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## **A Study of the River : Social Studies as the Core of the Curriculum For Five and Six Year Olds**

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/ A STUDY OF THE RIVER:  
Social Studies as the Core of the Curriculum  
For Five and Six Year Olds

Carol Yahr Tucker  
June 1976

in fulfillment of the final requirements for the degree  
Master of Science in Education

BANK STREET COLLEGE OF EDUCATION  
610 West 112th Street  
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## PART I

### Introduction

William is the first to arrive at the harbor this morning. He parks his small rubber car and quickly walks his play figure down to the dock. His boat has a large, open lower deck and a small cockpit on top; the sign on the side reads: "Staten Island Ferry". William is the ferry captain. He places his play figure in the cockpit and slowly backs the bright red ferry out into New York harbor. He looks around at the nearby boats, a tug, a fireboat, a Coast Guard boat, a cargo ship, each in its own slip. William pushes the ferry across the floor to Liberty Island. "Hello," he calls. "Anybody home? I want to come visit?"

"We're still sleeping," two girls' voices answer, "Come back later."

"O.K." William backs his ferry out onto the floor again and turns north. As he pushes the ferry up the Hudson River, he sees the ocean liner beginning to back out into the channel. He stops and waits as Samuel, with his play figure on the bridge, pushes his black and white ship out of the slip and into the main river. William waves to him as the boat passes. "The Statue of Liberty's not open yet," he says. The bells of the Riverside Church are chiming as he pushes his boat further up the river. He has to bring his body low to the floor to pass under the

George Washington Bridge. The lamp of the Little Red Lighthouse is still on.

Finally he comes to the Bronx where he parks his boat and walks his play figure to a three-story apartment house with an outdoor elevator. The sign reads: "High Point Apartment House". "Hey Daniel."

Daniel is finishing his milk and crackers so it takes him a minute to answer. "Yeah?"

"Want a ride on the ferry?"

"O.K." Daniel reaches inside the building, lifts his play figure into the elevator, and brings it down onto the floor. The two boys return to the boat and place both figures in the cockpit. William pushes the ferry down the river. They duck under the bridge. "Take me over to my tugboat," says Daniel. The red ferry pulls up alongside the maroon tugboat. Daniel's play figure hops onto the tug.

"I'll meet you at the Statue of Liberty," says William. "Maybe they're open now."

These children are playing out roles in a block scheme which has transformed their classroom into New York City and some of its surrounding areas. After six weeks of intense study, this group of twenty five and six year olds and their two teachers recreated their real experiences in a miniature version of New York and the Hudson River. While playing roles

in this block city, the children continued to learn by working out new problems which the block scheme presented. They played according to their own style and level of development. This exploration and explanation of the children's environment was the culmination of a program in which social studies was the core of the curriculum. This paper will describe, summarize, discuss and analyze that program in the light of my personal philosophy of education. This philosophy has two main ideas: the first is a Deweyian, progressive view of education where social studies functions as the central core of the curriculum; the second is that a knowledge of child development should always be a determining factor in the character of the program.

Why would a study which started with the river be an appropriate one for these children? In the first place, most of them live in Riverdale or upper Manhattan and many could see the river from their windows. Thus the study would begin with the children's own environment and experience. Second, the teachers felt that a study of the river would have enough possibilities to interest everyone in the class. There would be opportunities for art activities, writing, wood-working, problem solving in math and science, and an impetus for block building. A study of the river, and eventually perhaps the bridges and the land they connected, would supply a good framework for a block scheme.

A block scheme can give children the opportunity to recreate their life experiences in a concrete medium. In the act of re-experiencing, children individually and in groups reflect on new learning as well as solidifying previous experience. Further, children make new discoveries through individual decision-making and group interaction. If the theme of the block scheme is broad enough and is taken from their life experiences, the children will have a chance to express their personal concerns through the questions they ask, the choices they make and the special interests they show.

Using the children's environment, community and life experiences as a basis for curriculum is not a new idea. It was first put forth as a premise of John Dewey and the progressive movement. In his essay, Experience and Education, Dewey writes:

It is a cardinal precept of the newer education that the beginning of instruction shall be made with the experience learners already have; that this experience and the capacities that have developed during its course provide<sup>1</sup> the starting point for all further learning.

Yet even in the most homogeneous group of children and even when they are quite young, the experiences of each will be different. How then can their experiences be organized and unified to best support their learning and growth? According to Dewey's theory, all learning can be related to a central theme as long as the theme is vital to the child. In Dewey's laboratory school, the theme for young children was what he



called "the occupations", that is, carpentry, cooking, textiles (sewing), gardening. Dewey felt that these activities connected the children's school lives to their lives at home as well as to the lives of the adults around them. But in school, these projects were seen in an integrated context giving opportunities for learning in many areas. For instance, sewing on cotton material might give rise to such questions as: where does the cloth come from? how is it made? how is the cloth dyed? The teacher would use these questions as the basis for expanding the inquiry with materials in the classroom and trips to explore the environment outside. Thus as early as 1895, Dewey was developing a model for education which started from children's life experiences, connected these experiences to a core idea, and this core, in turn, connected and organized different areas of knowledge. "The unity of the curriculum," according to Dewey, "is found in the unity of social life which that curriculum represents."<sup>2</sup>

I believe that the most valuable consequence of Dewey's model is the concept of a curriculum organized around a core idea. Young children feel the excitement of learning when they immerse themselves in a study. They experience what it means to discover, to know, to become an expert. Finding out information about their community supports young children's need to feel mastery over the confusing adult world. The more

they know, the more opportunities they have to understand how the adult world fits together and what their place is in it. Children find that learning can be a vital process related to their needs and experiences, rather than a dry transfer of skills and pre-existing bodies of knowledge.<sup>3</sup>

Dewey pointed out the importance of the children's response:

"The most important attitude that can be formed is that of desire to go on learning."<sup>4</sup> It is this enthusiasm for learning coupled with reflection which I feel holds the most possibilities for educating children. Teachers must constantly challenge and reassess the direction of a study. And they must give children the means to organize and integrate what they have learned. Dewey comments on the rigor of this kind of curriculum: "There is no discipline in the world so severe as the discipline of experience subjected to the tests of intelligent development and direction."<sup>5</sup>

### The Child and the Curriculum

In order to evolve a coherent point of view, teachers must juxtapose their model of curriculum with their knowledge of child development. Speaking in the broadest terms, all children go through a series of sequential stages beginning with infancy, and by the age of five, most have reached a

predictable level of development. Even as young babies, however, children begin to show individual differences in temperament and personality.<sup>6</sup> During childhood many factors influence their growth, including parental attitudes toward child rearing and cultural and economic backgrounds. At the age of five or six, there are children who can skip with ease and those who still climb stairs one at a time. The same child who can tie his own shoelaces and zip his own jacket may have a hard time finding ways to join in the play of other children. They are all within the normal range. In order to design an appropriate program for five and six year olds, teachers must look for the learning style, the psychological needs, and the approaches to life which these children share.

One of the overriding needs of these children is for companionship.<sup>7</sup> The working and reworking of social relationships is ever-present in most kindergarten classes. The children's newly acquired flow of language and ability to control impulsive behavior aid this socialization process. They are now better able to verbally express their feelings and needs to both adults and peers. They support and inspire each other with articulate discussions of ideas and possibilities. In block building, for instance, many five year olds will admire each other's work and question one another on construction techniques. Since their need for friends is

new and their experience in relationships is limited, it is very important for children of this age to have a large enough peer group to allow for choice and variety. The friendships they form vary in longevity, intensity and character, depending on the shifting needs of the children.

Teachers often say that when the kindergarten/class has less than fifteen children in it life seems dull. To satisfy the continuing experimentation in relationships, twenty to twenty-five children seems to be a good number. This offers sufficient opportunity for each child to choose friends and change partners.<sup>8</sup>

As individuals, these children share some psychological conflicts. Most five year olds are no longer babies, trusting and dependent, but neither are they always secure in their new identity as independent young children. Their drive toward autonomy reveals itself in a need to show competence, to acquire skills, to find solutions to practical problems. Knowing where to find worms in the garden, or how to use the wood-working tools, gives satisfaction and lends support to children of this age.<sup>9</sup> Erikson defines the conflict of the third stage of development as "initiative versus guilt". He describes children of this age as follows:

... the child is at no time more ready to learn quickly and avidly, to become bigger in the sense of sharing obligation and performance than during this period of development. He is eager and able to make things cooperatively, to combine with other children for the purpose of constructing and planning. <sup>10</sup>

Concerning this stage of development, Erikson says:

Initiative adds to autonomy the quality of undertaking, planning and 'attacking' a task for the sake of being active and on the move, where before self-will, more often than not, inspired acts of defiance or at any rate, protested independence. <sup>11</sup>

The difficulty for children is in balancing their inner striving for autonomy and their outward activity which must be tempered by social restrictions. <sup>12</sup>

It is clear that children of these ages need opportunities to acquire information and skills in order to see themselves as competent persons who are counted on for responsible tasks. What experiences both support their emotional growth and challenge their intellectual development? Children of this age are active learners who depend largely on their senses. They respond to concrete experiences of seeing, touching, smelling, tasting. <sup>13</sup> Upon returning from a trip to an apple farm, a group of five and six year olds made the following remarks: "I could smell the apples on the ground," "The apples went plop in the bucket," "We drank sweet cider when we had a picnic." In her book The Learning Child, Dorothy Cohen comments on the learning style of five and six year olds:

But they still prefer to run, not walk, to climb, not sit, to do, not watch. Action response takes precedence over the sedentary and it will be many years before these inclinations are reversed. <sup>14</sup>

Five year olds are not yet at the stage where vicarious experiencing through books or pictures can replace concrete experience.

