety.

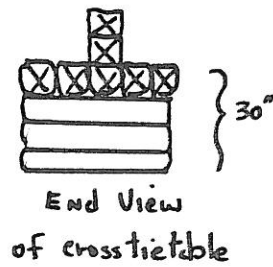
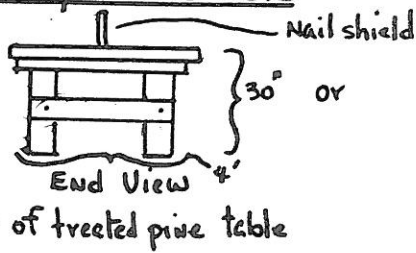
## Maintenance

Inspect tools daily.

Remove dangerous nails and boards.

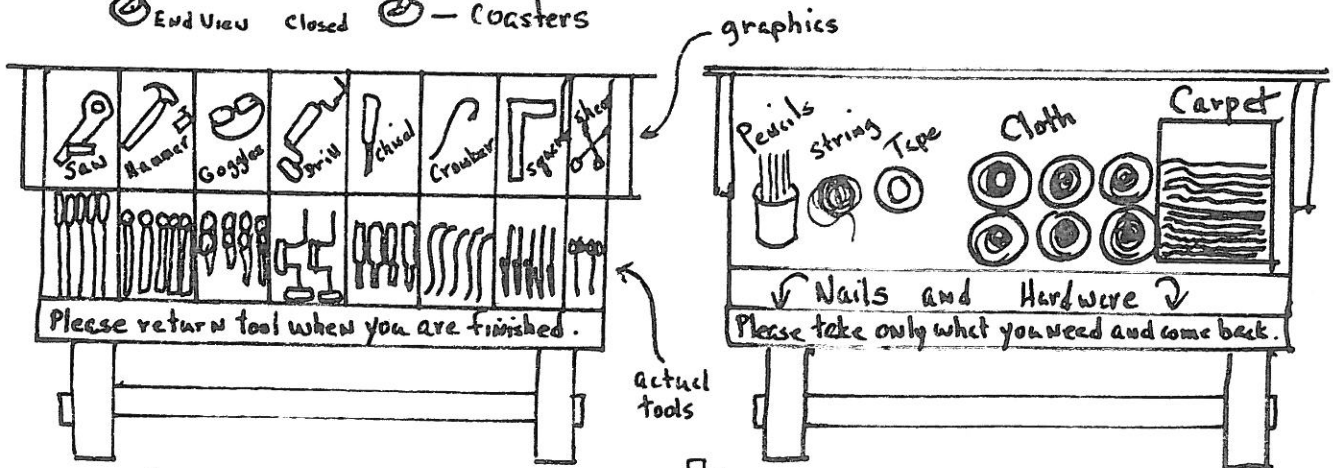
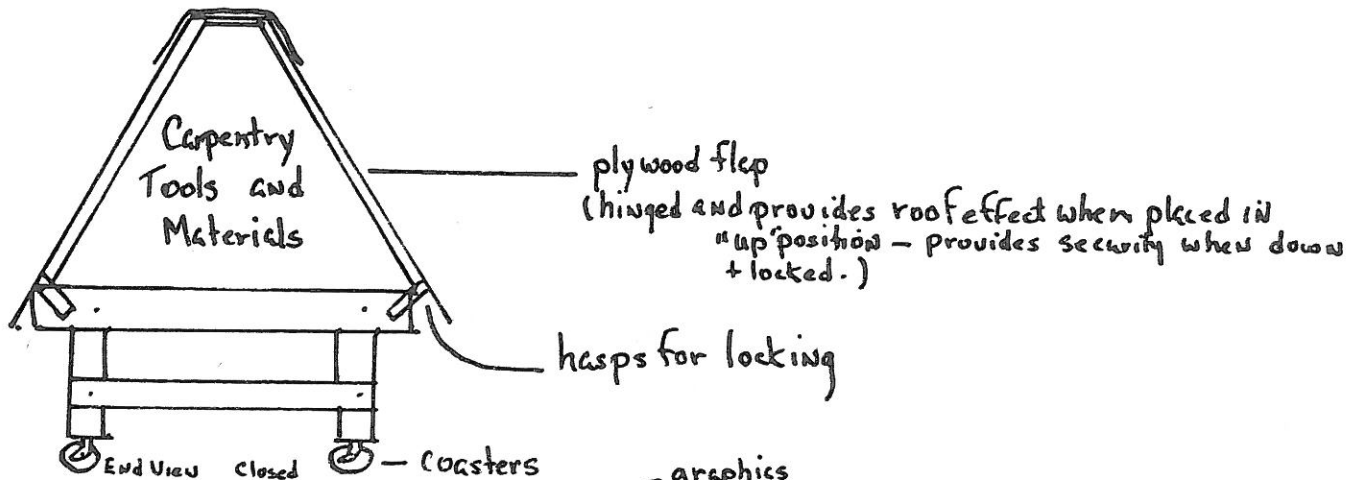
To further the life of the tools, demonstrate proper use of the tools and the preferred choice of tools to the children.

# 1. Carpentry Work table



Note: This table is less expensive, the children are more successful hammering on it however it is essentially stationary when built.

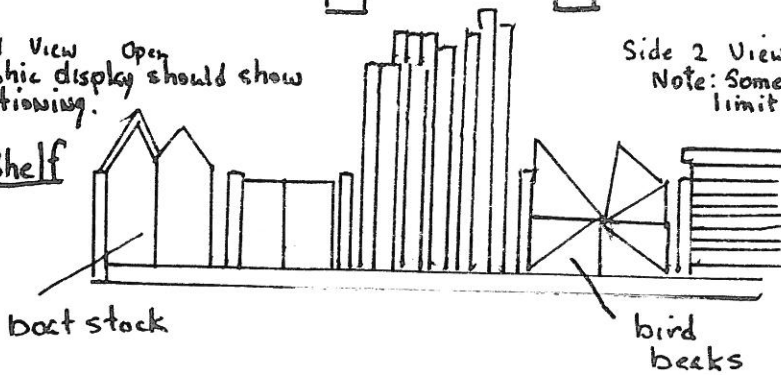
# 2. Tool Island



Side 1 View Open  
Note: The graphic display should show tool functioning.

Side 2 View Open  
Note: Some construction center programs limit # of nails the child may have at a time.

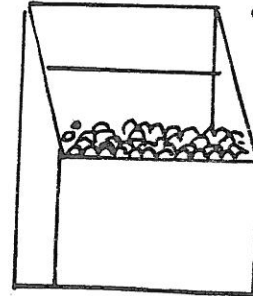
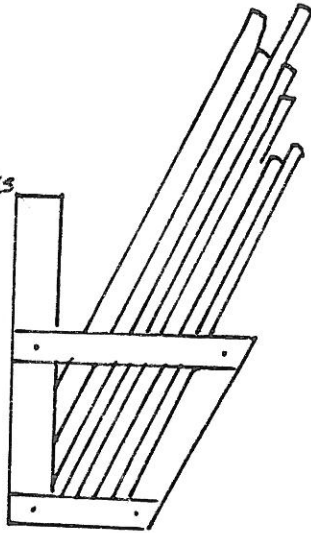
# 3. Lumber Shelf



Lumber is prepared in a variety of sizes in order to reduce the # of cuttings needed in building project. Signs can suggest which prepared materials are suited for such projects as toy boats, etc.

### Lumber Bins/Racks

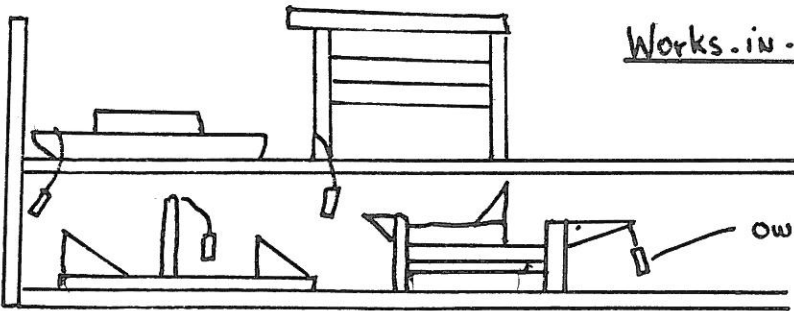
This rack handles longer materials and allow children easier task of looking over what is available.



This bin system is good for holding small materials - especially collage materials.

A sign could help keep it from being used as a trash can.

4.

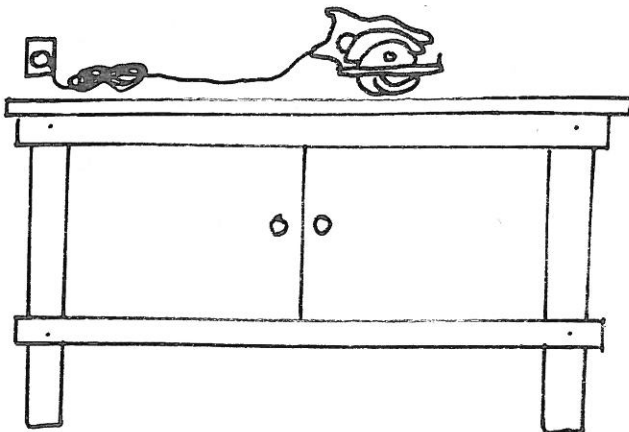


### Works-in-progress / finished work shelf

Children should have works reviewed by construction center staff person for safe construction before works are used in other areas of the playground.

Unclaimed works should be kept for a period of time (posted), then either reclaimed or thrown away.

5.



### Lumber Preparation Work Table

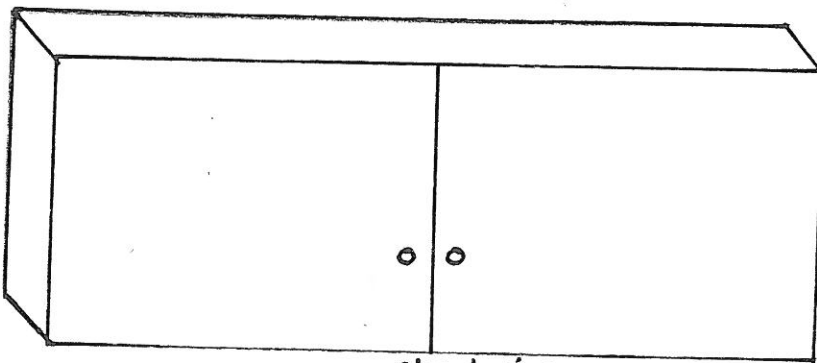
This table is in the lumber preparation area which is for staff only unless play leader invites a child. Custom cuts can be made if request makes sense.

Preparation of high variety dimensions is helpful to children who need assistance in securing the necessary piece sizes.

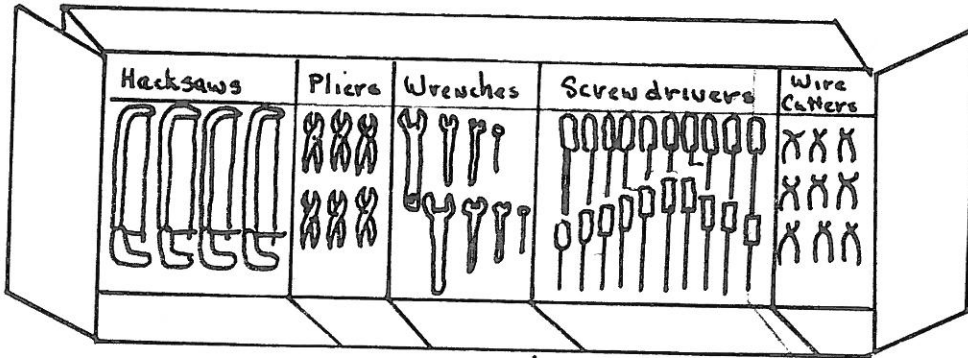
## Storage Bins

Shelves and bins should be available for easy storage. Storing lumber and other construction materials in a covered area out of the immediate reach of children makes materials preparation easier. Another dumpster bin should be available for storage and disposal of used or splintered lumber.

7.



closed view



open view

tool cabinet  
(take-spot area)

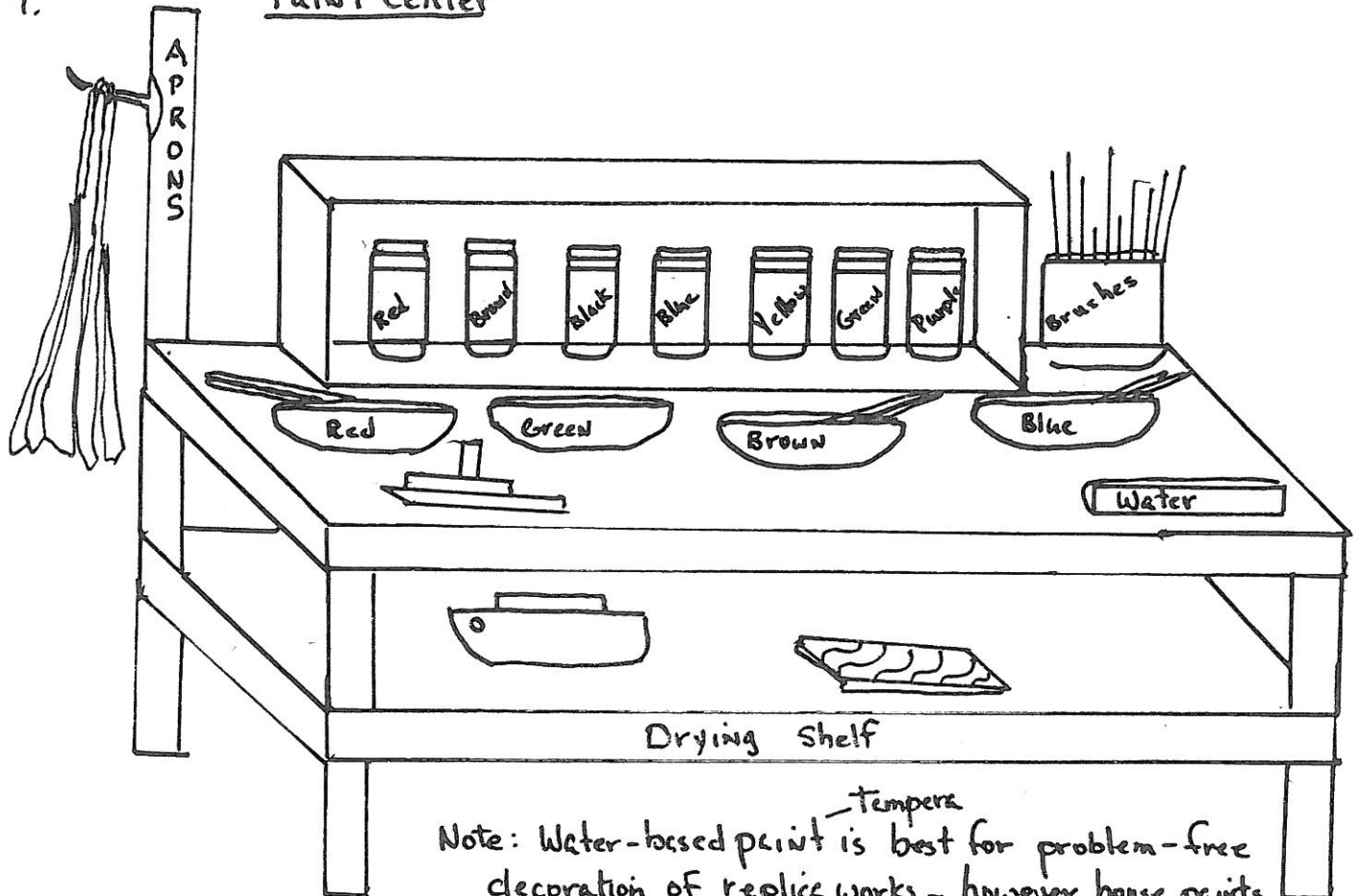
The graphic display (picture and name) should illustrate functioning of the tool.