The research of Jean Piaget supports this view. Most five and six year olds are still in what Piaget terms the "preoperational stage" of development -- they are egocentric, basing their thinking on perceptions.<sup>15</sup> They are approaching, however, a transitional period to concrete operational functioning where they begin to compare their thinking to the thought of others: "Peer group social interaction, the repeated conflict of one's own thoughts with those of others, eventually jars the child to question and seek verification of his thoughts."<sup>16</sup> Thus within a group of twenty kindergarten age children, different children will be at different developmental levels. Also, according to Piaget's theory, since movement from one stage to another is not sharply delineated, preoperational and concrete operational thinking can exist simultaneously in an individual child.

These children combine their concrete learning style and their need for autonomy in dramatic play. Play is a vital part of all children's lives practically from birth. Babies depend on adults for stimulation in play. As toddlers, children for the first time seek out each other for companionship but do not really interact (parallel play). During the pre-school years, children begin to imitate each other's

activities and eventually to cooperate in role playing in small groups. By the time these children enter kindergarten, they may be taking roles from family life, from the outside world, or from fantasy. In any case, dramatic play is a source of learning on many levels. Susan Isaacs refers to "dramatic representation ... as the characteristic type of mental activity in these years."<sup>17</sup> In recreating aspects of their life experiences, children come to learn about themselves. Identifying with roles in the world at large is their way of participating in adult life.<sup>18</sup> In describing Erikson's theory of child development, Maier writes:

As the child searches for and creates fantasies about the active person he wants to become, he consciously and unconsciously tests his powers, skills and potential capacities.<sup>19</sup>

For instance, early in the fall, some of the children in my first kindergarten class spent a day setting up a bakery and selling their play-dough pastries. Some cakes were prepared and displayed on a shelf made from large outdoor building blocks. Then, some problems arose. How much should the cakes cost? Who would come to buy them? Where would they get money to pay for the cakes? What would happen when the bakery ran out of cakes? In an impromptu discussion with the teachers, the children suggested some solutions. People get money from the bank -- some children offered to be bankers, and the teacher supplied

a money box. The cakes had to be reasonably priced ("Not a hundred dollars. That's too much!"). Signs were made and attached to the cakes and a cash register placed on a table. It was decided that while some bakers were selling the cakes in the bakery, other bakers had to be making new cakes as replacements. Everyone else took roles as customers, and after some shifting of tables and chairs, both the bank and bakery were open for business. There were times during that morning when the bank had more customers than it could handle, but these five year olds waited patiently on line until a banker could help them. The children also changed roles frequently, so that bankers had a chance to be sellers and customers to be bakers, etc. This kind of activity gives these children an insight into adult lives and the interconnectedness of the world around them.

There are expanded possibilities for dramatic play when children use projected figures in conjunction with block building. In addition to the experience and challenges of the building itself, children can play several roles simultaneously, allowing for more complex testing of their understanding of human relationships. When a group of children are block building together they can further explore the interaction of a community. The use of symbolic figures as opposed to direct participation (like the bakers and bankers above) is not a simple transition. Depending on children's



experiences and the amount of time they have spent block building, children at five or six years old do begin to distance themselves from their dramatic role by using a projected figure as a representative self.<sup>20</sup>

In summary, children of kindergarten age are developing at a tremendous rate. Even though they can be highly articulate, they still need concrete experiences to help them in their struggle to organize and understand their environment. They respond to activities which involve them as purposeful workers who can feel competent and knowledgeable. Teachers must combine, therefore, their plan for curriculum with their understanding of the children's stage of growth.

### The Teacher and the Curriculum

Teachers must be continually aware of how their own attitudes and values affect the children's experiences. When children enter a classroom at the beginning of the school year, there is already much evidence of the teacher's personal decision-making. The room arrangement which includes allotment of space, arrangement of furniture, the choice and placement of materials, all indicate certain preferences and directions to the children. If the block area is large and

well supplied, children will be attracted to this activity. If the art materials are on open shelves at the child's level rather than in closed cupboards, children not only feel encouraged to use the materials freely but to be responsible for them because they are part of the child's domain. Once children enter the classroom, the teacher's role as a decision-maker changes. The extent and quality of this change is a controversial issue. When the teacher imposes the curriculum on a group of children without considering their particular background or experience, most decisions concerning the program can be made in advance -- materials can be chosen, books can be ordered, decisions are more clear cut. When, however, the teacher's decisions depend on the children's interests and life experiences, the situation becomes more complex. There is constant mixing of the teacher's more global decision with specific consideration of the children.

In addition to creating an environment for children, the teacher also facilitates learning by sensitive intervention. If children are block building, the teacher may make a verbal suggestion to one child ("Do you need another row of blocks to make that wall stronger?"), or she may take a block from the shelf and carry it over to a child without saying anything. The teacher may take a small group of builders

on a trip to do some specific research or the whole class may take a trip to broaden their base of experience. Having acquired various kinds of information, the children then need help to synthesize, connect and act on their observations. Group discussions give children the chance to ask questions of teachers and of each other. If, however, the teacher believes, as Dewey did, that children learn through discovery, discussions are not a time for giving answers but rather for crystallizing questions. Then, teachers can suggest to children methods for finding out the information they need. Frequently, it is during these discussion times that teachers have an opportunity to sense the direction of the children's interests. The teacher's reassessment of the children's needs may alter the specifics of her planning for the whole group or it may involve following up the special interest of an individual child. Since children learn most readily what is important to them, the teacher's flexible response is vital.

Another level of teachers' input concerns their personal attitude toward learning. A teacher is not only a resource for information but also a model for enthusiasm. All the learning which the teacher does as an adult will not be appropriate to the children, but the way the teacher approaches learning will be transmitted. Dewey considered this intellectual leadership to be part of the teacher's role:

The first condition goes back to his own intellectual preparation in subject matter. This should be abundant to the point of overflow. It must be much wider than the ground laid out in textbook or any fixed plan for teaching a lesson. It must cover points, so that the teacher can take advantage of unexpected questions or unanticipated incidents. It must be accompanied by a genuine enthusiasm for the subject that will communicate itself contagiously to pupils.<sup>21</sup>

Thus, the teacher of young children organizes the physical environment, plans the program, facilitates children's learning and serves as a model for the excitement which learning offers.

Into what kind of framework does the teacher place a year's work with children? The structure must be suitable to the children's level of development and compatible with the teacher's philosophical view. It must be flexible enough to allow for the interests of the group as well as of particular individuals. A suitable curriculum supports children's need to understand the world and how they fit into it. It is my belief that using social studies as a core curriculum is an effective way to fulfill these needs for five and six year olds. A program based on social studies starts with the children's life experiences; it gives them opportunities to explore their community through the work of adults in the world at large. Children of these ages are moving away from a completely egocentric perspective toward a new social awareness. A social studies curriculum gives children the opportunity to work together on common projects, e.g. a block scheme and a shared goal which encourages group discussions and facilitates socialization and dramatic play.

The following section of this paper will describe a specific program where a study of the Hudson River served a group of five and six year olds as a core curriculum. I will include a summary of teacher planning as well as a chronicle of events culminating in an all-encompassing block scheme. Block building was the main focus of the project, but I will show how many other kinds of activities were also integrated into the program.

## PART II

## Introduction

When planning a program, teachers consider numerous factors. The children themselves are of prime importance -- their ages, their backgrounds, their previous experiences, the community they live in -- all contribute to the teachers' decisions. Secondly, the school environment contains many variables which teachers must take into account -- the physical plan of the classroom, the number of children in the class, the ratio of children to adults and whether other adults such as parents or student teachers are available and other resources of the school. Another consideration is the parent group and what they expect from the school and of their children. And teachers must assess themselves -- their interests, their strengths and weaknesses, as well as their values and philosophical view. To design a program which can balance all these demands is not an easy task.

It is perhaps with the teachers' own philosophy that the planning begins. In the actual program I am describing, I wanted to plan a project which would support the children's growth and be consistent with my educational point of view. Using social studies as the core, I wanted to develop a

theme which would come from the children's life experiences and which would be broad enough to allow every child to find some aspect which would be personally interesting. Since blocks were to be the focus of this curriculum, I was hoping to expand block building into a block scheme, i.e. individual buildings connected by some sense of community living. This scheme would include opportunities for dramatic play, art, language and math activities, as well as possibly mapping some of the geographic aspects of the environment.

Before going on to the specifics of the study, I would like to discuss the children, their backgrounds, their school, their classroom, their teachers. For two years, I was an assistant teacher for five and six year olds in a private elementary school in Bronx, New York. The project I will describe took place in the spring of 1975 during my second year there. The class consisted of twenty children: ten girls and ten boys with an age span of about a year (the youngest turned five in September). There were four Black children and one Oriental; the rest were white. All the children had had some prior school experience. Nine had been together the previous year in the pre-kindergarten class of the same school; the others had attended various local nursery schools. The families of these children were predominantly middle class. More than half of the parents were

professionally trained and thirteen mothers worked full-time. Two of the families were not intact. All these families chose this private school which has a reputation for high academic standards.