Note: a bin in the take-spot center could invite (by sign) the children to save interesting parts of machines to be incorporated in construction projects in the carpentry area, e.g. robots, etc.



9.

## Paint Center

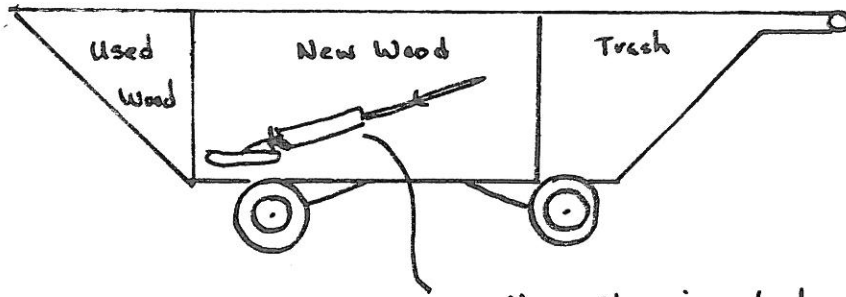


Note: Water-based <sup>tempera</sup> paint is best for problem-free decoration of replica works - however house paints (Latex) are better for children who want paint to remain.

## Exhibit Shelf

Donated works and finished pieces should be kept for their instructional value, as well as for the recognition of the carpenter who leaves a piece of his or her work on the playground. Shows and exhibits are not intended to encourage competition but to reward effort and to demonstrate the various levels of children's competency.

11.



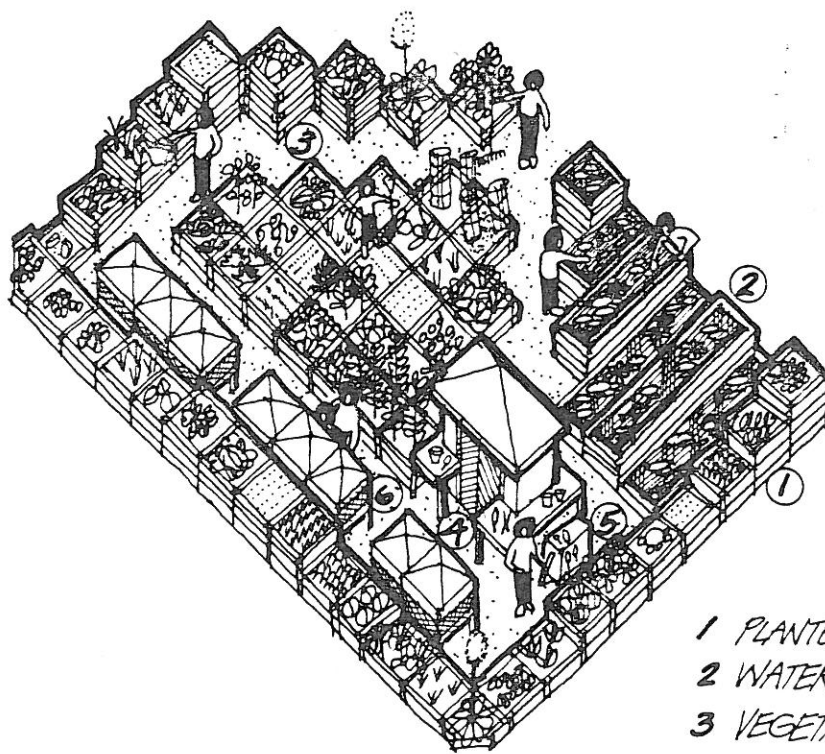
Nail-gathering electro-magnet pole

in appropriate  
section of cart.

## Cart

This cart is essential  
for maintaining this center.

Children are encouraged  
to clean up their work  
tables & throw excess & trash



- 1 PLANTERS FOR DECORATION
- 2 WATER LIFE POOLS
- 3 VEGETABLE AND FRUIT PLANTERS
- 4 STORAGE
- 5 CART
- 6 ANIMAL HABITATS

GARDEN AND NATURE CENTER 5-41

## Garden and Nature Center

The natural world of plants and animals is often beyond the experiences of urban children. By providing children experiences and responsibilities in the natural world, the following goals may be realized:

A deepened knowledge of the physical world.

A nature center is a living encyclopedia. Children who initiate and nurture plant and animal life come to know the life process, the life cycle, and a vast variety of life forms. Children gather and organize this information concretely through observations, and also through reference to written materials which further inform them about the natural world while providing a compelling self-motivated reason for developing literacy skills.

Growth in social and emotional maturity.

A nature center is both an example and a context for growth of a caring, sensitive community. It gives children meaningful responsibilities for feeding and maintaining life. In that experience, they feel competent and trustworthy, and capable of trusting and being trusted by others. Children feel valuable and necessary. The intimacy called forth in such caring work grows a greater respect and affiliation with all life. Possibilities for better human relationships are heightened amidst joint projects and the caring role modelling of the play leader. Sharing respect and care for life enhances all interpersonal relationships.

Coordination of thinking and action.

The nature center is both a laboratory and museum whose scientists and tenders are the children. It draws forth problem solving strategies. (How do you catch the escaped rabbit or make a protected haven for the pregnant toads?) It allows children to observe and generalize about cause and consequences in the natural world.

Increased physical skills.

The nature center is a virtual factory with many physical jobs which develop children's body coordination and skills. Shovelling, raking, siphoning, picking up animals, planting seeds, and trimming plants all improve children's competence at coordinating their own bodies in the physical world.

## Safety

Take special care in the use of chemicals; store chemicals or animal medicines in locked areas.

Design the pond to reduce possibilities of falls; provide extra supervision around the pond to protect both children and plant and animal life.

Supervise children using tools.

Inform the community about any unedible fruit or leaves of trees and plants.

Provide veterinary care for all animals.

Provide information on possible bacterial problems which arise when turtles are kept.

Document reports on all bites.

Quarantine all sick animals.

## Maintenance

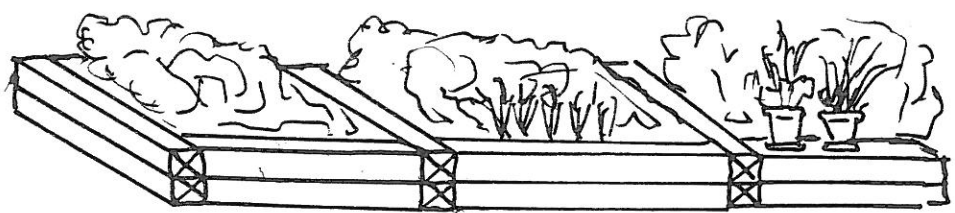
All animal cages should be cleaned regularly. It is important that the community understand that it has adopted living beings for its own enjoyment and education. In so doing, the community has assumed the responsibility for the humane care for these animals.

## Equipment Needs

Shovels	Wheelbarrows
Hoes	Wagons
Hand spades	Seeds
Garden hoses	Cuttings
Water cans	Shrubs
Containers	
Seedling flats	

# Planters

1.

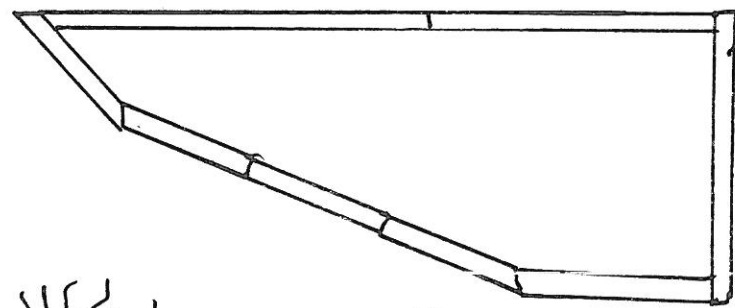


Raised beds framed and sectioned by cross ties. The soils which are added can be constituted so as to provide optimal soil conditions for a variety of plants whether they be only decorative or food producing.

The cross tie frame allows good drainage & can be connected by toe-nailing using 60 penny nails. They can be easily knocked down & re-formed in a new arrangement. Tiering can produce interesting planes of growth.

The sectioning allows easy separation of types of growth, assignment of plots to groups of children & major work to an area without affecting neighboring plot.

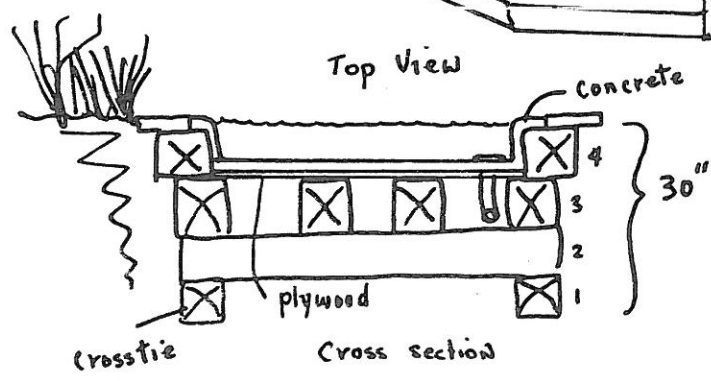
2.



## Water Life Pool

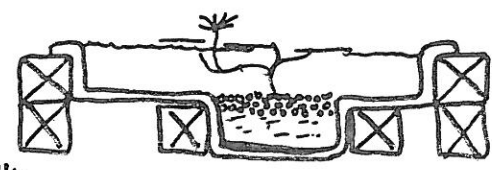
Cross tie frame & concrete basin - This design utilizes inexpensive materials & provides a plan which necessitates no excavation

& plan which necessitates no excavation easy sewer access due to elevated water puts water life at table height & gives free opportunity for varying elevations of water surfaces.



Top View

Cross section

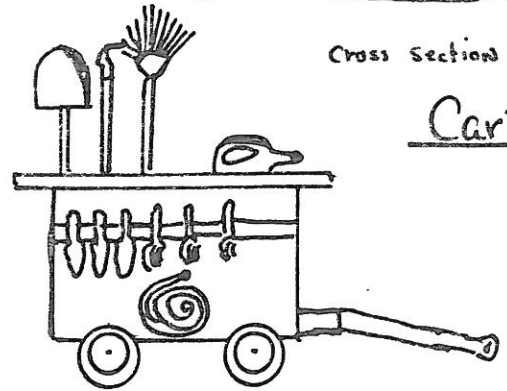


Cross section

Concrete is poured over wire molded over plywood which sits on layer 3 of cross-ties - and the concrete is brought up and over 4th tie level. A 2x treated pine or cedar shelf can apron the concrete lip. Soil can be moved up to conceal ties if desired & background foliage introduced

The concrete form can be made to allow soil pits for water lilies, etc. Children & play leaders can build these.

3.

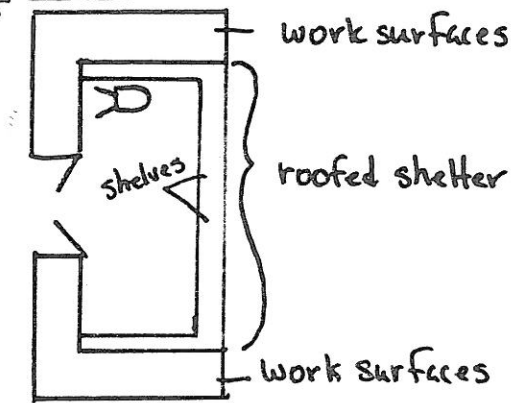


## Cart

Note: Carts of heavy enough construction could have built in tanks for holding water for watering vegetation beyond hose length. The play ground could have container plant growth distributed throughout.

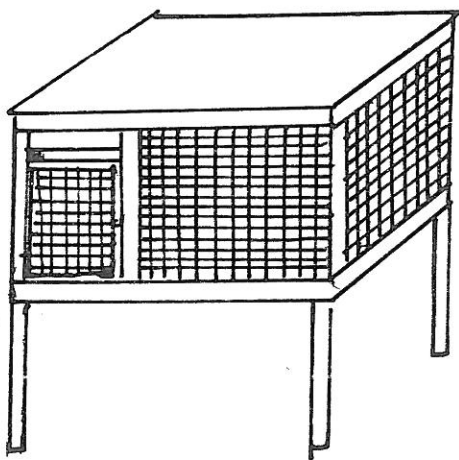


4. Storage Area



This small building, could store tools, feed, records, chemicals and protect vulnerable new growth (Plant or animal). Bins of soil varieties could be located beneath the outside work counters. Bulletin board could display nature facts & schedules for feeding & watering animals, etc.

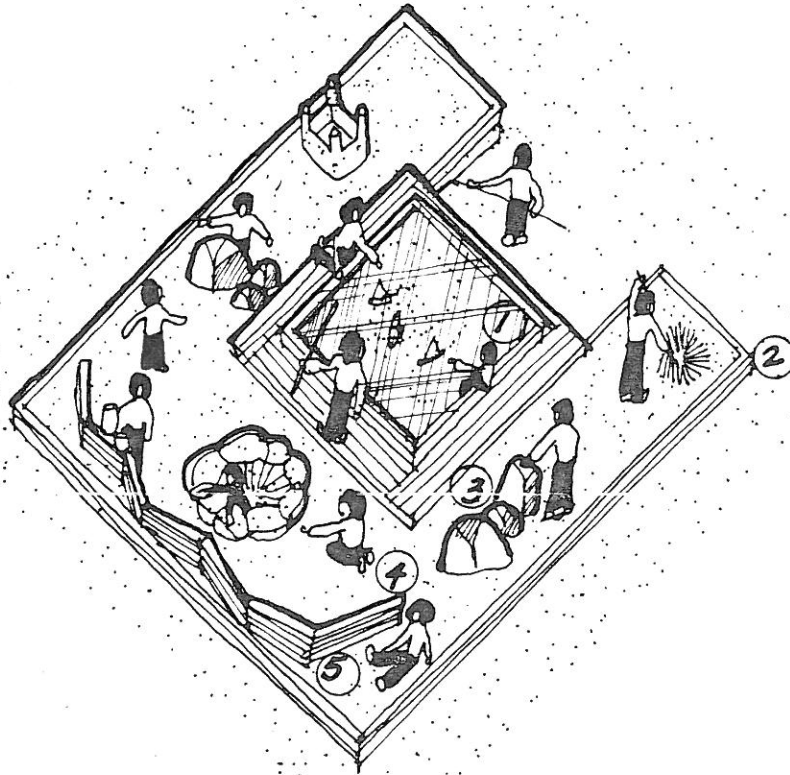
5.



Animal habitats

These conventional habitats could be built in the construction center & located in the animal habitat area of the center. With help, more life-like habitats could be developed with vegetation tucked around them.

- 1 WATER TABLE
- 2 SAND RETAINING WALL
- 3 ROCKS
- 4 SAND
- 5 SAND TOOL SHELF



SAND & WATER CENTER 5-47

## Sand and Water Center

Sand and water are traditional preschool materials considered necessary for basic sensory development. When a center is enlarged and equipped with materials such as wheelbarrows, conduit pipes, boats, buckets, and shovels, it can be a valuable learning resource for children through their pre-teen years. With access to this resource, the following growth goals can be advanced:

Discovery of the physical properties of matter.

Sand and water are primary elements in the physical world. Exploration of them yields information about floating, pouring, molding, dissolving, flowing, siphoning, and many other characteristic properties of matter. While younger children explore and discover these phenomena, older ones utilize them in their constructive play.

Development of problem solving skills.

In construction of sand cities, water canals, and sculptured shapes, children reflect and enjoy a growing intelligence. They solve problems by creating bridges, dams, retaining walls, ramps, dikes, reinforced sand works and dozens of other inventions which thinkers over the ages have discovered.

Growth in social emotional maturity.

For the young toddler, one of the first interactions among peers is often at the sand box. Communication skills grow. Initial conflicts (I had that shovel first!) grow into cooperative group efforts at large scale construction. The sand and water area provides rich opportunities for role playing and imagining, vital elements in the growing personal work of children.

## Safety

The depth of the water table should not exceed six inches.

Mount the table to avoid trips and falls.

Passively supervise the area.

## Maintenance

Use either sharp or torpedo sand.

Rake and water the sand on a regular basis.

Equipment Needs

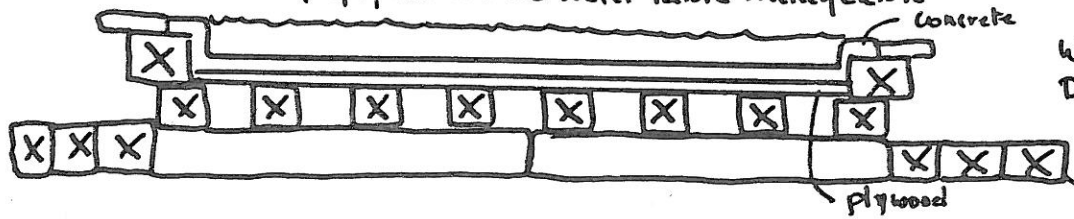
Molds	Shovels
Spoons	Containers
Dishes	Detergent Bottles
Pails	Screens
Pans	Styrofoam
Spools	Pulleys
Pipes (PVC)	Tire Tubes
Figures	Cork
Trucks	Wheelbarrow

S.C. #1

### 1. Water table

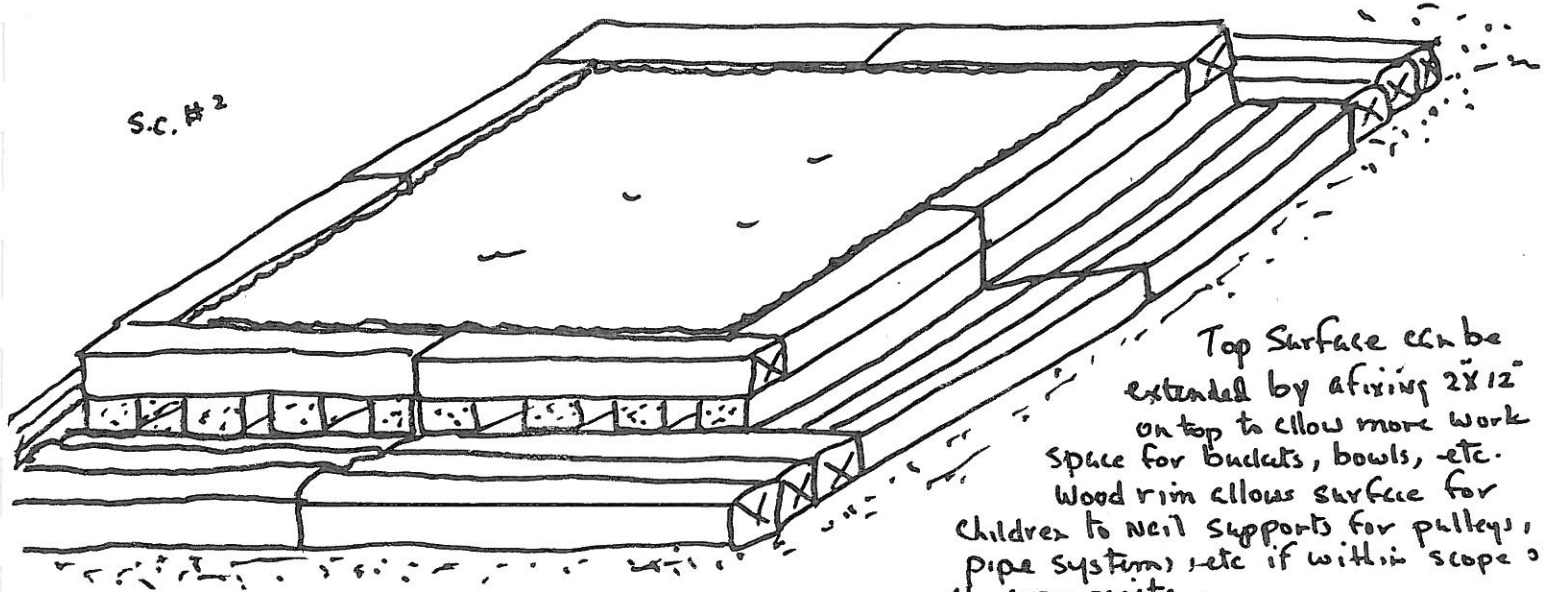
Same construction pattern as mentioned in Garden and Nature Centre for water life pool except show here a cross tie decking to help keep ply space around water table manageable

S-50



Water depth 7-8"  
Drain should have adequate sand trap.

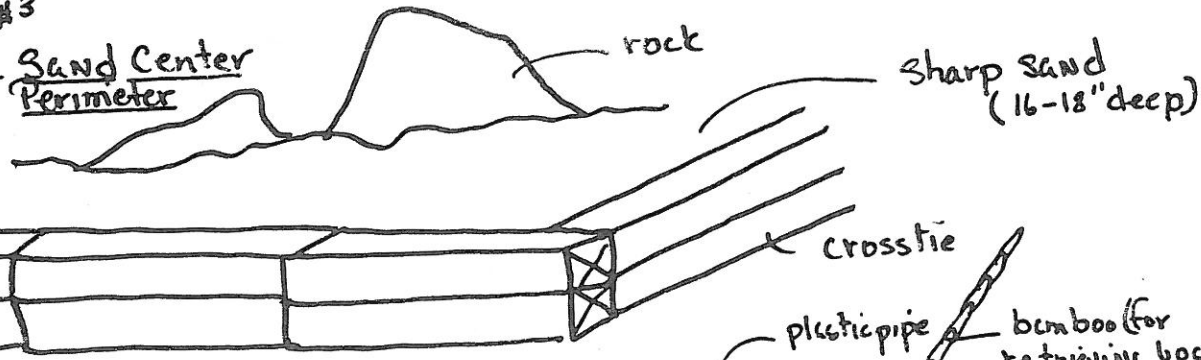
S.C. #2



Top surface can be extended by affixing 2x12 on top to allow more work space for buckets, bowls, etc. Wood rim allows surface for children to nail supports for pulleys, pipe system, etc if within scope of the appropriate.

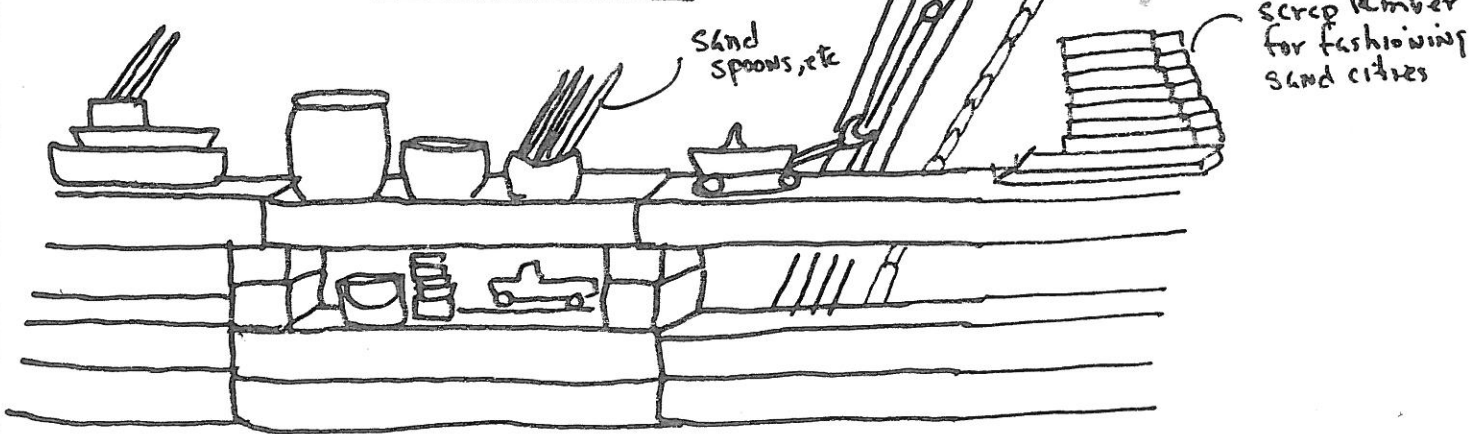
S.C. #3

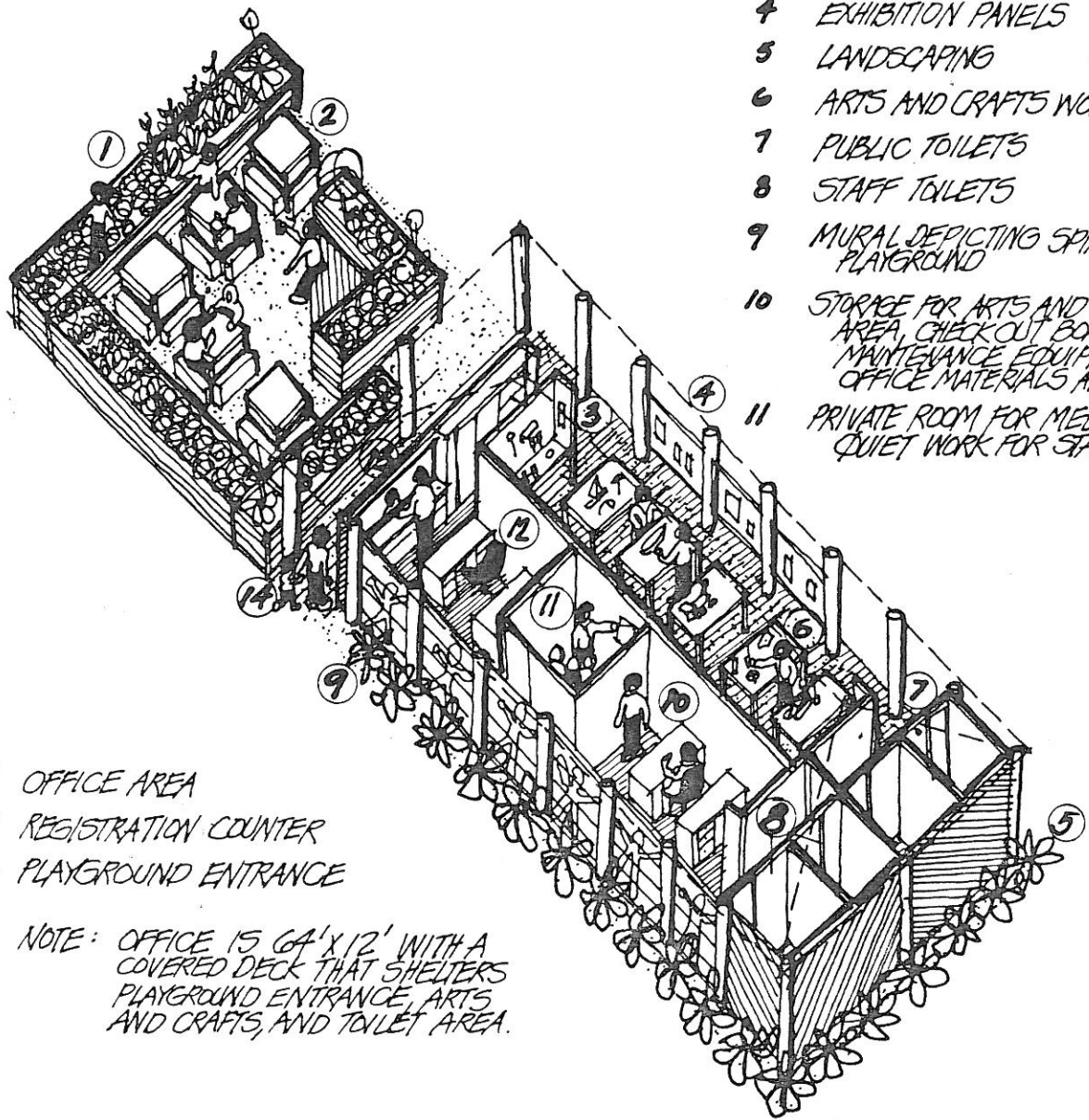
### 2. Sand Center Perimeter



S.C. #4

### 3. Sand tool shelf





- 1 BENCH SYSTEM FOR RESTING AND WAITING TO BE PICKED UP
- 2 TABLES FOR PICNICS AND BOARD GAMES
- 3 SHELVES FOR WORKS IN PROGRESS OR FINISHED ART OR CRAFT WORK
- 4 EXHIBITION PANELS
- 5 LANDSCAPING
- 6 ARTS AND CRAFTS WORK TABLES
- 7 PUBLIC TOILETS
- 8 STAFF TOILETS
- 9 MURAL DEPICTING SPIRIT OF THE PLAYGROUND
- 10 STORAGE FOR ARTS AND CRAFTS AREA, CHECK OUT BOARD GAMES, MAINTENANCE EQUIPMENT OFFICE MATERIALS AND RECORDS.
- 11 PRIVATE ROOM FOR MEETINGS AND QUIET WORK FOR STAFF

- 12 OFFICE AREA
- 13 REGISTRATION COUNTER
- 14 PLAYGROUND ENTRANCE

NOTE: OFFICE IS 64' X 12' WITH A COVERED DECK THAT SHELTERS PLAYGROUND ENTRANCE, ARTS AND CRAFTS, AND TOILET AREA.

# ARTS AND CRAFTS OFFICE. REST & PICNIC AREA 5.54



## Arts and Crafts Area

The world of arts and crafts holds wonderful possibilities for constructive activity. An arts area gives children work spaces and materials with the invitation to actualize their own ideas and create anything they wish, all the way from simple line drawings to three dimensional sculptural assemblages. In doing so, children grow in the following ways:

Growth in social emotional maturity.

An art center gives the child an outlet for a whole range of emotional statements. By encouraging care and support for the art efforts of all the children, the play leaders encourage a greater appreciation for others. Finally, by providing group projects, the play leaders set the stage for social interaction and cooperation.

Deepened knowledge of the physical world.

Art is sensory education. By heightening children's powers of observation, through sculptural or pictorial representations, children come to know the external world.

Coordination of thinking and action.