In addition, this school has a tradition of using social studies themes as a basis for the year's learning. In the upper grades (third through sixth), each level has a core study, such as the Indians of this region for the third grade, Africa for the fourth grade and the Middle Ages for the fifth grade. The curriculum for the lower grades is left up to the individual teachers though over the years there are some recurring themes for first and second grades. There are two groups at each level from kindergarten (five and six year olds) through sixth grade. The pre-kindergarten (four and five year olds) has one group. The pre-kindergarten and the two kindergartens have full-time assistant teachers. Various special activities are available to the kindergarten classes: the whole group has rhythms (movement and music) in a large gym once a week and music (singing) twice a week. Part of the group goes to the library once a week. A psychologist, a social worker and a curriculum consultant are available to the teachers.



## The Children and the Context

The children in my class were an interesting mixture of people. Lauren was tall and gawky; Kathy was lithe and graceful. Steve was excited and full of ideas; Helen was docile and rather shy. Robert always sat next to a teacher at the lunch table and talked constantly to her during the meal; Ted spoke almost exclusively to his peers, rarely to the teacher. In pairs or in small groups, many of these children seemed precocious in their ability to handle long-term relationships. Terry and Sarah, who had become friends the previous year in the pre-kindergarten class, sustained their relationship throughout the year. Ted and Bob, both new to the school, found each other the first week of school and remained close friends. Alex and Kathy had a volatile relationship which ranged from not wanting any other children to interfere with their play to fighting and calling each other names. In general, all the children were developing and testing their social skills in one to one arrangements as well as small groups. About midway through the year, five children formed a group which consistently played together outdoors. They played traditional family roles with children trying out different roles on different days. This did not last longer than two weeks; then these children reshuffled and sought out new friends.

This varied class lived together with their two teachers in a classroom which combined aspects of the open classroom with some progressive concepts. The room arrangement was based on the open classroom model with separate parts of the room devoted to different areas of learning: reading and writing, math, blocks, art, science. There was also a large meeting place. As the year progressed, the reading and math areas were used frequently for individualized work such as personal word banks and math books. There were games and puzzles in both areas. About one-third of the floor space was allocated for block building but it was possible to use more when necessary. This area was well supplied with accessories such as small plastic cars, pulleys, batteries and bulbs for electricity. We replaced the traditional wooden play figures with materials for the children to make their own people: oak tag cut to scale, fabric scraps and yarn for gluing, crayons and scissors. The art area contained materials for easel painting, clay work, collage, drawing. The science area changed during the year to accommodate different kinds of animals and plants. In the fall, the group studied the life cycle of monarch butterflies. A snake, a toad and a guinea pig also lived with us. In the spring, we had tadpoles. Woodworking was always available to the children.

There were some aspects of progressive education in this

classroom. First, the teachers felt that it was important to develop a group feeling among the children. By doing things together -- eating snack, listening to stories, working out problems in group discussions -- the teachers hoped to build a sense of "groupness". Taking trips contributed to a base of common experience which also served to draw the group together. Second, the children were included in the management of the classroom. During group discussions, the teachers presented certain problems to the children, for instance: "How will we get everyone's attention if someone (teacher or child) has to make an announcement?" or "How can we arrange it so that everyone has a turn to take care of the animals?". These practical problems were solved by teachers and children working together. In answer to the first problem, it was decided that two signs were necessary: one for quiet which read, "SH", and one for meeting time which read, "COME HERE". The children made the signs out of wood at the woodwork bench and they were put in a public place. If anyone needed to say something to the group, they could pick up the quiet sign and everyone would stop and listen. In answer to the second problem, the children decided to have a job chart so that everyone could have a turn at all the jobs. In this way, the day-to-day workings of the classroom were not imposed

on the children but rather the children helped find solutions to problems which affected their life together in the classroom.

By spring, these children had been involved in a series of group projects. In addition to studying monarch butterflies, during the winter they had studied the Eskimos. This project had culminated in a group dramatic play experience in which the children played out the lives of the Eskimos. They had also visited an apple farm and a sheep farm. Betty, the group teacher, and I wanted to focus the spring curriculum on water, boats and bridges. We hoped to create an opportunity for a block scheme which would allow the children to recreate their previous experiences and to explore further their immediate environment. During spring vacation, we began to plan out some possibilities. First, we drew a flow chart which connected our ideas about water and bridges to the children previous school experiences. We added new directions as we went along (Flow chart, Figure #1). We also kept a running list of other categories as they occurred to us -- all possible trips, new activities in the classroom, songs and movement ideas, subjects for teacher research (Figure #2). We decided that the first trip would be a short local trip to see the Hudson River and we would judge the appropriateness of this river theme

according to the children's reactions.

### Early Trips

A few days after returning from vacation, I introduced this possible trip at a discussion time just before the end of the day. I asked the children if any of them could see the Hudson River from their windows. Seven children raised their hands. Terry said she couldn't but she had seen the river when she visited Sarah's house. I reminded the group that monarch butterflies follow highways and rivers when they migrate south and in fact do follow the Hudson. I told them that Daniel's mother said we could have snack at her apartment which has a terrace overlooking the water. The next morning, we set out and after a short walk and a bus ride, we come to the steps of the Riverdale train station, just at the point where the Spuyten Duyvil enters the Hudson. We sat on the steps and I asked the children what they could see: two bridges ("a high one and low one"), two bodies of water (Alex said, "The water looks dirty." Bob said, "My father says it's polluted."), land on the other side of the water (I told them it was Manhattan ). When we walked a little further, we could see the George Washington Bridge.

Robert became very animated. "I can see that bridge from my terrace. I can see the train bridge, too," he said, pointing to the low bridge.

"How do you know it's a train bridge?" I asked.

"Sometimes, I see them go on it," he said, "I live right up there in that building." When we arrived at Daniel's apartment house, we all piled into the elevator and rode up to the seventeenth floor. His mother had prepared a snack for us but most of the children wanted to go out on the terrace first. A few children were nervous but Daniel assured them that the terrace was safe. Only Kathy was really frightened. Betty coaxed her out onto the terrace but she stayed near the door. When the children spied the Circle Line boat, Kathy forgot her fear for a moment and took a few steps forward so that she could see the green and white boat. When we returned from the trip, the children had some outdoor time before lunch. Almost every child in the class was building in the sand box. They needed many buckets of water to fill their rivers and tunnels. Daniel put a stick across his river, "It's a bridge," he said. The children's spontaneous enthusiasm convinced us that a study of the river would be a fitting one for them.

The following week, we introduced the water table as a possible morning work time activity (it was actually a kiddie pool on top of a table). At our morning meeting, we examined

some of the pumps and pipes which were to be used; everyone wanted to try them. I chose Bob and William to be the first two to use the water table; and I gave them some problems to solve, such as making the water move with the pump, making the water move without the pump.

On Tuesday, I asked the children if they wanted to go across the water to Dyckman Park to have a picnic lunch there. We had been able to see the park from the site of our first trip. Steve and Robert wanted particularly to get a closer look at the train bridge. The next morning, we took the public bus across the Broadway Bridge into Manhattan. We walked to the tip of the park to see where we had been the week before. Just as we sat down to eat our picnic, we heard three loud blasts of a boat's whistle. The train bridge swung open and the Circle Line boat came through. The children were very excited. After lunch, a train went by on the nearby tracks. The children found some old railroad spikes at the edge of the park. As we walked back to the bus, a grey tug was steaming up the river towing three barges. We could see the George Washington Bridge in the distance. Betty and Alex collected a sample of the river water to bring back to the classroom.

The following day during the morning meeting, I invited some children to go into the block area "to build something you saw yesterday". A group of boys had tended to dominate

the block building area during the year. Since this area could only accomodate four or five builders, I asked if some children who had not built frequently wanted a chance to respond to the trip. Two girls, Michele and Dale, built a series of simple bridges using a single arch for each (Figure #3). They cut up small pieces of blue construction paper and sprinkled them on the floor between the blocks for water. They used blocks for boats (a tug pulling barges) and they cut out people from oak tag. The people were taped along the double unit blocks "so they could look over and see the river". I asked them why they had the river ending in a flat block. "Because that's how it is," they said. Some other children drew pictures of the trip and wrote simple sentences underneath. Some children dictated their words. Most of the pictures showed the high bridge and the low bridge lined up side by side. Sarah drew fish in the water; Terry drew a boat under the bridge.

Betty and I wanted to give the children some geographic orientation as early in the study as possible. During the fall, we had taken a picnic lunch to a park in New Jersey directly across from Riverdale. When we returned, we drew a simple map of our trip on a large piece of grey paper. The map showed Riverdale, the Hudson, Manhattan and New Jersey (Figure #4). Now we took out this map again to add our new picnic spot. The first thing the children wanted me to



add was ~~was~~ the train bridge. We used small pattern blocks so that the children could build some miniature buildings to represent school, Daniel's apartment house, Robert's apartment house, the high bridge and the Broadway Bridge. In order to decide where to put Dyckman Park, we retraced our route from school, over the Broadway Bridge onto the tip of Manhattan. We colored the location of each park with a green crayon.

I planned a trip to the bell tower of Riverside Church for the following week (April 16). From this vantage point, I hoped the children would get some sense of Manhattan as an island (you can see the East River as well as the Hudson) and also a good view of the bridge. We parked in the underground parking lot and went up into the church. We took the elevator to the twentieth floor. To reach the observation deck, we would have to climb five flights of stairs; the first two were inside but the last three were open metal stairs which went past the huge bells and up into the tower. We divided the children into two groups, and I went up first with ten children and one of the mothers who had driven us. I knew some of the children would be uneasy, but I hoped that once they reached the top, their sense of accomplishment at having overcome their fears would outweigh their momentary anxiety. My group made the climb quite easily.

It was a clear day and the view was spectacular. It took Betty's group a little longer to make the ascent because Kathy got scared and didn't want to come up. Betty considered leaving her below with a parent, but she decided that Kathy especially should have the experience of mastering her fears. By the time they reached the top, everyone was so busy exploring the view that no one seemed frightened. We saw boats on the river and the Empire State Building in the distance. Kathy noticed someone walking a tiny white dog on the street below.

The next day, Thursday, a tall tower rose in the block area. Sarah and Terry worked on their tower while Steve and Robert concentrated on a more detailed version of the church including the stairways inside the building and the ramps we used to go in and out of the underground garage. On Friday, Sarah told me she had thought that building with blocks was "only for boys and it wouldn't be any fun, but it was." I must admit I was shocked by her statement. Why hadn't we done anything to counteract this attitude before? When I reflected on her remark, I realized how few girls had spent any serious time with blocks. This situation made me intent on expanding the block experience to more children, and I especially wanted the girls to know that this area was open to them.

In our meeting on Monday, I shared my feelings with the

group. I invited some children who had not done much building to try it. Sarah and Terry built another tower -- a hotel this time complete with a ballroom for dancing and two swimming pools. Kathy, Liz and Alex worked together on a bridge. It was a large structure with a solid base and single flat blocks for ramps. It had twelve towers (Figure #5). The arched towers were beautiful but not very practical for cars. The slightest touch caused the whole thing to topple. Finally, Alex found a way to pull the cars through the arches by tying string to the fronts of the cars. Betty and I decided not to take a trip that week, so that these children could have the whole week to work on their bridge.

All during this period, we used other areas of the curriculum to support the river theme. We read stories such as Boats on the River by Marjorie Flack and The Carol Moran and River Queen by Peter Burchard. We also looked at more factual books -- The First Book of Bridges, The Giant Nursery Book of Things That Go and The Big Book of Boats by George Zaffo. We began to teach the children some songs about boats including, "The Sloop John B.", "The Erie Canal" and "The Illialio". Some children began to construct boats out of wood at the work bench. The previous week, Lauren made a houseboat and Helen made a barge. This week, Steve made a Coast Guard boat and Robert started to make a cargo ship. We got some tiny pulleys for him so that he could really hoist

his cargo on board. We also introduced some more formal research at the water table. It was a float and sink experiment where the results were recorded on a work sheet (Figure #6). Some children needed help with writing the names of their objects. In this way, we began to integrate the core study into other areas of the classroom.

On Friday, I gathered the children in the block area to take a close look at the bridge. The builders told us it was the George Washington Bridge. I took a block boat and sailed it along the floor until it bumped into the solid under-section of the bridge. "There's no under part," the children said. "What could the builders do to change their bridge so that the boat could sail under?" I asked. Many children had ideas for making a bridge out of blocks with an under part. Samuel came up to the bridge, "If you just took some of these away, it would be O.K." he said pointing to some of the unit blocks which made up the base. "Don't touch my bridge," said Alex, getting very excited, "You're going to make it fall down!" We looked at some pictures of bridges and discussed the different types. The children matched the picture of the suspension bridge to the George Washington Bridge. I suggested that we might go get a closer look at the real bridge the following week.

On Monday, ten children tried out their ideas for bridges in the block area (see photographs p.67). They worked in-

tently for more than two hours and came up with a variety of solutions. Sarah and Terry wanted to build a suspension bridge. They were using string for cables and tape to hold the strings in place, but the pressure was too great for the block towers (Figure #7). (This bridge was not photographed because it had collapsed three times by 11:30.) On Tuesday, they tried again, still without success. Some of the other bridge builders worked on the approaches to their bridges; while most of the builders used a single block for a ramp, Steve and Samuel experimented with a more elaborate ramp construction.

Our trip to the George Washington Bridge was on Wednesday, April 30. We had a picnic in Ross Dock Park which is directly under the bridge. There was a large field covered with dandelions, and some of the children picked flowers and made chains before lunch. Two men in a small rowboat were fishing in the river. I pointed out the construction of the towers to Sarah and Terry. We saw that they were set into concrete in the water not on land. On the way home, Steve noticed the concrete anchors which hold the cables. Sarah and Terry spent the rest of the week working on their bridge. They changed the construction of their tower from two blocks, one on top of the other, to one long block surrounded by others to hold it upright. It took until the fol-

lowing Monday for these two determined children to get the bridge looking just the way they wanted it to (see photograph p. 70). We had a discussion of their bridge after it was completed. Samuel noticed that there was an extra support in the center of the roadway which was not present in the photograph of a real suspension bridge. "Maybe we could make a real suspension bridge," I said. The children were ready with suggestions: "We could use wire for cables, and wood for towers." I told them I thought we could mix real concrete.

#### Building the Bridge and a Trip to Staten Island

It took us two weeks to build our model of the George Washington Bridge. We discussed the idea formally at a morning meeting. Almost everyone wanted to be a "bridge builder". I made a list of the children who were interested and picked a committee of five to begin the planning. Using books and photographs for reference, we made a list of the parts of a suspension bridge: towers, cables, anchors, roadway, hangers, ramps. We discussed the materials we would need: wood for towers, link chain for the cables with string tied to it for hangers, a long piece of wood or cardboard for the roadway, hooks in concrete for anchors and blocks

for ramps. I offered to find a recipe for concrete (I knew it was sand, gravel and cement in some combination). Then we discussed what the towers should look like and developed a sketch for them (Figure #8). How could we get the towers to stand up? We knew that the real towers were set into concrete. Sarah said that both "feet" of the tower were in one big piece of concrete. "Is the concrete always hard like that?" I asked. Charles said, "No. I saw men pour concrete for my friend's terrace. A big truck came, and the concrete poured out." Charles told us that they had poured the concrete into a big wooden frame. We would need something to hold the concrete in, too. Steve said he could bring in some shoe boxes, maybe they would work. We agreed that we also needed smaller boxes for the anchor molds.

During the next few days, we constructed the towers. There were many different kinds of things to do; many children participated. First, we had to carry some big planks over to the shop where the shop teacher cut them into strips with a table saw. Then the strips had to be cut to size -- four long pieces for the uprights and four short pieces to go across. Steve, Ted and Robert measured the long strips using a quadruple unit block for a measuring tool. Steve sawed the last piece. We were ready to hammer the pieces together into the shape of the tower. I laid the long pieces on the floor about eight inches apart. "What about the cars?" Steve

said. "What do you mean?" I asked. "The cars won't go through," he said. I was still puzzled. "If you make it like that, there won't be enough room for the road to go through," he explained. "You're right," I said, moving the long pieces further apart. I realized that Steve could visualize the bridge in its final three-dimensional form simply from looking at these loose pieces of wood. He was way ahead of me.

The towers were completed before we took our final trip which was a ride on the Staten Island Ferry and a picnic in Staten Island. On the day of the trip, Alex came to school in a very bad humor. "I'm not going," he announced, "the boat's gonna sink!" (We had planned to drive to the ferry in cars and we had discussed the previous day how the ferry had a special place for the cars and for the people.) William and Kathy began to look apprehensive. Betty and I gathered the children around. "What makes you think so, Alex?" Betty asked. He was silent for a moment. "My brother says cars are heavy," he said finally, "All those cars will make the boat sink."

"I can see how you might think so," she said, "but boats are made of wood and wood floats even with heavy cars on top of it." Alex was still looking worried. "Let's try it," she continued. While the children finished their morning jobs and got ready for the trip, we set up the water table.



Alex got out the metal cars. I asked Dale to take a big piece of paper and list each child's name down the side. Alex put a piece of wood in the water; it floated. Then he put the car in; it plopped to the bottom. "Now put the car on the wood," I said. The heavy car did not sink the wood. Alex was satisfied. Before we left, everyone tried the experiment. Samuel checked off people's names on the chart.

We all enjoyed the ferry ride. Standing at the back of the boat, we could see where the Hudson and the East River converged as the ferry moved away from Manhattan. There were many boats in the harbor -- tankers, freighters, and smaller vessels. The children especially liked the Statue of Liberty. When we got to Staten Island, we drove a short distance to a park overlooking the Verrazano Bridge. We ate our picnic and watched the big ships sail in and out of the harbor.

Our model bridge was not completed until the following week. We spent one whole morning outside mixing the concrete -- two measures of cement, two of sand, one of gravel. We repeated the recipe until we had enough to fill our box molds. Robert said, "It looks like chocolate pudding!" Meanwhile, Samuel and Bob hammered lots of nails into the bottom edges of the towers so that the concrete would bind to the metal. At the end of the day we had the towers and anchors completed.