Art is play with a purpose and a product, however temporary. As such, the body struggles to produce what the mind may picture or feel. That action defines cognitive growth for children. When children can integrate art and drama projects or use art materials to produce playground signs, they are using the world around them to demonstrate their problem-solving capacity.

Increased physical skills.

In the arts area, children develop small motor skills in their hands and arms through the use of tools and widely varied materials. The body becomes increasingly disciplined in order to achieve what the mind would have it produce.

### Fixed Elements

A great deal is already known and published by authorities with more experience than the present authors; however, we do feel that some of our ideas for fixed features may add to this existing work. We do recommend that the other sources be consulted, and provide a partial list of those sources at the end of this report.

### Work Tables

Work tables are needed for a variety of activities such as collage, clay modelling, drawing and coloring, painting and crafts projects. They should be arranged to provide access from all sides. They should be easy to wash and they should be constructed and painted to withstand inclement weather.

### Art Supply Cabinet

The cabinet for art supplies can be built into the face of the office building. On the outside, the cabinet door is hinged at the top to provide shade when it is opened and to allow easy access by the children. Cabinet doors inside the storage building are side-hinged to allow easy maintenance. Cabinet shelves contain labeled trays for art tools and other materials. Paper stock is shelved in labeled compartments.

### Art Projects Storage Cubbies and Shelves

This area is designed to provide spaces for children to store art projects until they are ready to go home. Signs should remind children both of the ownership of these items and of the need to take them home.

### Sink Area

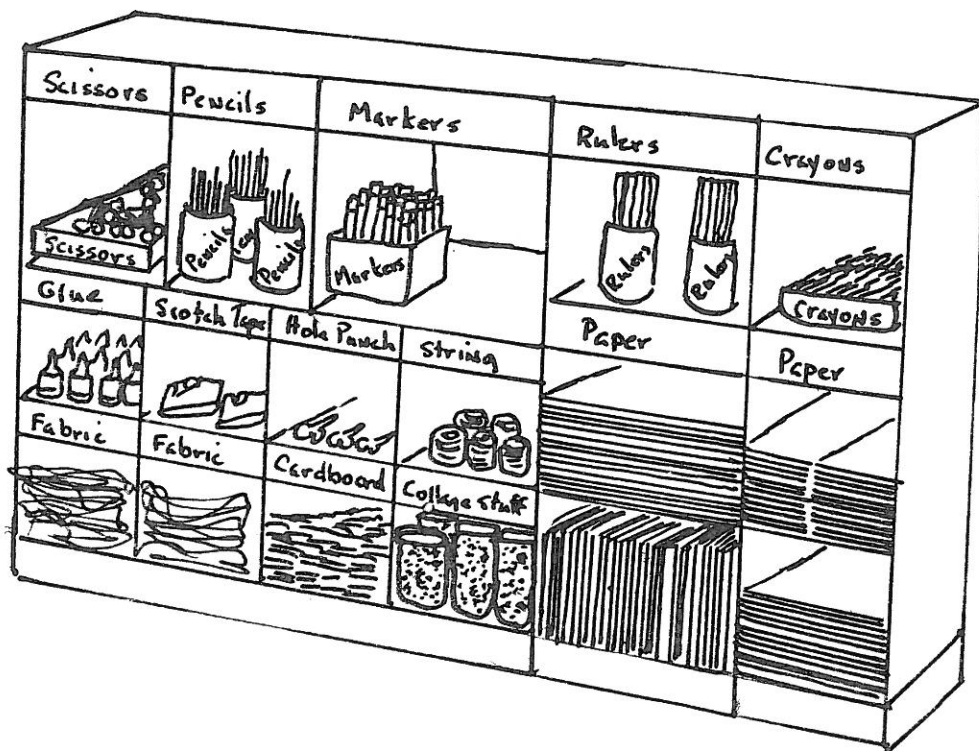
A deep double sink with a side work surface is very helpful in an arts area. The drain should be equipped with adequate clay traps and screens. The sink area should include shelves for cleansers, brushes, and towels.

### Exhibition Panels

Model work should be exhibited in order to give others ideas for their own projects and to honor the efforts of children at all ability levels.

### Mural and Wall Spaces

The children should be the decorators and the aesthetic experts throughout the playground and should be encouraged to paint on walls and fences.



### Arts and Crafts Materials Organizer

Note: materials and tools should be so displayed as to invite children to choose freely and know clearly where the returnables are to be returned.

The other standard materials will be located on specific tables & so labeled.

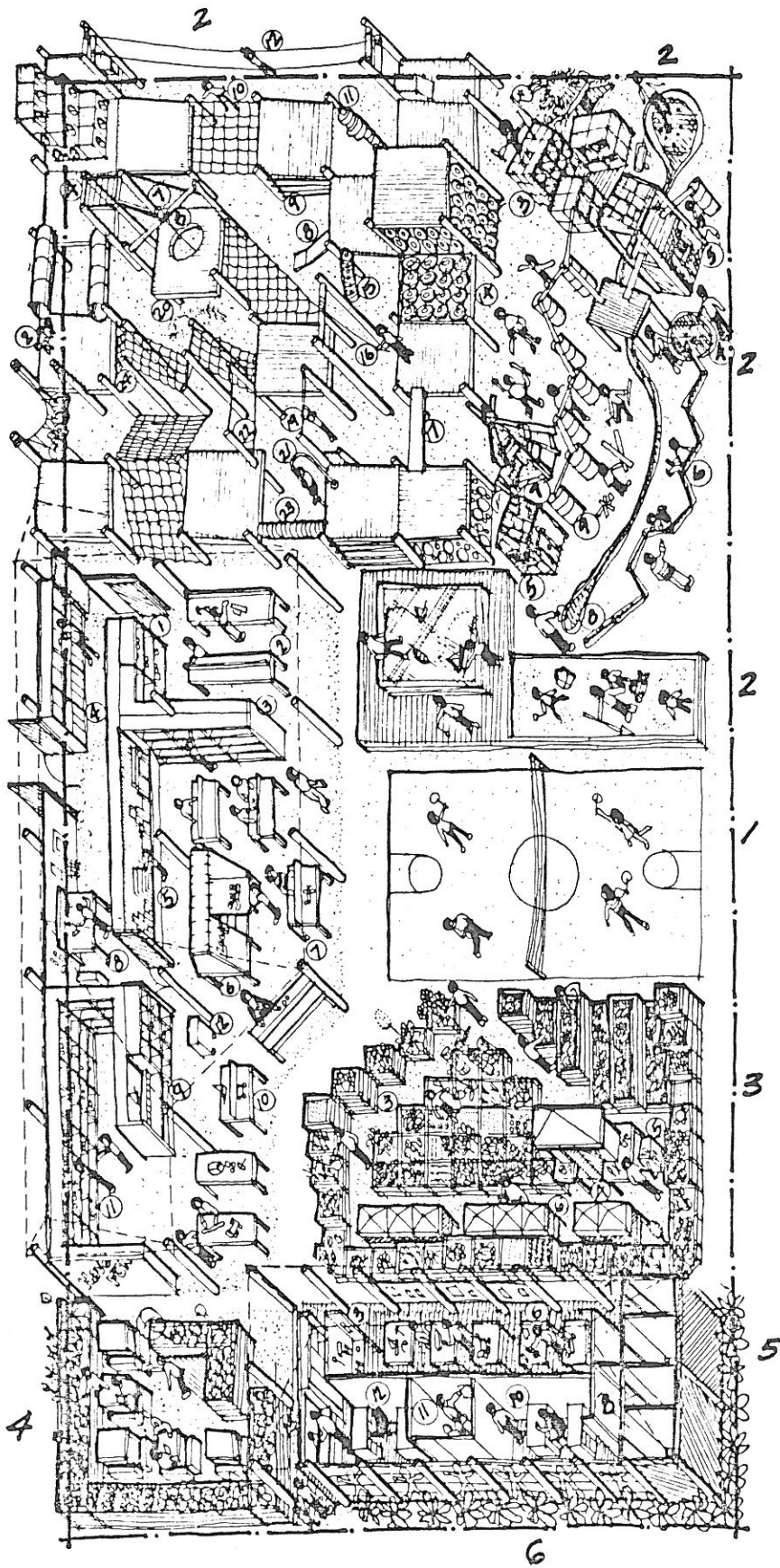
Signs which help children know how to operate in this area would be helpful.

### Courts and Games Area

An open grass-covered area should be included in an adventure playground for informal ball games, frisbee tosses, and new games. A small paved area may be included for basketball and many other court games. These areas ought to be designed to provide:

- opportunities for group games;
- opportunities for competitive and non-competitive games;
- space to allow children to invent their own games and set their own rule structures for the games they play;
- space for playground festivals, celebrations, picnics, and cookouts which help draw the community together;
- spaces for plays, musical productions, and dances; and
- above all, a setting for cooperative play.

The Interest Center Adventure Playground is exciting to design and rewarding for the children. It offers them a great deal of freedom within very specific, well-defined structures.



- 1 COURTS AND GAMES
- 2 CLIMBING NETWORK / SAND AND WATER / VILLAGE INTEGRATED AREA
- 3 GARDEN AND NATURE CENTER
- 4 REST / PICNIC AREA
- 5 ARTS AND CRAFT CENTER
- 6 OFFICE

## THE INTEGRATED CENTER ADVENTURE PLAYGROUND

An alternative to the rigidly defined center approach is the integrated center format. In this design, the sand and water area and the climbing center are clustered around a large scale building area called the village, and the boundaries between these areas are eliminated. Children on such a playground are invited to participate in the spatial definition of the play setting by creating structures such as dens, club houses, or sculptural constructions. Given tools, suitable sized materials, and supervision, children will build a hand-crafted village with places to hide, talk, climb, rest, and live. Additionally, fire pits can be included for cookouts and barbecues. Children can give full vent to their imagination and building skills. Essentially all the activities of the center-based approach are retained, but they are integrated and arranged with fewer restrictions for the children. The play leader retains the responsibility for restricting inappropriate and dangerous additions to the play space.

The integrated center retains all the developmentally relevant advantages of the center-based approach while removing some of the constraints.

The arts, carpentry, and courts areas remain compartmentalized in the integrated approach. Those who benefit from a more structured play setting retain access to such opportunities, but the great energy in the village may well attract such children to make more use of the open ended activities.

In the integrated center playground, children have much more opportunity to participate in the design and construction of major playground features. In effect, they become co-designers with the play leaders because their structures and major play constructions form the basis of the village itself.

Children become more powerful when they own the products of their own thought and effort and arrange them spatially. A canal network may traverse through the sand area, evolve into a complex miniature city, and grow into the village and through the climbing network. Such an activity allows for increased complexity, greater probability of social interaction, and a longer amount of time spent on a constructive, self-invented task.

Because projects are larger, require more materials, and stay in place over an extended period of time, all the relevant phenomena for social growth will arise -- cooperation, greed, competition, sharing, communication skills, conflict resolution, and the rise and fall and resurrection of friendships. To be sure, this may entail some help from adults. The problem of who built what and who gets to play with it must be resolved by the children with the help of a play leader practiced in allowing children to resolve their problems to the greatest possible extent by themselves. Problem solving requires both guidance and autonomy, each at their appropriate times.

Such a playground can be used more intensively. Children can make claim to their own spaces while learning to cooperate and to respect the spaces of others.



The integrated approach raises a number of concerns which the center based approach does not have to confront. First, greater construction activity necessitates more focused supervision. The building of shelters and structures requires staff guidance to guarantee structural integrity. The play leader may need to provide some clear definition of where structures can and cannot be built. For example, children building into the climbing network may change an otherwise safe system into one which presents hazard. Oftentimes, children will invent shortcuts which may not be safe, especially for younger children. It is the responsibility of the play leader to protect children's well-being where safety is concerned, the play leader must override or accommodate the desires of children who are not yet competent enough to weigh all the necessary considerations.

Children can help to assume responsibility for disposal of used lumber and nail laden boards. Adequate storage and trash spaces are more critical in the integrated approach than in the center-based format.

Because this approach appears more untidy and more hazardous, safety and insurance concerns have been raised which have largely preempted this kind of play experience from being offered to children in the United States; however, the fears that adventure playgrounds are dangerous have not been substantiated. The safety record of adventure playgrounds is outstanding. Arvid Bengtsson, who has contributed some of the outstanding literature on play and playgrounds, surveyed the American recreation scene in 1972 and commented:

The problem of liability in the event of accidents is the main obstacle to the development of adventure playgrounds in the USA, and this in spite of the fact that almost everywhere the rate of accidents has proved to be less than in traditional playgrounds.

From London, the National Playing Fields Association states that "there are fewer accidents on supervised adventure playgrounds than there are on unsupervised conventional playgrounds."

The adventure playground in Huntington Beach, California has been evaluated for safety by city officials. The results, quoted by the American Adventure Play Association, were consistent with the whole range of adventure playground experiences. "In 1974, city staff conducted an injury-rate study and found that the adventure playground was operating considerable safer than conventional playgrounds in town."

The Harbourfront adventure playground in Toronto evaluated the experience of 5,000 participants over two months and found the following:

. . . the absence of serious accidents in spite of intensive use of the site and of potentially dangerous tools and materials should be encouragement to those concerned with the safety aspects of these facilities.

The safety record at the Mountain Park is based on 15,000 participants. The accident rate was .014%, with scrupulous recording of all accidents, including minor scrapes and cuts.

In an American Adventure Play Association survey of recreation administrators in cities having adventure playgrounds, 14 out of 17 rated the adventure play sites as having low or moderate risk. Two of the three administrators who rated the adventure playground as a high risk noted:

Injury rates had not born out their feelings, and that the adventure playground was being operated within the same safety margins considered appropriate for conventional playgrounds.

After reviewing all the European data, Pat Fierro, Recreation Supervisor for Huntington Beach, found that "there never had been a fatality recorded at any of the adventure play areas in the twenty-five plus years that this type of playground has been popular."

Still, accidents do occur; but the severity of accidents should be considered more than the frequency. Each year, according to the Consumer Product Safety Commission, 93,000 serious accidents requiring hospitalization occur on conventional playgrounds' fixed equipment. Most conventional playgrounds are not supervised at all. Accidents go unnoticed, unrecorded, and sometimes become more serious for lack of immediate attention.

According to Paul Hogan, designer and builder of more than 600 playgrounds, adventure playgrounds compare favorably in serious accidents with every kind of organized sports club, including baseball, soccer, football, aquatics and gymnastics. Considering their low rates of accidents, the adventure playground should be advocated rather than feared.

On the other hand, adventure playgrounds should expect to deal with quite a few scrapes, cuts and hammered thumbs. First aid is essential and can be provided easily. Empowering children to discover and develop confidence and competence means giving them access to tools, materials, and activity. There will be small injuires while children are learning to master the material world. But documented evidence from Europe and the United States shows that the injuries will be minor, while the gains in development will be great.

On the basis of their safety records, adventure playgrounds have received fair treatment from insurance carriers. Of the sixteen adventure playgrounds operated by local government parks and recreation departments in the USA, fifteen are covered under the existing liability insurance policy without additional insurance premiums. In London, according to the National Playing Fields Association, the insurance premium is lower for adventure playgrounds than for conventional playgrounds. The Creative Play Resource Bank of the Canadian Ministry of Culture and Recreation found in 1972 that "to date, in both Ontario and England, there has never been a single action against an adventure playground."