A few days later when the concrete had set, the children painted the towers and anchors with silver paint. We added two eye hooks at the top of each tower to feed the chain (cable) through (Figure #9). The bridge was almost finished. All we needed was a roadway, hangers and ramps.

Betty and I were hoping that the construction of the bridge would be a beginning point for a block scheme. You can't have a bridge without a river, or a river without boats, or boat captains without houses to go home to at night. The bridge had been assembled in the outdoor space adjacent to our classroom. The next step would be to bring it indoors. At the end of the day, I gathered the children together. "What shall we do with the bridge now?" I asked Ted said, "We have to test it with cars to see if it works."

"We have to test it with boats, too." Samuel added.

"We need the river!" several voices called out. "If we bring the bridge inside, what else will we need?" I asked. "A toll booth," said Charles. "Yes that's true," I had thought that the children would begin with less specific ideas, like Manhattan and New Jersey, but I quickly realized that these concepts were too abstract. I asked the children to pretend that they were driving across the bridge. "Where are you coming from? Where are you going?" I asked. The children responded to this dramatic framework -- "I'm coming from my house," "I'm driving to the apple farm," "I'm going

to visit the Statue of Liberty." Betty wrote down the children's reactions. After school, we assessed whether these children were ready for a big block scheme. They remembered in detail the trips we had taken, not only the recent ones, but also our visits to an apple farm and a sheep farm earlier in the year. As teachers, we wanted the children to focus and reflect on the experiences they had had together that year. But an all encompassing project like the one we envisioned had to include everyone because with out limited space we would have to use the entire floor in order to have enough room to play. Most of the furniture would have to be pushed against the walls or put out into the hall. (This is not quite as extraordinary as it sounds. We had done this twice previously for group projects during the year; our room was only twenty feet by twenty feet.) We were encouraged by the fact that five children had already completed wooden boats at the work bench and three more were in progress. If we were going to build a city in our room, teachers and children would have to plan together carefully.

#### Orientation, Mapping and Building

When we gathered together the following afternoon, I brought a large piece of chart paper. First I sketched the

bridge; then I added the Statue of Liberty. "If we build a city, who could make the Statue of Liberty?" I asked. Terry and Sarah wanted to do it together. "What about Riverside Church?" Dale and Michele volunteered eagerly and I wrote their names next to a sketch of the church tower. Steven looked disappointed. "Do you think you could use your Coast Guard boat in the city?" I asked him. "O.K." he said,

"I can use my cargo boat," said Robert, smiling at Steven.

"Who else has a boat?" I asked. Six more children raised their hands. I wrote "BOATS" on the chart and listed the children's names and the kinds of boats they had made underneath: Steven - Coast Guard boat; Robert - cargo boat; Lauren - houseboat; Helen - barge; Alex - fireboat; William - Staten Island Ferry; Daniel - tugboat; Samuel - ocean liner. "Me and Helen will have to work together," Daniel said excitedly, "because I'm the tugboat and she's the barge!"

"What about the apple farm?" I asked, referring to the list of places generated by the children the previous day.

"And the sheep farm?" added Kathy. After some hurried consultations, Kathy and Alice decided to be sheep farmers while Ted and Bob wanted to be apple farmers.

"We'll have to have apple trees," said Bob, "with apples."

"Do apple trees have apples in the spring?" Betty wondered aloud. The children had different opinions. We decided to settle the question later since there were four children who still had no particular work to do for the city. Andy decided to make the Little Red Lighthouse. Catherine wanted to make Central Park with Stuart Little's house nearby (we had been reading Stuart Little aloud to the children during rest time ). Charles would help her with the park, make our picnic spots (Dyckman Park, Ross Dock Park), and be the toll taker on the bridge. Now that these commitments were settled, we were ready to prepare for the city.

The next week was the busiest for all of us. There were numerous things the children wanted to make and we especially hoped to avoid any last minute disappointment on the part of children who had forgotten to make something or who had not expressed a particular desire. We kept a notebook listing what the children needed for their houses or places of work; we checked off items as they were made. Five boats were already completed, but three others needed more work. One entry in the notebook read: "Daniel -- wants a railing for tugboat; wants to paint tug dark red." We already had some props for the sheep farm; after our trip earlier in the spring, some children had made small sheep out of clay and a barn from a carton. But both farms would

need farm houses. In order to organize the work, Betty and I devised a schedule -- the wet things (an apple orchard and the statue of Liberty were to be made of paper maché) had to be made first so that they would dry in time; all painting had to be finished by Wednesday, but gluing pieces of wood together for furniture and gluing yarn and scraps of fabric onto oaktag for people could continue until the city was constructed.

We would need at least two apartment houses to be built out of blocks. But a few problems had occurred to us and we shared them with the children. The buildings had to be especially sturdy since so many children would be using them. The different stories of the buildings had to be big enough for the children's hands to fit inside to manipulate their oaktag people. The buildings would need elevators large enough to carry the oaktag figures up and down. Block builders, particularly Steven, Charles, Robert and Daniel carefully considered these problems during the week. We examined and discussed their various solutions. Daniel came up with an elevator made from a paper coffee cup; it was well balanced and could hold three or four figures.

By Wednesday afternoon the children had completed most of the things they needed. The apple farmers had made an apple orchard with the help of some other children. First they constructed a paper maché base; then they stuck in twigs

for trees, and finally added tissue paper blossoms. They had made their farm house from a carton and were working on the furniture. The sheep farmers had a farm house, too. The Statue of Liberty was a paper maché lady painted light green. Wires leading to a socket holding a flashlight bulb were concealed in the statue's arm; when connected to a battery they would light up the Statue of Liberty's torch. There were more wires inside a salt container for the lamp of the Little Red Lighthouse. The boats had also been finished. Betty brought in a box of alphabet noodles and some of the children glued the tiny letters onto the bows of their boats. The tug was named "Carol Moran" after a story we had read. Now we were ready to build the city. Just before the end of the day, we reviewed with the children the work done so far. I brought out our original chart and the notebook. Some children had furniture and oaktag people still to make. We agreed that first thing next morning everyone would help to rearrange the classroom and move some of the furniture out into the hall. Then a group of children who had finished all their props would help me map out the city on the floor. Betty and I had a tentative plan for the position of Manhattan which would leave enough room to the south for the harbor and to the north for the Bronx and the country. We had decided to cover the land areas with green contact paper and use the bare linoleum

tile floor for the water.

We spent the early part of the next morning pushing and shoving the movable shelves into the hall. We set up the tables and chairs in our outdoor space to be used for continued furniture- and people-making later that morning. While Ted, Liz and I were pushing the math shelf out into the hall, he looked up at me and said, "Tell me again why we're doing this?" Before I could respond, he answered his own question, "Oh yeah, we're building a little city."

When the heavy work was over, we all sat down to have some extra snack. Ted, Robert, William, Samuel and Catherine wanted to help map out the city. Betty took the rest of the group into the outdoor space where materials had been set up for furniture- and people-making and last minute painting (Bob added shutters to the apple farmers' house.). We also had a stand-up easel, sandbox, and a water table as activities available for those children who had finished making their props.

The map makers pulled the few remaining chairs into a circle. "Which way did the butterflies fly when we let them go?" I asked.

"South," said Catherine.

"Which way is South?" The children pointed toward the southern wall of the classroom. (Monarch butterflies migrate south from Canada every fall. When we released the butter-



flies we raised, they flew straight south; thus, the children had "experienced" this direction.) "The Hudson River runs from up north in the country, south past Manhattan and into the ocean," I said. "If south is that way, which way is north?" I could tell that William wasn't sure, but when he saw Catherine's confident arm pointing in the opposite direction, he pointed that way too. "O.K. Then our Hudson will have to start up here near the outside door." (Figure 10 shows a map of the city). I walked over and drew two parallel chalk lines from the outside door across the floor toward the meeting place. "Where would Manhattan be?" I asked. They all looked perplexed. "Where would up north in the country be?" There still was no response. The map we had made of our trips was hanging on the wall, and I didn't think it would be difficult to transfer it to the floor. "If we brought the bridge in and put it here," I said drawing two lines across the river to represent the bridge, "then where would Manhattan be?"

"I don't get it," said William.

"If I drive over the George Washington Bridge where am I going?" I asked.

"New Jersey?" Ted suggested hesistantly.

"Yes." I wrote two large initials, "N.J.", on one side of the bridge. "What if I drive back across the other way?"

"Would you be in the Bronx?" William asked.

"No. Look at the map, William. I'd have to cross another bridge over the Spuyten Duyvil to get to the Bronx. Get up and walk across the bridge." The children walked carefully between the lines.

"I don't want to get wet," said Samuel.

"When we came back from our bridge picnic, we crossed the bridge into ..."

"Manhattan!" said Catherine.

"Then we had to cross the toll bridge to get to ..."

"The Bronx!" said Ted. I drew the northern tip of Manhattan island, two lines across the Spuyten Duyvil to represent the toll bridge, and another large initial, "B", in the space north of Manhattan.

"Aren't there some other bridges that go from the Bronx to Manhattan?"

"The train bridge," said Robert. "I see it from my window." I drew two lines with railroad tracks in between them.

"What about the bridge the bus goes over, the Broadway Bridge?"

"It goes over here, near my old nursery school," said Catherine pointing out the spot. I continued the outline of Manhattan to the place where she was pointing, and drew the third bridge. Then I drew a long straight line to represent the eastern side of the island. When I connected this line

to the original Hudson River shore, the outline was finished. I had not expected this part of the project to be such a struggle.

By the time the rest of the group joined us we had added Liberty Island, the East River, and designated an area as the country. Catherine and I had laid down the contact paper. As the other children came in from outside I asked them to sit down, and I told them they were in the Bronx. I asked Bob to get up and walk to Manhattan. He studied the floor. "Is the green part the land?" he wanted to know. I told him it was.

"Be careful not to step in the water," I cautioned him, "the chalk lines are the bridges." He walked across the toll bridge and sat down in Manhattan. I asked Kathy to walk to New Jersey. She took a giant step over the river. "You should have used the bridge," said Samuel. Gradually all the children found places in different parts of the city. We had our lunch picnic-style that day.

On Friday morning, we began to build the city. We decided that the block buildings should be constructed first. Now that the city was mapped out, it wasn't hard for the children to find appropriate places for their buildings. The two apartment houses were built in the Bronx. One was named the "High Point Apartments" like Daniel's building which we had visited. Steven and Robert built one while

Daniel and Charles worked on the other. We carried the bridge inside. Sarah and Terry began tying the strings which would serve as the hangers while some other children worked on the approach ramps. Bob and I found a long piece of cardboard which we cut down for the roadway. Michele and Dale got an early start on the Riverside Church and were engrossed in building. They had almost completed the tower when they looked up and saw the bridge. A visitor in the room overheard their conversation:

"Uh-oh, Dale, we made the church too high."

"No we didn't."

"But it's higher than the bridge. Look."

"That's O.K. It really is higher than the bridge."

"Are you sure?"

"Remember how high the church was? You had to look down to see everything, even the bridge." This question being settled, the girls finished the tower, adding on a one-story house for their little people. They made some bells out of aluminum foil and hung them in the second story of the tower. Bett suggested that they hit two of the old railroad spikes together to make the sound. Sarah and Terry built a small house on Liberty Island.

By the end of the morning, the farms were in place near the block shelf. Alex and Robert had built the three bridges over the Spuyten Duyvil, and the long ramps for the big

bridge were finished. Charles and Catherine used pieces of green rug for the parks. I put down some tape lines in the harbor to divide the space into different piers for the tug, cargo ship, Coast Guard, ferry and fireboat. The ocean liner was docked further up the river, and the barge and houseboat had their slips north of the bridge. The city was getting crowded but everyone found enough space on the floor to have a picnic-style lunch.

After school, Betty and I discussed what else had to be done before the city could be opened for business. We needed to outline enough roads with tape so that everyone's house and place of work would be easily accessible. The children had to move into their houses or apartments with the things they had made. Helen and Liz might need some stones to use as cargo for the barge. Someone might want to make some tiny tissue paper dandelions for Ross Dock Park. We stapled some mural paper behind Liberty Island; perhaps Sarah and Terry would like to paint the Verrazano Bridge. Also, we had to check to see if there were enough cars.

On Monday morning, the children were eager to finish the preparations. In addition to our ideas, the children had other details they wanted to incorporate: the apartments should have numbers; the bridge needed signs; and the people had to have money! During a mid-morning discussion, we decided to use the red bingo chips which had been used all

year as math counters for currency. Ten "reds" would be equal to one (silver) washer. Now prices had to be established and price signs posted: "bridge toll -- one red", "ferry ride -- two reds". Each child would start out with one silver and ten reds. Before going home, everyone checked their houses and places of work once more to be ready for the opening of the city the next day.

### The Living City

Before the sun comes up, it is dark in the city. The little oaktag people are asleep in their beds. The children rest quietly near their houses. The only light shines from the torch of the Statue of Liberty and the lamp of the Little Red Lighthouse. A milkman delivers morning snack to each home. As the lights come on, the children have their snack; the oaktag people are awakened and have their breakfast. Gradually the roads fill with cars -- people are on their way to work.

On the first day of work in the city, the children were active and excited. Sarah and Terry quickly realized that they were stranded on Liberty Island without a boat. The ferry captain was usually obliging but sometimes he was too busy giving rides to help them out. They had to close the

Statue of Liberty while they took time out to make a simple boat. Charles discovered that being the toll taker on the George Washington Bridge was a very boring job. He resolved the problem with an honor system: "People can just put money in." The sheep farmers had lots of visitors to see the sheep and the baby lambs. Some people wanted to buy them and take them back to the city as pets. Alice and Kathy didn't want to sell.

"But I made that sheep," said Alex angrily.

"Come back tomorrow," said Kathy.

"We'll sell it to you tomorrow, O.K.?" Alice coaxed.

"But I want my sheep," Alex wailed.

"If we ~~sell~~ all the sheep, no one will come to visit," Kathy argued.

"Oh, O.K. You promise I can buy it tomorrow?"

"Yes," the farmers said together.

The harbor was very busy. Daniel pushed his tugboat up the river to hook up the barge and pull it down stream. Steven patrolled the harbor with his Coast Guard boat. The ferry and ocean liner gave rides to everyone. When the classroom lights dimmed, the children hurried to dock their boats and park their cars and find their way back home.

Alex was the first visitor at the sheep farm the next morning. "O.K. I wanna buy my sheep."

"We're not even open yet," said Alice.

"Which one is it?" Kathy asked him.

"The big one with the black face."

"That'll be five reds."

"Boy, this is an expensive sheep farm!" he said shaking his head.

"Well, that's a big sheep," said Alice. Alex counted out five reds, loaded his sheep into his car, and drove back to his apartment building. He decided that the apartment, which he already shared with Catherine, was too small for the sheep, so he built a yard for it behind the house. When other children realized that the sheep were for sale, they rushed to the farm to make their purchases. Soon the sheep farmers were sold out. Since the farmers couldn't make any more sheep, I made an announcement that I thought the sheep should be returned to the farm at the end of the work time so they could be sold again the next day.

The Statue of Liberty was another busy spot. Sarah and Terry took turns running the boat and giving tours. They picked up visitors in Manhattan or on the coast of New Jersey. Captains of other boats also dropped off visitors. Finally, the little island got too crowded and Sarah had to ask people to come back later.

Dale and Michele were so preoccupied with the church bells that they didn't have time to give many tours. Dale wanted to ring the bells on the same schedule as the real



church, but she couldn't tell time. Betty drew her some clock faces with the hands pointing at the quarter, half and three-quarter hours. Dale matched them to the wall clock in the classroom and chimed the bells at the right moments. After a day or so, she didn't need the clock faces anymore, and by the end of three days she could tell time.

There was one traffic accident. Betty overheard Bob say to Ted while they were driving home from the city, "Oops, I just ran over my father. I guess I'll have to take him to the hospital."

Thursday started out quietly. Lauren had her houseboat docked up the river north of the bridge. No one had come to visit her for quite a while so she decided to give a party. First she sailed down to Liberty Island to tell Sarah and Terry about her idea. They were delighted, and closed up the statue in order to help her prepare. The three girls wrote out invitations and asked William, the ferry captain, to deliver them. They made food out of plasticene clay. Lauren did not invite everyone in the class to her party because she insisted that there just wasn't enough room. Ted and Bob decided they had plenty of room at the apple farm for anyone who wasn't going to Lauren's party. They wrote their own invitations which they delivered personally. They served cider and had dancing in the front yard.

The city stayed up until the following Monday, when almost everyone agreed that it was time to dismantle it and have "normal" school again. A few children resisted (William looked the most disappointed), but after some more discussion even they admitted that the city couldn't stay up forever. The children brought bags to school so that they could carry home the things they had made.

### Conclusion

In summary, it is my belief that an in-depth study based on social studies themes is an appropriate educational framework for five and six year olds. It is important to remember, however, that at this age children learn from concrete experiences, and they need time to explore these experiences in a variety of contexts before they are ready to understand more abstract concepts. For instance, reproducing the map of Manhattan was difficult for the children in my class because it required understanding an abstract idea which the children had not had sufficient opportunities to make concrete. I had not focused the experiences of their trips and observations on that idea; I had depended instead on the small map (another abstraction). Their information and experiences did come together, however, in building and dramatization; these provided the children with opportunities to comprehend geographic aspects of their environment. In addition, the block scheme gave individual children the chance to learn at their own level, while it also provided an arena for group interaction. Steven, for example, was particularly challenged by constructing the bridge -- his ability to visualize the eventual three-dimensional structure was remarkably mature. Dale set herself the difficult task

of learning to tell time and carried her role in the city far beyond what her teachers could have anticipated. The whole class showed a spirit of cooperation through five days of sustained play. Small groups worked well together, both spontaneously as in visits to the Statue of Liberty and the sheep farm, and on planned occasions such as the parties. Thus, the shared purpose of the block scheme provided support for individual growth, and the children, in turn, gave life to the city. While playing their roles, the children began to understand the interconnectedness of the adult world and to make connections within themselves.