The disparity between the appearance of the playground and some adults' notions of aesthetics has been another reason for slow acceptance of the concept. Some of this is inevitable when children share control of their play spaces. If these concerns do arise, they could be resolved without altering the rich diversity of developmental opportunities which the integrated approach affords. The playground can be screened by a hedge, a fence, or bushes. Our study of the fixed elements in this approach suggests some further ways to meet both the maintenance and the aesthetics issues.

The integrated center adventure program has all the elements of the interest center playground, but planner should be aware of the following additional needs:

#### Village Storage

Because there will be a heightened interest in building large scale structures which are semi-permanent in nature, there is an increased need for adequate storage of building materials. Storage spaces must be visually and physically accessible. Discarded materials will most likely be bristling with exposed nails. Prompt storage is needed for such materials until they are hauled away, burned, or reworked for further use. The storage space should be adequate to hold a considerable amount of materials, which may include:

tar paper	utility poles
wire mesh	nails
shingles	bolts
old carpet	pipe
cardboard	canvas
pegboard	cloth
hardboard	old furniture
crossties	spools
crates	tree trunk sections
pallets	paint
ropes and pulleys	hinges
lumber of various lengths	
plywood of various thicknesses and sizes	

#### Village Tool Cabinet

Some playgrounds allow children to check out tools at the carpentry center and take them to the various building sites. This is not recommended. There should be an adequate number of tools and hardware available in both the carpentry area and the village. Check out procedures from the village cabinet

may be necessary to prevent secreting and hoarding of tools. Some adventure playgrounds have even gone so far as to issue building permits which are granted to children who have written plans, and who have demonstrated competence in the use and care of the work tools. The tool list includes the following:

- Hammers, of a heavier weight for framing work
- Crowbars for pulling nails, rather than hammer claws
- Levels
- Cross cut saws
- Shovels for digging trenches and foundations
- Post hole digger
- Wheelbarrows for moving dirt to raise elevations
- Wire cutters
- Hand powered drills
- Wrenches

### Safety

Safety concerns changed only slightly when considering the integrated rather than the center-based approach. The following issues deserve special attention:

Monitor the structural integrity of building projects.

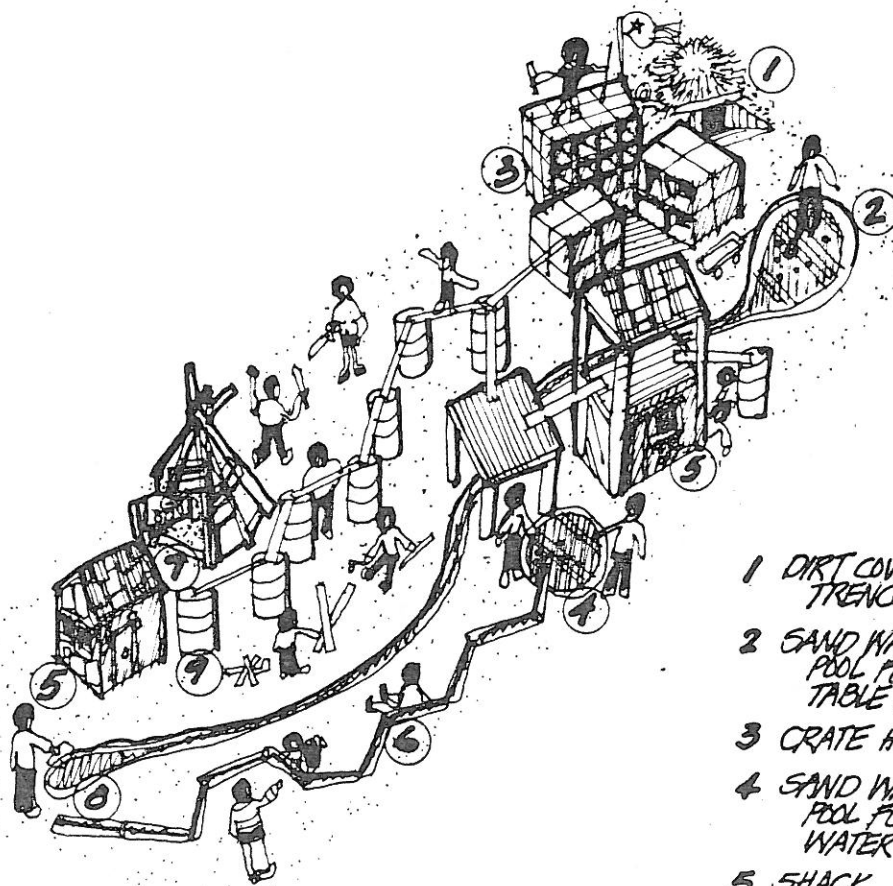
Control siting to avoid conflicting multiple use of space.

Remove lumber with exposed nails.

Assure proper use and maintenance of tools.

### Maintenance

Community credibility may well depend upon how well the site is maintained. Several adventure playgrounds have experienced considerable opposition from neighbors over the appearance of the grounds. It is advisable to buffer the building zones with fences, shrubs, or earthen mounds. A regular maintenance schedule in which the children participate is also essential.



- 1 DIRT COVERED LUMBER ROOFED TRENCH
- 2 SAND WALLED TEMPORARY TERMINAL POOL FOR SPILL OFF FROM WATER TABLE IN SAND CENTER
- 3 CRATE HOUSES
- 4 SAND WALLED TEMPORARY TERMINAL POOL FOR GUTTER AQUADUCT FROM WATER TABLE
- 5 SHACK
- 6 GUTTER AQUADUCT
- 7 WOODEN TEEPEE / SCULPTURE
- 8 ORIGINATION OF TEMPORARY WATER COURSES AT WATER TABLE
- 9 DRUM AND LUMBER WALKWAY

POSSIBLE SITE DETAIL IN LATER LIFE OF VILLAGE  
 AREA IN INTEGRATED CENTER VARIETY FORMAT

VILLAGE

3-70

## THE CHILD-CREATED ADVENTURE PLAYGROUND

The child-created playground begins with an open site. Over time a village may grow, an area for sand and water play, and sites for cooking and art work, but at the beginning there is nothing more than a fence, an office, bathrooms, and an equipment and materials storage area. Children are invited to participate heavily in planning the site. They help decide what should go where and how much space should be devoted to what. Children characteristically have a large part in the construction of shelters, gardens, bike ramps, forts, climbers, water tables, and ponds. They also take part in generating the rules and procedures for the playground.

Over a span of time, physical structures and interest areas flourish, decline, and spring anew as excitement in one particular activity rises and falls. Such evolution gives evidence of a play environment where children's ideas and decisions are respected. In such a setting, the playground is truly built by children for children.

To be sure, the play leaders have a critical role. They gather up all sorts of materials throughout the community. They are available to help the children while being careful not to shape or direct their activities. Play leaders know how to listen and participate with children. They can be trusted by the community to watch out for the safety and well-being of the children.

A child-created playground is like a children's community. Group efforts are at the core of the life of the child-created playground. Community needs are presented to the whole group of children, and plans are made to meet those needs. In England, children have collaborated to cut and deliver firewood to elderly retirees in the local town, a tradition which was passed on to nearly a generation of children at the Lollard Adventure Playground. Children may undertake the design and construction of a sandbox for younger children and toddler visitors. The play leader provides funds for occasional festivals involving music, plays, and food, and the children coordinate, plan, and stage the festival itself.

The children and the play leader develop their own priorities for activities and rules for conduct. No site details are available for such a model because the terrain of the child-prepared playground is by nature vague, always open to change, and not prepared or controlled by adults. There do exist, however, a vast number of such playgrounds in Europe. Pictures from those playgrounds are offered to show how rich they can become.



## CHAPTER 3

### THE ROLE OF THE PLAY LEADER

#### Introduction

An adventure playground cannot exist without a competent play leader on the site. In our view, play leaders are advocates for children and guardians of their space and safety. They are co-voyagers with them in exploring, and in discovering their competence and compassion -- their personal power.

In selecting and training play leaders, the community must be clear about the role the play leader will assume. Play leaders should operate according to principles and techniques consistent with the goals of childhood as outlined earlier. A play leader must understand various administrative duties. Finally, the play leader must be allowed and expected to assume an advocacy role for the children in the community.

#### General Dispositions

A play leader should have general beliefs about opportunities which should be available to children. Play leaders must understand children. They must be personally committed to the fact that children need the opportunity to implement their grand ideas, that they need the opportunity to experiment, construct, imitate, and take risks, and that this entire process should be steered by the children, even when they need adult help.

Play leaders should realize that children have had plenty of experience in following directions and living according to rules set by adults. To complement those experiences, the play leader must allow children to set their own paths, create their own rules, and develop confidence in the power of their own thinking and physical strength. If the teacher in school is saying, "Listen to what I know," the play leader in the adventure playground should be saying, "Now, listen to what you know." The adventure playground is an environment where children grow in their abilities to live independently and cooperatively; the play leader must be prepared to facilitate that growth.

Play leaders should recognize that children need an environment which is their own. Play leaders must be able to offer materials, tools, space, and time for children to invent their own agenda of activities and projects. They must recognize that children often have a different perception of what constitutes a satisfactory living space and give them the opportunity to create and live in spaces of their own making.

Play leaders must understand, and be comfortable with the fact, that conflict is as legitimate a part of life as harmony. They must realize that the consequences of adult-imposed harmony, though subtle, are no less thwarting than conflict. They must recognize that conflict can be a powerful learning experience and that understanding different opinions and intentions requires

some conflict. The role of the play leader is to reduce environmental conditions which provoke needless conflict, such as inadequate materials and tools, and to help children learn to resolve their own conflicts. The play leader must be prepared to use conflict in the service of growth.

Everyone involved in the selection and training of play leaders should be aware that very few of us have been raised in a tradition which honors these predispositions. Many programs and many potential play leaders affirm their belief in such an orientation toward children, but in practice they revert to concept teaching and teacher domination. As children, most of us did not have opportunities to play in environments where adults worked to provide the experiences that adventure playgrounds afford. Thus each of us must affirm our own belief that children should and must be allowed to do these things. Next, each potential play leader must be willing to learn how to bring such a program into reality.

### Principles

A play leader should have a set of operating principles which guide both activity and interaction amongst the children. Without these principles, the play leader can easily be misled or misdirected in his relationships with children. Below are activity principles, which address what should be done on an adventure playground, and interaction principles, which address how the play leader should function.

### Activity Principles

Provide diverse materials which have open ended constructive possibilities. Above all, an adventure playground must be a place where materials are available to make things. Children are very interested in building shelters, shacks, lumber-roofed tunnels, and the like. These require suitable materials, and if the play leader does not provide them, many grand ideas will not get off the ground.

The play leader is responsible for maintaining an adequate number and variety of construction materials, hardware, and tools. When there is essentially no usable wood, few nails, and missing tools, the adventure playground will not support its promise to children, and thus fails. Moreover, the play leader should understand what materials, hardware, and tools are suitable for the physical capabilities and interests of the children. This is no small undertaking, and will require support from other individuals who support the adventure playground.

Provide a range of group and individual activities. Some children begin constructive work by exploring on their own, investigating possibilities, and taking challenges individually. As this work is mastered, cooperative or mutual efforts are tried. Other children need an example or a chance to participate in group tasks before their own creativity can emerge. The play leader must, therefore, set up both guided and independent activities.

Give children genuine choices. The adventure playground is an environment for two through twelve year olds. Each child should be able to find an activity. The play leader should offer materials which attract children of all interests -- from high spirited to rather passive activity, from coordinated to barely physical. It is essential that adventure playgrounds not be stereotyped by the particular preferences of the play leader, but rather reflect the whole range of children's interests and competences.

Emphasize cooperative activities. Children have ample opportunity in many other settings to exercise their competitive spirit. Adventure playgrounds try to complement the competitive drive by providing an environment for group cohesion, mutual understanding, and acceptance of others. Therefore, different activities are required, and the play leader must set the tone. The play leader is neither a coach nor a recreation supervisor, but rather a facilitator of constructive activity.

### Interaction Principles

Peer conflicts should be resolved among peers. Conflict is a way of learning. Egocentric children (and adults) want always to be right, to have their own way, and to be the final decision maker. Moving from that position to one of social cooperation and mutual understanding requires the practice of resolving many conflicts. Our belief is that disagreements and arguments should be resolved amongst peers. Both parties can learn to understand each other while trying to make their own intentions understood. When children's ability to resolve their conflicts breaks down, the play leader may need to steer or control the resolution process among the children. But the play leader should not dictate solutions in disputes. Too much adult resolution of conflict undermines children's independence and retards their problem solving capabilities.

This principle does not imply a "leave them alone" role for the play leader, nor does it advocate that an adventure playground is an environment where the strongest or the loudest children prevail in forcing their own thoughts on everyone else. It means that the play leader must develop techniques which support children in their growth toward resolving their own conflicts.

Children should be encouraged to speak their minds. Development of honesty and integrity implies a match between what a person feels or thinks and what that person says. Play leaders should invite honest dialogue by extending legitimate choices and decisions to children. Play leaders should encourage children to speak with conviction by accepting their likes and dislikes, by sharing their ideas and plans, and by listening and communicating respect. Children's right to speak their minds does not imply a license to destructive negativism, but rather an openness to dialogue, problem solving, and honest communication.

Children should own what they build. Autonomy and independence require that children develop a sense of ownership over their materials and activity. To preserve this sense, there should be many materials and projects which children can own or control individually or in groups. Once materials have been conveyed to children for a project, these materials should become the property and responsibility of the children. Therefore, the play leader must be clear about what has been given over to the children and what belongs to the adventure playground to be used, shared, and returned.

The play leaders must, however, retain responsibility and therefore some sense of control over the use of tools and projects. They may need to restrict the use of objects constructed by the children, such as swords and guns, without changing the actual ownership of the items. A play leader may also wish to have children demonstrate competence as a condition for using special tools or materials. Within these constraints, children should find many opportunities to expand their sense of mastery and control over their own environment on the adventure playground.

Shaming and physical punishment should not be used. Shaming, intentional embarrassment, and physical punishment have the effect of negating a person's integrity and power. While these techniques may resolve some conflicts and eliminate some behaviors, in principle they run counter to a child's full development. Because an adventure playground should be built and operated expressly to extend children's competence and sense of personal power in the world, actions which humiliate children have no place in the play leader's interaction repertoire.

Play leaders will face situations where they must thwart activity. They should firmly control and communicate limits for children. Some coercion may be necessary to guarantee the children protection and safety; justified coercion does not entail humiliation, nor does intervention for safety's sake entail physical violence.

### Techniques

These principles, together with the following techniques, are intended to promote children's autonomy, competence, cognitive growth, and social capabilities. Our suggestions come in three areas of interaction, dealing with conflict, intervention strategies, and activity selection.

### Selection of Activities

Play leaders will know the adventure playground has come to life when they see activity everywhere. To achieve this, the play leaders will have to mix guided projects with activities which require little guidance. They should welcome children's suggestions and help in the building of sandboxes, climbing centers, court spaces, and basic arts and animal shelters. These areas should be built first, for they require a minimum of supervision. When children become involved in these activities, the play leader may focus on larger projects requiring more adult supervision, such as clubhouse construction, dramatic productions, cookouts, camping outings, and more complex crafts.