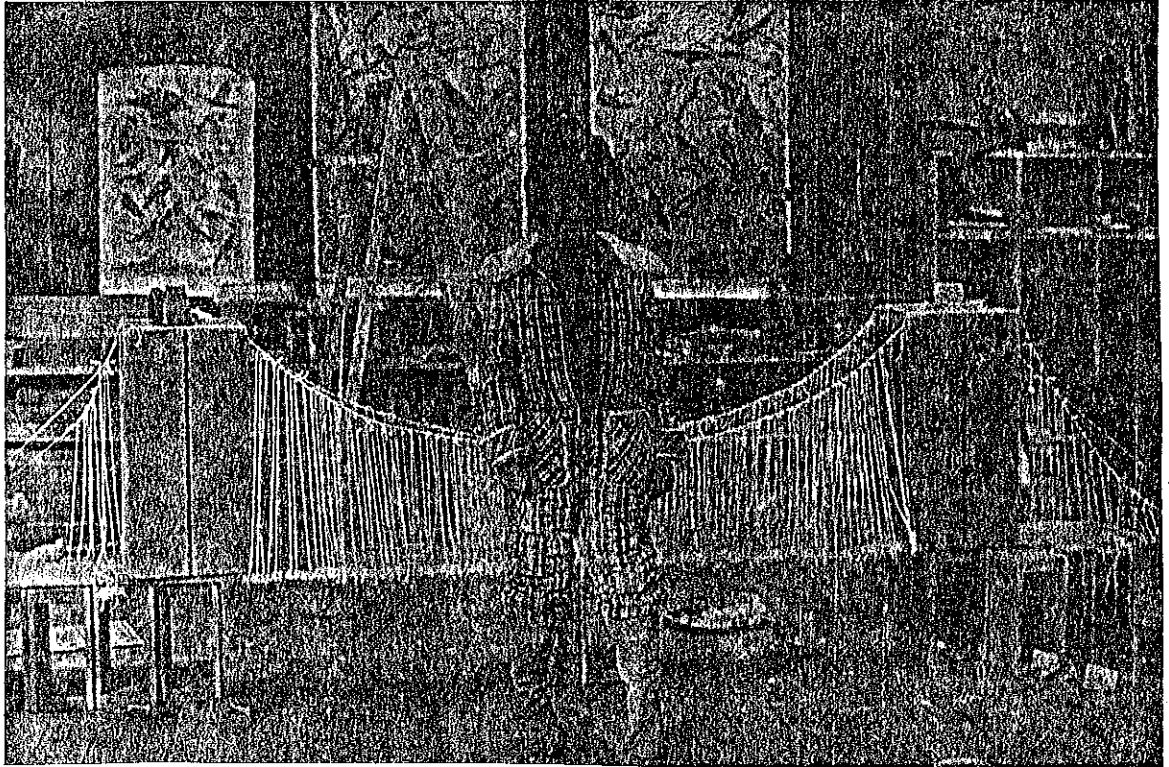
The world has become considerably more complicated since the time of John Dewey's writings. It is more difficult than ever in a technological society for children to perceive the connections which hold the world together. Just at the time, however, when children need more help in order to comprehend their environment, the idea of social studies as the core of the curriculum is being replaced by an emphasis on cognitive skills. Part of my purpose in writing this essay has been to show how cognitive skills as well as other activities may be developed and extended through the activities of a social studies curriculum with a core theme. While studying the Hudson

River, these children had experiences in language arts, math, science, movement and music. In response to the trips we took, some children drew pictures and either wrote or dictated short descriptions underneath. We read many related story books to the children. As a group, we wrote a composite poem when we returned from our trip to the tower of the Riverside Church. Our city was full of signs such as names of places, prices of items and tolls. The accuracy and meanings of these signs were rooted in the children's experience; signs on the ramps of the George Washington Bridge read either "To New Jersey" or "To New York". Constructing our "real" suspension bridge gave rise to many kinds of problems in math and science including symmetry, measurement, scale and proportion and thinking in three dimensions. Building bridges with unit blocks involved questions of balance and observation as well as giving the children the chance to actively work out their idea of a bridge in concrete terms. Whenever possible, we tried to give the children ways of experiencing with their whole body. In the rhythms class which the children had once a week, we conferred with the teacher about our study. She had large silk scarves which the children tied around their waists and used as sails. They moved on the floor like swimmers. They discovered different ways to make bridges

with their bodies. Using social studies as the core of the curriculum does not mean that children forfeit cognitive learning; on the contrary, it creates the very opportunities which facilitate cognitive development.

I have tried to point out three ideas which I believe are essential to curriculum for five and six year olds. First, the curriculum must start with the children's life experiences; second, the curriculum must be organized around a core idea; third, the most appropriate core idea for children of this age is based on a social studies theme. To design this kind of program, teachers must find out all they can about the children's life experiences by investigating their community and environment. In addition, teachers must plan trips and activities which give the children new information, reinforce their ideas or enrich their understanding of the world. This planning is time-consuming, but it is worthwhile because through their explorations in such a program, children have the opportunity to make sense out of the world and give it meaning.

## EPILOGUE



Terry standing in front of the bridge that she and Sarah built the following year in their first grade class.

This is the best illustration I can give of two thoughts from John Dewey's essay, Experience and Education, which have been important to me:

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.<sup>22</sup>

Every experience is a moving force. Its value can be judged only on the ground of what it moves toward or into.<sup>23</sup>

FLOW CHART

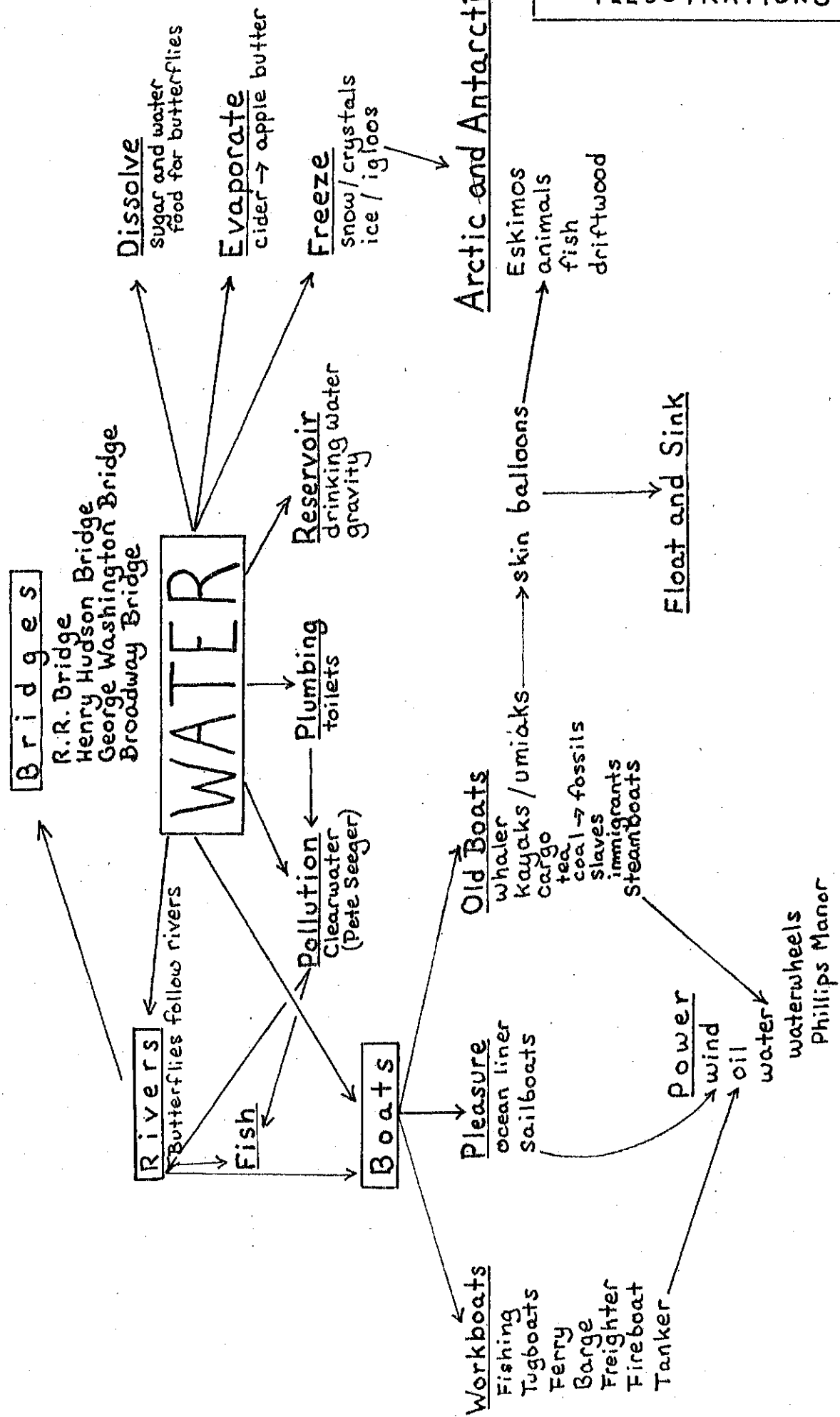


Figure 1

(This chart was intended to suggest as many connections as possible. Some of these ideas were