If the adventure playground has two play leaders, they should divide responsibilities. One person can become involved in focused, group work and the other can have very general roving responsibilities. In this way, one leader will deepen the play experience and one will maintain the normal playground activity schedule. Such a division of tasks can be exchanged and tracked easily throughout the day, and new projects and activities can receive the special attention they need.

The play leaders should also keep a record of activities, throughout the playground, noting where children of different ages, sex, and interests spend most of their time. If some parts of the playground are left unused, other portions may become crowded. If the playground does not provide enough activity or appropriate materials, the children will become bored or will engage in non-productive activity; this will tell the play leader that new and more diverse activities must be offered. Even the children can suggest what would be more intriguing. Such charting activities can help the play leader recognize these gaps soon enough to remedy them, before the children decide that the playground is not for them.

A playleader is responsible for orchestrating many different activities and making each activity so intrinsically interesting that each child can find a compelling place to work and play. Although the children will help a great deal, the play leader must coordinate their efforts.

#### Intervention in Activities

Play leaders who are committed to children's independence and constructive activity will need to decide when to intervene and when to leave the children alone. Whether they intervene or just watch, good play leaders will never be idle. They will always be among children in many ways.

As much as possible, children should be allowed to work independently. When they become frustrated, lose interest, or request help, intervention may be appreciated. If at all possible, the play leader should not interfere with a child who is experimenting and should not deprive him or her of the opportunity to take risks and to implement his or her own ideas.

When the play leader does intervene in an activity, it should be to present challenges and pose problems. There should be more questions than answers coming from the playleader. A playleader should ask questions like, "What would happen if you tried this?," "Which way works better?," and "Why does that happen?" Such questions help focus a child on activity, as well as communicate respect for the child's competence.

The play leader should remember that it is the child who decides when a task is completed and that the only failure to a child is the failure to achieve a desired effect. Thus there are no wrong ways to climb the ropes, no wrong ways to color a house. The play leader should fight the impulse to be a coach or a teacher and help children play, experiment, and discover on their own terms.

A play leader should generally intervene cautiously. There are, however, exceptions. On first visit, many children will be timid and need direction. Children who have lost confidence in themselves may constantly need more direction and aid. In these situations, the play leaders should be initiators, motivating others to discover their own activities. They may ask older, more independent children to help those in need; this will integrate the timid more quickly, however, such cooperation should not be expected in the early development of an adventure playground. Initially, the play leader should know that many children want to do more than they feel able to do, and the play leader should be the magnet to attract these children to constructive activities.

When safety is a stake, the play leader must intervene boldly and assertively. Above all else, the play leader is responsible for the safety of the children. Good design work will lessen potential hazards, but it cannot eliminate the need for constant vigilance. A play leader, older, better trained, and more knowledgeable than the children, should set standards which are clear and unarguable.

Each play leader, in his or her own individual way, must model affection, care, and interest. Play leaders must involve themselves in the lives of children. Without such involvement, the playground cannot come to life.

#### Intervention in Conflict

Conflict is inevitable. It will be a part of the adventure play experience. There will be disagreements, hurt feelings, arguments, and fights. The play leader should be ready with techniques which can make the most of such a situation. Since every conflict resolved by peers is a growth experience, the play leader should determine whether children can resolve the issue themselves, and should intervene only with caution. We believe that children in most situations do exercise control and restraint throughout most conflicts. If play leaders can learn to observe and recognize this control, they will intervene less frequently. A play leader must learn, by experience, to assess conflict and must not assume that each conflict is cause for adult intervention.

To intervene effectively, a play leader must understand the source of a conflict and various ways to handle it. One source of conflict may be that children simply lack information. For example, many children believe that everything that happens is caused by someone else. Every trip, fall, or ruined effort is therefore someone else's fault, and is a reason for conflict. If the adult can show the child a more natural reason why all the blocks fell down, the child's anger will disappear, and he or she will gain some new knowledge about the properties of the physical world.

Perhaps the most important role for the play leader is to be a moderator. Conflict often results from ignored or misunderstood intentions. For children, conflict most often results from their inability to accept or even acknowledge the existence of someone else's desires. When an argument takes place, the adult can help children to listen to each other. In keeping with the principle that conflict should be resolved among peers, the play leader



should encourage children in conflict to keep talking and listening to each other. Sometimes the adult will need to translate one child's arguments for another. The adult doesn't settle or decide any issues, but simply ensures that each child hears the other child and that both move toward solving their mutual problem.

For example, one child works hard in a center and then leaves, assuming he will complete his work on his return. Another child enters the center and begins to dismantle the first child's work and incorporate pieces into his own project. In this typical situation, the first hint of conflict will be an argument or fight over who owns the project materials. Both people are right that "It is mine." In many arguments, this position is repeated over and over, getting louder and louder, escalating into a conflict where right is determined by strength or assertiveness. Someone may have already "won the fight" before the play leader sees the conflict. The play leader may choose to moderate or translate the conflict by recreating the argument to help both children communicate and explain their position. Other children may be asked for their point of view. The play leader may need to explain the position of one child to the other. The play leader should respect each position and guarantee that each disputant has the chance to speak his mind, as well as to listen to the other's point of view. The play leader thus helps children to understand each other and gain insight into the conflict and the people involved. In this way, the play leader can elevate an argument into a community problem which focuses on solutions rather than on who is right or wrong.

If children are to take risks, initiate experiments, and learn to construct in new ways, their environment must be safe. If children are to speak their minds, they must be able to do so without threats or revenge. If children are to resolve conflicts fairly, the standard must be justice rather than strength. And if intimidation or callous disregard are to be avoided, accountability must be assured. Each of these instances justifies direct play leader intervention.

The play leader must be ever present, knowing what is going on throughout the playground. Oftentimes, the only adult intervention necessary to avoid a conflict is simple proximity, requiring no words, no action other than moving into the scene of a potential conflict.

There are times when a play leader should leave the scene of an argument to allow children to find their own strategies, limits, and constraints. Some children give over all sense of personal controls to adults, making the adults responsible for solutions and limits. A play leader should cautiously give back this responsibility to the child. To do this, the play leader may need to walk away from skinned knees, arguments over soccer rules, or feelings hurt by a friend's manipulation.

There are times, however, when the play leader should intervene more actively. For example, a common chase game called "boys catch the girls" can become a fierce and dangerous activity. It will be obvious to the play leader that the children desire an exuberant, large motor activity, but their choice of games is of questionable safety. The play leader should attempt to provide an alternative which meets the same needs. We call this redirection. By joining the children and redirecting their activity, the play leader leads them away from danger and toward joyful activity.

In an overly competitive situation, the play leader may join the game, but change it so that all the children compete against the play leader. This has the effect of directing all the competition toward the play leader, who can be expected to handle the pressures better than the children. This redirects the children toward a more cooperative stance with respect to their peers, making the activity safer physically and socially.

If subtle attempts at redirection fail, the play leader may have to stop all activity to present the problem to the children. If arguments over tools in the carpentry center are frustrating everyone, the best solution may be to postpone activity and give the children an opportunity to resolve the difficulty. Activity needn't go forward. The play leader should be able to say, "This isn't working at all; let's stop and talk it over and find a better way."

In each situation, the play leader attempts less to confront conflict than to avoid the crippling effects of fruitless conflict. We believe that, through redirection, a play leader can avert the vast majority of conflict situations.

We would be remiss if we did not emphasize that the play leaders are also decision makers. They may need to decide whether carpentry work is being done safely and with proper care of tools. There may be other times when the play leader has to tell a child breaking items in a take-apart center without regard for safety or future use to stop. In some cases, the best intervention is to say "No." In the worst of situations, the play leader may need to expel a child from the playground or a particular area. But the duration of the expulsion and the conditions for return must be made clear.

We believe that failure to communicate boundaries and limits to children is an invitation to increased conflict. If the play leader really doesn't want children to use the saws as hammers, he must tell the children clearly, decisively, and consistently. If a child is unable to function in an activity setting, it may be necessary to take the child aside and let him watch the activities. The purpose for removal should be to explain the limits to the child who has either not understood or chosen to ignore them. The job of the play leader is to help children become responsible. Sometimes the play leader can best help that growth by telling children that they must co-exist without impinging other children's opportunities.

A final intervention strategy forms the basis of the whole premise of adventure playgrounds: providing children with materials and worthwhile activity will reduce conflict. Oftentimes children engage in social conflict because it is the most exciting game available. Given a choice of more constructive activities, children will choose constructive over destructive modes of expression. The adventure playground makes that choice much easier for children. Of 15,000 children who visited Mountain Park, none needed to be asked to leave.

If the whole range of intervention strategies is employed, coercion will rarely be necessary. In the roles of translator, moderator, redirector, or decision maker, the play leader will be able to resolve conflict with respect, honesty, compassion, and understanding. The group and the individual will be protected, and a sense of fairness, justice, and safety will be communicated to the children and the community as a whole.

### Management

Play leaders must manage the playground with an eye always directed to safety. They must accumulate, store, and distribute materials. They must communicate with children, supporters, and the community.

To ensure safety, the play leader should set a limit to the number of people who can safely use the playground or any given center at one time.

A daily log should be used to record all accidents, significant events, or conflicts, noting particular children who seem to have special needs or concerns. These logs should be made available to the support community which oversees the adventure playground, but protecting children's privacy is an important consideration in all entries.

First aid equipment should be immediately available throughout the playground. Play leaders should curb any impulse toward sophisticated first aid techniques, but be in easy communication with the nearest paramedics, hospital, or local doctor when they are needed.

In previous sections, we have discussed the importance of regular inspection of all fixed features, and upkeep and maintenance of all tools and materials. These recommendations and the safety standards should be followed.

To the greatest extent possible, the play leader should involve the children in the safety maintenance on the playground. Loose nails, sharp edges, and potential danger spots should be of concern to all who use the playground, and many eyes are better than one. If the play leader helps educate the children to be concerned about safety, they will become more competent and more responsible.

Finding materials is a major responsibility of the play leader. The play leaders will need help in discovering sources, initiating requests, and actually picking up the materials. Many local adventure playgrounds have had the use of recreation department vehicles for one day a week to gather up materials. Utility companies have been similarly generous in transporting large pieces of equipment. Regular sources of wood and crafts materials are essential. Since materials are so important, time for their gathering and storage should be part of the regular work schedule of both the play leader and the play leader's support network.

Once on the playground, there must be homes for the materials. We suggest a staging area where materials can be sorted, organized, and inspected for safety before they are made generally available to the children. Precious items can be withheld for special events or for children of exceptional competence. Efficient storage lets children know what is available; it also communicates order, control, and good supervision to those concerned with the safety of children involved in construction. The play leader will be on the grounds before the children arrive and after they leave. Most of this time will be spent in storing and maintaining materials.

With the children's participation, the play leader must develop procedures for fairly distributing building materials, tools, and space. Some adventure playgrounds allocate a certain percentage of the available space for free building. Groups of children apply for building permits which require plans, proof of building competence, and some agreement about maintenance of the project site and tools. A forum for deciding when structures are to be dismantled and what will happen to the materials is advisable. Whatever system evolves should encourage cooperative work and include all age groups. Conflicts will diminish if children are included in decisions about the allocation of materials and space.

The play leader's job will be easier if there is good communications in the community and among the parents. Needed materials and special tools can be requested on signs in the playground and through the news media. Newspapers and other media should be notified of special events and ceremonies. People with special talents should be invited regularly to demonstrate those abilities. Children should be asked for their own contributions on how to improve the playground.

Good communications with a core group of volunteers and supporters is an important factor in the successful operation of any playground. It will take careful attention to build such a network.

### Advocacy

Play leaders must be advocates both of youngsters and of the adventure playground. They must help the community understand and provide for the needs of its children, and they must speak directly to the issues which affect children.

As advocates, play leaders must help educate adults about the relevance of adventure play experiences. Each play leader should remember that there is no American tradition of intentionally designed, material-based play experiences. Few people have been raised or educated within the developmental perspective. Because of this gap, all adventure play proponents will have a large educational role.

Since the play experience is spontaneous and arises out of need and interest, no ideal form of the program exists. Rather, the play leader must constantly assess child needs and try to make the playground fulfill those needs. For instance, if the children of the neighborhood are hungry, they can build hot houses and grow winter vegetables. If children need to generate money for special events, the play leader should facilitate those efforts. Because we believe that children need real and worthwhile work, the play leader may wish to initiate various service projects, from aluminum collection and recycling to carpentry or crafts projects. Play leaders must search out ways to capture and develop the enormous potential of every child and facilitate experiences that are needed for children's full development.

Finally, as an advocate, the play leader must work to preserve the adventure playground as a child's environment. When pressures for rules which would thwart the development of child autonomy are felt, the play leader must be a persuasive spokesperson for the children. As concerns about aesthetics, the presence of loose materials, or child creations are voiced, the play leader must defend the children's space. The play leader will need to protect children's access to real experience, tools, and projects. As an advocate, the play leader must assure that the motivating principles of an adventure playground are preserved.

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PART III  
MOUNTAIN PARK REPORT



## INTRODUCTION

In the Spring of 1979, the theory, design, and practice of adventure play all merged in the creation of the Mountain Park adventure playground in Houston, Texas. Gilbert Jackson was looking for a non-profit use of a nine acre tract of land. He collaborated with Robert Hager, a playground designer and adventure plan advocate. They established the Mountain Park Foundation as a non-profit educational organization to fund the construction and operation of an interest center adventure playground. The playground opened in November of 1979. The authors of this report operated the park from its first five months. This chapter detail our experience.

## Program Goals

The design and the activities that took place on the playground were directly related to the goals expressed in the following statement prepared by the Mountain Park Foundation at the time the program was in operation. Although these goals were structured differently than those expressed in the second chapter, their intent was the same -- to provide a framework for providing developmentally relevant growth experiences.

Our main objective is to create an environment in which productive, constructive, joyful growth might take place. The purpose of such an environment is to provide a mixture of self-directed adventures, guided experiences, and growth challenges anchored in physical, concrete experiences. Our Park will include activity centers with opportunities for carpentry, art and construction, water and sand play, with animal and nature preserve areas, with climbing, tumbling, swinging and other physical challenges, arenas for drama and dance and music and multi-media shows, with small and large construction areas where they can create a world of their imagination out of interesting "junk." There will be areas for group games which stress participation, coordination, and cooperation.

The Mountain Park facilities and programs are designed to achieve these goals:

### 1. Physical Development

Our goal is to provide opportunities and challenges for children to develop their muscle coordination, to extend their physical limits, to expand their capacity for self-awareness, and to promote their health.

To advance this goal, the Mountain Park includes:

- Large-muscle developing activities such as carpentry, dance, climbing, sliding, and running
- Small-muscle developing activities such as mural painting, construction and assembly centers
- Directed group games

The facilities provided include:

- A large network of climbing apparatus which weaves through varied terrain, appropriately targeted toward specific development
- A water slide
- Physical spaces crafted for exuberance, and other spaces for quiet enjoyment
- A wide range of terrains including water, sand, grass, metal and lumber

Our scheduling permits a child to choose the length of time and specific apparatus which he or she would like to experience. There are adequate restrooms, water, fountains, clocks, clean-up facilities, and a concession and snack area. The Mountain Park staff is trained to facilitate the children's development and to guard their safety.

## 2. Knowledge of the Physical World

Our goal is to help the child know the world, which can best be done in an environment which encourages exploration, discovery, and experimentation.

In order to advance this goal, the Mountain Park program includes:

- Carpentry and construction centers
- A wide range of physical and natural science experiments
- Art and craft projects, both individual and group
- Cooperative group games
- Water and sand play areas
- An aesthetically pleasing natural environment
- Spaces and apparatus designed or landscaped to illustrate life cycles, ecological principles, gravity, height, perspective, horizontality, and verticality.

The staff is trained to direct children's growth in this area by stressing interaction with objects, observation, experimentation, exploration, and construction so that the child receives feedback from his/her own actions and not through adult intervention or explanation.

## 3. Development of Cognitive, Logical Abilities

The goal is to present challenges and problems which encourage a child to use progressively higher levels of thinking and organization in order to arrive at solutions.

In order to advance this goal, the Mountain Park program includes:

- Building projects in carpentry area
- Art activities
- Drama and dance experiences
- A games area and a group games program
- A writer's lab
- An opportunity to observe the variety and patterns and regularities of the environment
- Freedom of choice of activities
- An array of physical climbing apparatus, necessitating problem solving.

Our staff is trained to encourage the process of the child's creation, rather than place emphasis on the end product. Further, our staff allows and expects children to generate rules and control their own actions.

4. Social-Emotional Development

Our goal is to democratically organize groups in which children develop accurate positive self-knowledge which respects personal autonomy, yet acknowledges mutual interdependency among peers and adults.

To advance this goal, the Mountain Park will provide:

- Time and space for children to choose their own activity
- A wide range of opportunities for fantasy, play, drama, role-play, sand and water play, dress-up areas, etc.
- Environments crafted to provide private spaces for children
- Group and individual games, projects, and activities in all activity centers
- Mixed age grouping opportunities
- Conflict resolutions at the peer group level
- Adult interactions which model human relations and encourage child autonomy
- Creation and maintenance of an ordered, neat, and scheduled environment with appropriate health and safety precautions
- Joy and laughter, and productive activity to feel proud about.

5. Knowledge of the Social, Cultural World

Our goal is to give children access to the social and cultural heritage of civilization.

To advance this goal, Mountain Park will provide:

- Artisans, carpenters, dramatists, and theatrical players sharing their work, methods, and techniques
- Opportunities to share work with the elderly and the retarded
- Opportunities to see adults at play
- Staff trained to transmit to children knowledge which cannot be discovered by the children themselves
- Access to books, book lists, work plans, or craft or art plans so that they might take home written instructions on how to repeat some projects which they enjoyed
- Cultural festivals, as the basis for our music, drama, and dance programs.

## Staff

The most important ingredient of the playground was a carefully selected and trained staff.

In interviewing applicants, three criteria were considered: expertise in the applicant's field, experience with children, and the ability to help children initiate and control their own activity. Guidelines for the selection of play leaders prepared by the American Adventure Play Association are included in the Appendix.

Training was necessary because most educators do not have a developmental perspective of education. Further, almost none of the staff had ever worked in an environment where adults are invited to work and play along with children. Few had worked in settings where children's choices were considered so important.

Program leaders received three months of training. A one-week orientation program for facilitators included curriculum guides, movies of adventure playgrounds, and role-playing exercises, as well as first aid. The training program, unfortunately, was not ongoing. We learned that, in order to fully achieve the goals of an adventure playground program, ongoing training is required.

There probably has never been a playground as professionally staffed as the Mountain Park adventure playground. Each area was headed by an educator at the masters level in his or her subject area. Four exhibited artists and three professional actors were on the staff. Four people had bilingual and multicultural training. Four on the staff had experience and training in special education. All staff members had experience sharing with the children some content area, whether it be in sculpture, sports, drama, or environmental education.

The Mountain Park site required a large staff. It was necessary to have two supervisors in most centers in order to serve the needs of upwards of seventy children at a time. While one person was needed to engage the children deeply with specific games or projects, another moved about the center providing materials, encouragement and guidance. The playground started out relatively over-staffed and, due to financial problems, wound up somewhat under-staffed.

A number of volunteers of all ages participated in operating the playground. As they became regular attendees, children began to teach other children, to prepare painting materials, to keep water available for the sledding hill, to retrieve tools and to clean up nails in the carpentry area. Parents worked in the concession and information booths. More needed to be done to explore a whole range of volunteer, docent, and internship programs which could make the personnel intensive operation at the Mountain Park site more economical and



more participatory. Requests for internships were received from the University of Houston Physical Education and Recreation Department and from the Early Childhood Education Program at the University of Houston in Clear Lake City. Adult training employment programs were explored with the Houston Center for the Retarded. Several high school students helped with public relations. Such volunteer participation is essential for the survival of an adventure playground.

### The Site

To facilitate management, the playground was divided physically and administratively into three separate areas. There was the constructive arts area, which included the carpentry, sand and water, and arts and crafts. The performing arts area was indoors and offered music, drama and dance centers, as well as a games area and a quiet rest stop. The outdoor education area included climbers, a hill where large scale building projects and group games could take place, and a sledding slope. The water slide which had been planned for this area was not completed.

In each of the areas, the staff presented options for many different activities. Children were able to play alone or participate in adult led activities. In the carpentry area, the arts and crafts area, the guest room, and the sledding hill area, children were free to choose from a range of materials and tools. They could build or play in any safe, responsible manner. Adults were present to supervise, to guide, and to give instructions on safe use of the tools. They demonstrated new ideas and participated in all activities with the children. In the dramatic arts area, props and costumes inspired children to create plays or dances. Adult story tellers would often attract a group with a story which would turn into a spontaneously produced play or puppet show.

An important consideration in the design of Mountain Park was the separation of the freest, most physical areas from project areas requiring concentrated attention and supervised use of tools. The work spaces provided ranged from those for quiet to those for exuberant play. Children were free to work in any area for as long or as short a time as they chose. On their initial visit, many children needed an example or a guide. Very few needed help in getting started on their own projects the second time they came. This was true for parents as well as children.

## Materials

Since Mountain Park adventure playground was a demonstration project, it was essential to keep material costs as low as possible. Donated materials were preferred over purchased, and commonly found items were chosen over specialty items. Enough of each item had to be provided so that about 70 children could participate at any one time. However, if too many materials were provided, children would not need to cooperate and an area's capacity would be exceeded. The following materials were purchased for the different areas:

Arts: brushes, crayons, rulers, watercolors, tempera paints, glue, chalk, modelling clay, scissors, tape, and staplers.

Sand & Water: trucks, cars, shovels, buckets, and pails.

Carpentry: hammers, saws, screwdrivers, rasps, squares, levels, chisels, table vises, measuring tapes, pliers, and assorted nails. An electric power saw, drill, and sander were purchased for adult use. Goggles were later purchased.

Music, Dance, and Drama: record player, tape recorders, musical percussion instruments, art supplies, games, cards, and blocks.

Sledding Hill: soap

Climbers: ropes and eyehooks

Other materials listed below were either donated or borrowed. A local library contributed several hundred books and record albums every month. The carpentry staff made easels for the arts area. Rather than purchasing round coasters, thick plastic was used for sleds. By far, the greatest source of materials was donations. It became obvious to participants what items might be needed and they began bringing them on return visits. Before the playground opened, staff had spent months gathering donated materials from local businesses.

A partial list of items used in the arts and crafts, sand and water, and carpentry areas included the following:

styrofoam boxes	wire cable
tea crate boxes	film canisters
olive jugs	televisions
egg cartons	sawdust
coat hangers	garden hose
tennis balls	PVC piping
aluminum pie plates	fireman's hose
burlap bags	plastic gallon jugs
colored foam pieces	plaster
sheet metal strips	latex paint
lucite colored window pieces	paint trays

ceramic tiles  
strollers  
braided cord  
nylon twine  
plywood squares  
cigar boxes  
flower seeds  
vegetable seeds  
mirrors  
cloth  
draperies  
scrap carpet  
discarded flour  
foam rubber pieces  
spool of canvas

rollers  
wallpaper books  
keys  
paper of all sorts  
aluminum window screens  
used lumber  
wood scraps  
astroturf  
chairs  
bakery trimmings  
metal barrels  
radios  
steros  
brushes  
watercolors

In the performing arts and outdoor education areas, most of the materials which opened up a world of opportunity to the children were also donated. These included the following:

record albums  
carpet  
mirrors  
chalkboards  
wigs  
makeup  
hand puppets  
draperies  
socks  
plastic sheets  
rope  
mattresses  
cable spools

couches  
chairs  
assorted paper  
metal barrels  
wood for sets  
clothes for dress-up  
games  
astroturf  
trays  
gallon jug scoops  
newspaper  
hoses  
milk jugs

In addition, the artists on the staff contributed several dozen of their paintings to various areas around the park. Sets were built in the carpentry area, stilts were built out of wood and tin cans, target ring tosses were built by children and staff. In all these ways, donated materials extended rich experiences to the children at Mountain Park.

## Attendance

The Mountain Park provided a rich, active environment which children could use throughout the week and on weekends. During the school hours, the park facility was open to private and public schools, day care centers, and nursery schools. Prior to closing, plans were being made to use the Mountain Park as a Houston Independent School District cluster center to which children in racially isolated schools would be brought together for several days of cooperative, outdoor education projects and activities. Many schools used the park for field trips, several to supplement their own curriculum in the areas of crafts, carpentry, physical education, and dramatic arts. On in-service days, many schools or extended day programs organized full day trips for their students to Mountain Park.

Mountain Park also hoped to offer an after-school program, seeking to address the need for a quality play and educational environment for children whose parents work beyond the normal school hours. However, since the allowable number of children that can be enrolled in a licensed after school program depends on available indoor space, Mountain Park's outdoor program would have had to turn away children who were not in a regular indoor program.

On weekends, children under thirteen and their parents had access to all the facilities of the park. Children over five years of age were allowed to come to the park unattended. We had anticipated that parents would use this option to drop children off for a few hours while they went shopping. However, most parents who came to the park stayed either to watch or to play with their children, which was a wonderful surprise. Many birthday parties were held at Mountain Park, thus providing the children with activities, professional staff and supervision, and parents with an inexpensive option to parties in the home, at a local restaurant or at an amusement park.

## Evaluation

About 15,000 people used the Mountain Park in its four months of operation, even though the site was not easily accessible and there was very little publicity. In evaluating the playground, we solicited comments from children, parents, teachers, community leaders, and professionals. First, we asked children (the customers) what they thought:

"Mountain Park is the best place in the whole, wide world. I had the most fun of all fun put together."

Michael Hielfrich, Jr.

"What I liked best about it was that everybody got to do what they wanted to do. There was something for everybody. . . we did not have to stand in line."

Brice Middleton

"My favorite part was the carpentry because I built an airplane a little longer than my arm and it weighed three pounds. My next favorite thing was playing with that big ball. I had the best time of (my) life, funner than Astroworld."

Kyle Friedel

"The carpentry center and the art center gave me ideas about building and making things at home."

Lynnette Swann

"The carpentry center was fun, even though I couldn't build, but I enjoyed watching other people build."

Angela Gaines

". . . thought it was great! Made a big house. It was very fun."

"I liked the Mountain best. The first time I slid down, I went backwards."

Becky Rozycki

"The boat was probably my favorite. It was fun going down in the boat. I also liked it because you could get on top of it."

Jim Curry

"I liked best the ropes. It was very fun. It was sorta like you were in another world."

Wendy Arrington

"What I really enjoyed was the rope climbing and the boat. It was fun going down inside the boat and climbing on the ropes and logs. I think the people that work there are very nice."

Kara Kennedy

"What I liked most was all the logs and ropes that we climbed on all day. Wow! It was like a children's wonderland. . . it was better than anything I'd ever been to!"

Kelly R. Bechner

"I had a great time last Friday. That was the best field trip I ever had."

Yela Peirsol

"It's like a child's wonderland. I like it very much. Thank you for inviting us."

Becky Donaghe

**Parents and teachers were equally enthusiastic:**

"Never have I taken a group of children anywhere that everyone so thoroughly enjoyed. Not once did a child say, "What can I do now?"

Ann Rasch, Teacher  
J. R. Harris Elem. School

"This was the best field trip I've taken in the nine years I've been in the teaching profession."

Cynthia Lackey, Teacher  
J. C. Harris Elem. School  
Pearland, TX

"Somebody should have thought of this years ago. Wonderful experience for urban children; fabulous experience for children of all ages."

Sharon Buner  
Houston, TX

"I don't know when my children have had a better time. Great idea, something for all ages."

"I can't believe it. Good ideas like this almost never get this far."

Judy Hopkinson

"Somebody should have done this years ago."

Dave Hopkinson

"This seems to be a better idea than City parks for children."

D. W. Daney

"Hope that a chain of this kind of park will be created. Keep it up!!"

Mayur D. Desai

"The charge is minimal for the kinds of materials you provide for kids."

"Your professional staff is impressive. They certainly live up to the ultimate criteria of good education."

Ann Rasch, Teacher  
Pearland Elementary School

". . . the staff is absolutely delightful."

Cindy Greenawalt

"This is a wonderful place of freedom and creativity and fun for kids."

". . . affords children a free environment to discover, explore, climb, etc."

Denise Mitchell

"I like the freedom of choice for the children and the creative activities."

Alan Sprung

"I was impressed with the amount of variety in the experiences offered. There is something to fit the interest of any child."

Mrs. Marie Whittington

"The children kept busy the entire time, did not seem bored, did not engage in any negative behavior."

Jack Marshall



"It is something that has been missing in education -- a fun way to learn and grow."

Jerry Coslovsky

". . . this is the best idea for creative development and constructive fun" Long overdue for a city this size."

Peggy Moore

"It. . . gives kids a chance to grow and get to know themselves."

Tobi Troxell

"Good place for children, especially to see each other doing the various things."

Lee Murdy

**Community leaders and professionals had this to say:**

"Mountain Park is Houston's answer to the very imaginative children's playground in San Francisco. It kindles imagination in children dulled by TV, apartment living and hectic, adult city life. It has awakened the child in me. . . If we lose the park, we lose a measure of spark and creativity in each of our children."

Susan M. Carlyle, M.D.

"Mountain Park is a very special place for children and adults, and must at all costs be preserved and nurtured. . . We come weekly, sometimes twice weekly during school hours, to use your facilities and staff as extensions of our own program. . . I know of very few such facilities in the country. We urge your continue support and applaud your commitment to the children of Houston."

Marge Ellison, Administrator  
Darla Miller, Education Coordinator  
Alda Adams, Admin. of Elementary School

"There is a great need for such a facility. Thousands of children in our city lack the opportunity to discover what is possible for them to do, to know what reality permits and what it prohibits. Kids everywhere need to experiment, to build and to tear down, to find out what works and what doesn't, to plan and discover, to predict and be surprised, to copy and try something new, to succeed and fail, and then try again. Jumping and running, hammering and sawing, climbing over and under, singing and performing, working in groups and going it alone, helping and receiving help, tasting disappointment and knowing joy, these are the great tasks of childhood. . . Urban environment limits opportunities of this sort. . . Houston does not currently provide adequate play areas where children can experience adventure and make the many discoveries upon which the success of their later lives depend."

James E. Clark, Director  
Texas Treatment Center for Autism

"Your project promotes development in ways few other institutions are capable of. Few educational centers allow children to learn in the most effective way because the activities look more like play than work. However, children will be working very hard at Mountain Park . . . The location of the park makes the opportunity for growth available to a large number of Houston children."

Judith Walker de Felix, PhD  
Associate Professor  
University of Houston, Central Campus

"It is a fine community project and much needed in Houston for young people. Whoever has been here . . . has expressed pleasure that it is available -- and at such a reasonable fee."

Mrs. Helen Nzadak

". . . this is by far the best overall playground facility in the state for the price. This is the type of facility we all wish we had available to us as children . . . it is needed at any cost . . ."

Bill D. Derrick, Senior Vice President  
Treptow, Murphree & Company

"I'd like to express our appreciation for the outstanding community leadership you and your board have demonstrated by creating that park. It is a model for playgrounds. Houston has another first -- a safe, inexpensively-equipped oasis in which children can have opportunities to learn to be more self-reliant. Moreover, it is a great place for families to play together. . . One of our hopes is to provide scholarships for after-school care at Mountain Park."

Mayme K. Ardis, President  
Child-Family Advocacy Council

". . . this is the most fantastic opportunity for children ever offered in Houston . . . it is one of the few programs which will contribute greatly to children's development and not just amuse them . . . Children will begin to develop their creativity, to safely explore their adventurous spirit, and to learn to do instead of to be passive."

Judy Chiasson, Director of Resources  
Children's Resource & Information Service

"Mountain Park has provided for our children the freedom to explore, and to create without restrictions. It has become the most popular field trip that we offer in our program . . . Thank you for developing this opportunity."

Catherine Duchon, Executive Director  
YMCA, Southwest Branch

"Creative play space, such as this, has not only local, but also regional significance. . . It is a leader and far-reaching example of a supportive environment for children's play activities -- to foster their creativity and imagination in their formative years . . . Can we afford anything less?"

Monica H. Lindeman, PhD  
University of Houston at Clear Lake City

"It is the best learning-play idea I have ever seen . . . The genius who put Mountain Park together really understands the needs of children . . . I hope you can read between the lines and know the joy I feel over what you and your people are doing. This project is a gift to Houston . . . for all of us to enjoy through our children and grandchildren for years to come."

Mrs. Willis M. Howard, Jr.  
Christian Education Director  
Church of St. John the Divine

"Our Center's Early Childhood Department and Children and Youth Department have used Mountain Park on many occasions since its opening this fall for field trips and activities. We will continue to do so throughout the year and especially during the spring with our recreation programs."

Jerry Wische, Executive Director  
Jewish Community Center of Houston

Our own evaluation was that the park fulfilled the goals for which it had been designed.

Children had a place to play freely. They typically chose the large physical activities first, and then settled into more concentrated projects for the remainder of their visit.

Children could construct, using the materials and tools of their own choice in projects such as production of wheel toys, wooden animals, dog houses, airplanes, tables, book shelves, doll houses, puppets, wall plaques, stage plays, dance shows, mosaics, and paintings.

Children could take risks. In negotiating difficult rope bridges, and in mastering carpentry skills, and in sledding down a hill 250 feet in length, children tested themselves to their own limits and standards of performance. They tested their competence in an environment which Matthew Raney of the Houston Paramedics called, "the safest place I've ever seen designed for children."

There are very few accidents: .014% of the 15,000 people who attended the park sustained injuries, and most of these were skinned knees, scrapes, and hammered thumbs. This safety record was achieved in an environment which the children perceived as exhilarating and demanding. Overall, the park opened up new experiences which the children enjoyed, learned from, and experienced safely.

Gains in social relations were equally positive. Conflict between children was not a problem at all at the park, even on the most crowded days. No one was ever asked to leave the park. Children of all ages worked and played together and, in most cases, the older children either ignored or helped the younger ones. Disagreements did take place, but the activity was compelling enough so that agreements and compromises were reached.

Children shared the pride in their achievements, treasuring crude, hand-built planes much more than expensive, store-bought items. Increasingly, children came to see the playground as their own, and helped maintain and operate the park.

There was more interaction and play among children and adults than expected. Whole families came and built dog houses, airplanes, and furniture for bedrooms. Children got a chance to see their parents doing things, doing them well, and enjoying them. The importance of environments where children can share their work and play with adults, and especially with their own parents, has been widely overlooked. Mountain Park showed ways to address that need.

To be sure, there were areas which needed improvement. Children were not offered enough actual instruction time. The arts staff intended to offer spontaneous instruction times for children interested in, for example, "How to Draw Horses," and the carpentry staff intended to have wheel toy workshops, but these were never done. Water experiences for the children were not sufficient to cover the need. Future projects would have remedied that lack. Most painfully, large scale building projects such as club houses and dens and huts never got going, due to staffing restrictions and insufficient time to build up a group of regulars among the children. Incentives for group cooperation suffered for the lack of large building projects. Our evaluation, then, must include the assessment that there was more to do.

## APPENDIX

1. Suggested Safety Standards and Guidelines for Public Playground Equipment.
2. Adventure Playground Leadership.

SUGGESTED SAFETY STANDARDS AND GUIDELINES FOR PUBLIC PLAYGROUND EQUIPMENT

Prepared in 1978 by the  
NATIONAL BUREAU OF STANDARDS  
For the  
U. S. CONSUMER PRODUCT SAFETY COMMISSION.  
Summarized by the  
FRIENDS OF BELLAIRE PARKS  
April 1979



## Introduction

In 1975, the U.S. Consumer Product Safety Commission responded to a petition to draw up Safety Standards for Public Playground Equipment and selected the National Recreation and Park Association to develop them. The Proposed Safety Standards prepared by the NRPA in 1976 were refined in 1978 by the National Bureau of Standards at the request of the CPSC. The suggestions and recommendations of the NBS summarized here will be used by the CPSC in formulating the final version of the Public Playground Safety Standards and Guidelines. These standards and guidelines will not be mandatory specifications but rather performance standards allowing flexibility in design and materials.

The purpose of these standards and guidelines is to reduce the frequency and severity of injuries associated with public playground equipment under conditions of normal use and reasonable misuse.

In preparing these reports the greatest difficulty was encountered in obtaining data to support the requirements. Information relating to the frequency and severity of injuries . . . and use habits are almost non-existent. . . It is difficult to specify precise requirements and dimensions for effective reduction of potential for injury, and to foresee potential hazards which might indirectly be encouraged in the process. As a result, most decisions underlying this document are state-of-the-art judgements. As additional data are accumulated, these judgements should be reviewed and, if necessary, modified.

## Resilient Surface

The majority (60 to 70%) of public playground related injuries occur when users fall from equipment. Nearly half of these injuries were head injuries.

Head injury tolerance limit for head first fall of children was found to be an average acceleration of 150-200g of impact (or peak acceleration of 200-250g) for 3 milliseconds. Studies indicate that risk of serious head injury due to head-first falls is minimal when the peak acceleration imparted to the head is 200g or less.

Due to the large variety of surfaces that can be installed under equipment, it was impractical to test all such materials. About ten commonly used materials were tested. The performance data presented show that the impact force for a free fall from a height of 10 ft. was less than 100g when pine bark nuggets (4" deep) or crushed stone (blue stone dust, 4" deep) were used as surfacing materials, and less than 200g for the following materials listed in the order of their effectiveness with the most effective listed first:

- Pine Bark Nuggets (4" deep)
- Crushed Stone (4" deep)
- Pine Bark Mini Nuggets (4" deep)
- Sand (4" deep)
- Whole Tire Crumb, 1/2" shred (4" deep)
- Shredded Hardwood Bark (4" deep)
- Outdoor Rubber Mat (double thickness)

SUGGESTED PLAYGROUND EQUIPMENT  
 MAINTENANCE SAFETY CHECKLIST

ITEM	LOOK FOR. . .
Structure	Bending, warping, cracking, loosening, breaking, etc.
Surface Finish	No protective coating, rust, other corrosion, cracks, splinters, checking, harmful preservatives or points, etc.
Hardware	Missing, bent, broken, loosened, open hooks, etc.
Edges	Sharp points, or edges, protruding bolts, or other protrusions, etc.
Pinch or Crush Points	Exposed mechanisms, junctures of moving components, etc.
Mechanical Devices and Other Moving Parts	Worn bearings, lubrication needed, missing protective covers, etc.
Guard or Hand Rails	Missing, bent, broken, loosened, etc.
Ladders and Steps	Missing rungs or steps, broken, loosened, etc.
Swing Seats	Missing, damaged, loosened, have sharp corners, etc.
Footings	Exposed, cracked, loose in ground, etc.
Protective Surfacing Under Equipment	Compacted, displaced to ineffective level, doesn't extend to potential impact area, unsanitary, poor drainage, etc.

DANGER ON THE PLAYGROUND, a report of the National Committee for Safety on Fixed Playgrounds, published in London by Fair Play for Children, 1978.

The report discusses the many dangerous situations on playgrounds in England and recommends procedure to minimize accidents. The following are some of the Committee's recommendations:

1. Entrances and Exits

Children will run straight out of a playground onto the road if nothing prevents them. A barrier must be provided with a gap wide enough for a wheel chair. Children actively dislike wire netting and quickly vandalize it. High brick wall will be climbed and fallen from. Low wooden or brick boundaries seem to cause the least problem.

2. Adult Seating

Seats for parents should be sited so that no child running toward them will get in the path of moving swings or other high activity center.

3. Swings

Many accidents happen when a child is hit by a swing. Sensible siting of swings in relation to other equipment, seating, paths, entrance, etc. is essential. If barriers are used, they must be at a safe distance from the swing because children will use them as seats or climbing apparatus, and thus may get in the way of the swing even more than if the barrier were not there. Furthermore a child jumping off a swing could get trapped inside a barrier and be hit by another swing.

4. Space

Too much equipment crowded into too small a site can create a problem <sup>as can</sup> too few items of equipment for the number of children using the playground.

5. Slides

Tower slides should not be higher than 8 ft. The sides must be an integral part of the slide. Slide panels assembled in sections are dangerous since they buckle and leave knife-like edged projections.

Where possible slides should face north since sun heat on the metal slide can cause severe burns.

Slides should have rails.

Mound slides are safer than tower slides.

## DANGER ON THE PLAYGROUND (CON'T)

### 6. Free Activity

An area for ball games, bicycles, skate boards should be separate by a barrier from the playground. A ball travelling at a high speed can knock down a small child. If a high screen has to be created, this should be made as child-appealing as possible to deflect vandalism, with colorful murals painted by local school children, for instance, or versatile ball-game markings.

### 7. Equipment to be removed immediately

Rocking horse and rocking boat. (A child can be hit if he gets off while equipment is still moving.)

Ocean Wave

Plank swing and pendulum see-saw.

### 8. Merry-Go-Rounds

Gap between merry-go-round and ground acts as a trap for feet and hands. Skirting board creates a false sense of security and can create a worse foot trap.

### 9. Climbing Frames

Should not exceed 8 ft. and should never be erected over concrete.

### 10. See-Saws

Should not go higher than 6 ft. nor closer than 1 ft. to the ground. Breaking mechanism (or a tyre) should be used.

### 11. Sandpits

A mixture of particles ranging from coarse (not more than 1/16" to very fine) if too fine sand will blow away. Depth should be 15 to 18 inches.

### 12. Surfacing

The biggest single killer on the playground is a concrete surface. Asphalt or tarmacadam over concrete base can be just as deadly. . . All concrete should be removed, with the exception of small concrete footing that form a base for support poles. Concrete or asphalt pathways must be a safe distance from equipment.

## DANGER ON THE PLAYGROUND (CON'T)

<u>Material</u>	<u>Height of fall needed to achieve 50 G impact</u>
Concrete and asphalt	less than 1 foot
Packed earth	2 feet
Rubber tile	4 feet
Double rubber tile	8 feet
Wood chips 6" deep	10 feet
Pea gravel 4" deep	12 feet
Sand 12" deep	12 feet

### 13. Telephone

A public telephone must be sited as close to the playground as possible. Telephone numbers of First Aid and Ambulance must be clearly posted.

### 14. Maintenance

All playground should be checked daily. Exhaustive inspection should take place at least annually.

Daily check should include:

- Supports and foundations
- Corrosion, chipped paint
- Framework and hardware - worn bearings, exposed sharp edges, missing nuts and bolts, open hooks in chains, and hand grips security.
- Mechanism - child proof cover.
- Timber - rotting, splintering, damage; steps, hand rails.
- Loose Surfacing - raked, debris removal.
- Litter removal, etc.

All equipment should be inspected regularly according to a maintenance schedule which should include:

- method of testing and checking the operation of all moving parts
- recommended lubricants
- all lubrication points
- recommended frequency of lubrication
- recommended maintenance checks and the amount of wear
- replacement schedule

Damaged unsafe equipment should be immobilized by a child-proof method until repaired.

## DANGER ON THE PLAYGROUND (CON'T)

### 15. An Appeal to Designers

Designers are urged to. . .

- take a more creative and original approach;
- take the time to involve local children directly in the planning stages;
- create or retain varying ground levels;
- retain or plant trees and shrubs to provide an attractive natural environment; and
- develop a greater awareness of safety factors.



## ADVENTURE PLAYGROUND LEADERSHIP

It has become more apparent with each adventure playground that the success of adventure playgrounds depends on the ability of the play leader. With this in mind, and with the realization that the process for hiring a play leader for your summer program begins soon, we have compiled some basic criteria for guidelines to be considered when you are looking for that special person to provide the children of your area with an adventure play program.

### Technical Skills

The leader(s) should:

- have several summers' experience or one year full-time experience with kids of various ages and backgrounds;
- be from the community, i.e. from the same neighborhood as the kids coming to the playground;
- be resourceful (be familiar with where and how to get materials and other resources);
- be mechanically and structurally minded (as there likely will be a fair amount of building being done by the kids on the playground, and although the play leader should not direct this building, he or she will have to look over what is happening, be on the lookout for anything which could be unsafe, and generally advise the kids on ways to do things when they ask).

### Characteristics

The leader(s) should:

- love and understand children and young teenagers (which includes such qualities as patience, tolerance, kindness, warmth, friendliness, fairness, sympathy and empathy);
- be a facilitator and enable the children to carry out their natural play experience needs;
- encourage and approve of the varied adventure children will surely seek out to explore when given the chance;
- be able to guide rather than direct; advise rather than order; withdraw when not needed and allow the children to organize or manipulate the environment for themselves, thereby allowing for cooperation and self-confidence to bloom;
- be able to facilitate all types of activities, from games and sports, to building and arts and crafts, to social interaction and cooperation activities;

- be there, available to all equally, and make it possible for children and young people to play;
- be able to encourage and develop the children's imagination;
- be more interested in helping to foster individual and cooperative play and skills than competitive skills;
- be mature enough to deal with the larger community on an adult level, to work with parents, police, teachers, other neighborhood groups and clubs. (If the adventure playground is to have its full impact on the total community, the play leader will need to be in close touch with many parents, teachers and others dealing with the affairs of children; he or she will need their advice and counsel; will need to elicit their help for his programs and will want to suggest programs and ideas to them from his perspective of working with the kids in a play setting; in addition, he or she will have to contact a wide variety of other community leaders and organizations and should actively want to, for they, if approached, are often prepared to give considerable help in the development of the playground and other programs for the community as a whole.)

The leader must be a combination of mother and father, policeman and Robin Hood. He must be fond of children in a dep but unsentimental way. His greatest asset must be a capacity for just "being there."