PLACES	ACTIVITIES	SONGS AND MOVEMENT	TEACHER RESEARCH
River site Lyckman Park Riverside Park Staten Island Perry Statue of Liberty Circle Line Tugboat New Pier Ocean Liner Sailing Ross Dock Park Fulton Fish Market Aquarium	Water Table: Pipes and pumps Float and Sink Boat-making woodwork Balloons Mapping Drawing clipboards bring on trips on trips words and pictures	Sloop John B. Blow the Wind Southerly Erie Canal Illialio Work Songs Story Songs  Rhythms: sails wind swimming fishing bridges boats	New Pier: sailings of Ocean Liners Barges: Do they still dump? Sewage Treatment World Trade Center observation deck Library: tugboat signals reservoirs Whaling Boy Carol Moran Stuart Little  Books on bridges Find photos of Hudson and boats

Figure 2

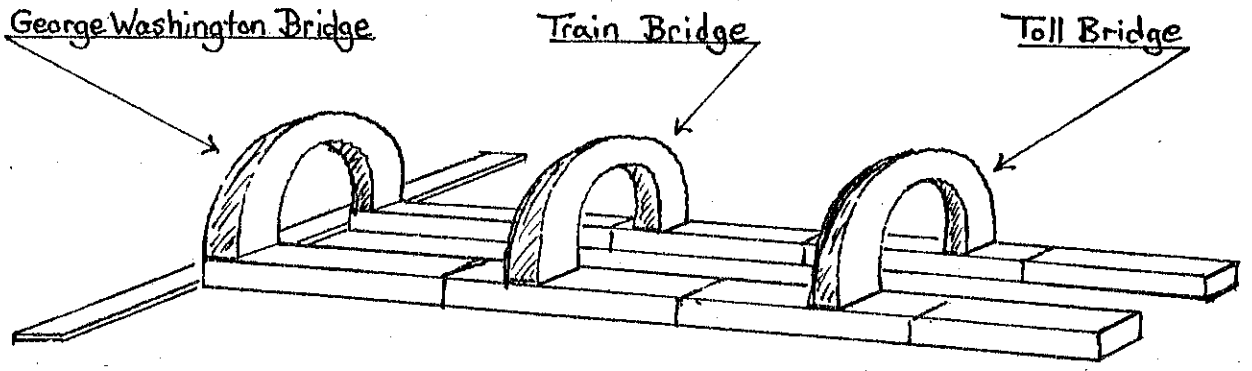


Figure 3

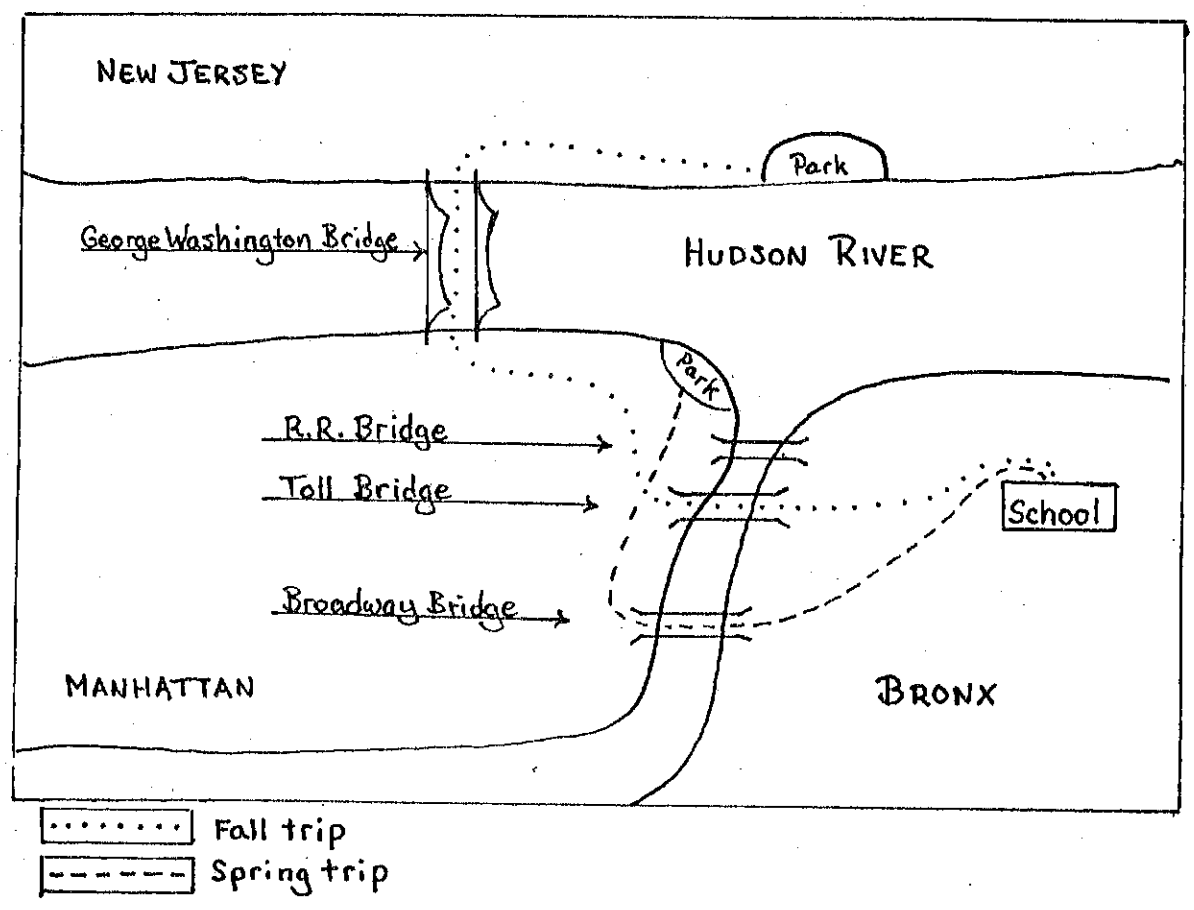


Figure 4

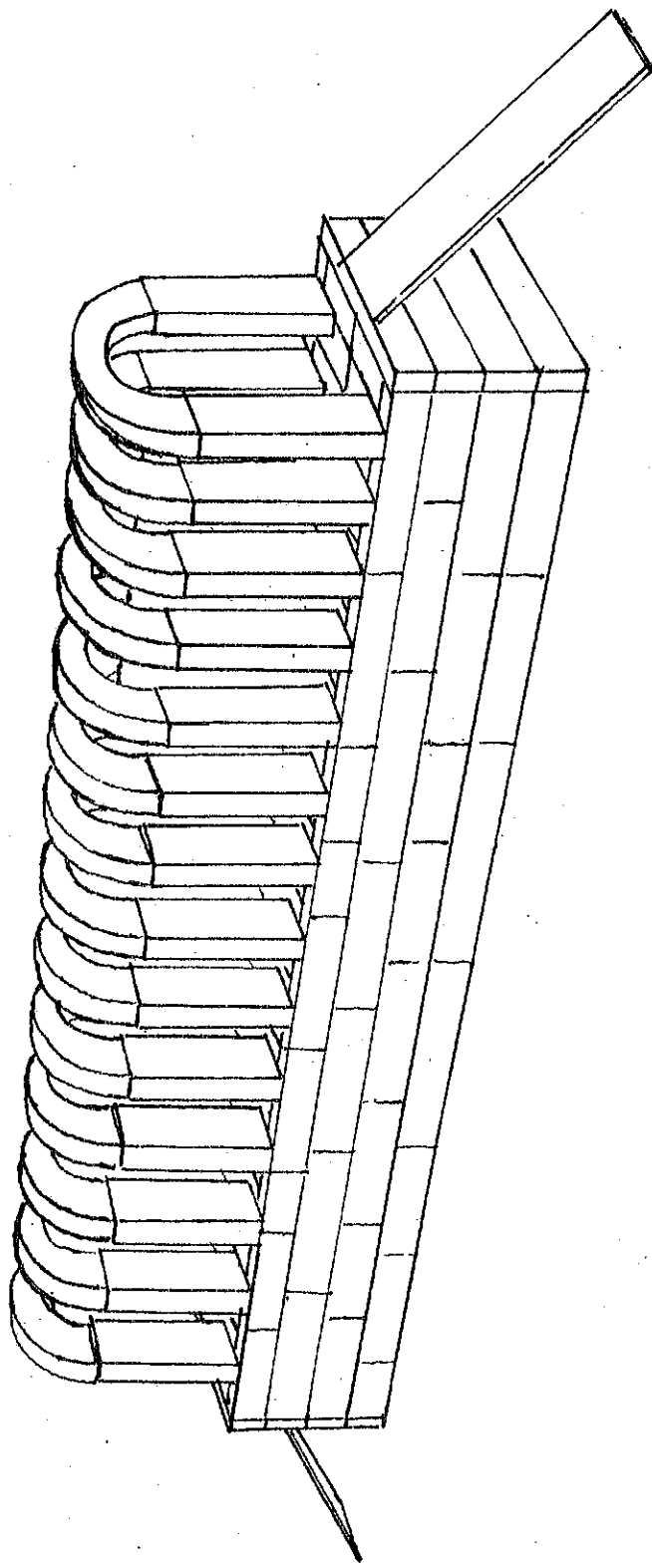


Figure 5






	Float 	Sink 
rock 		✓
pencil 	✓	
scissors 		✓

Figure 6

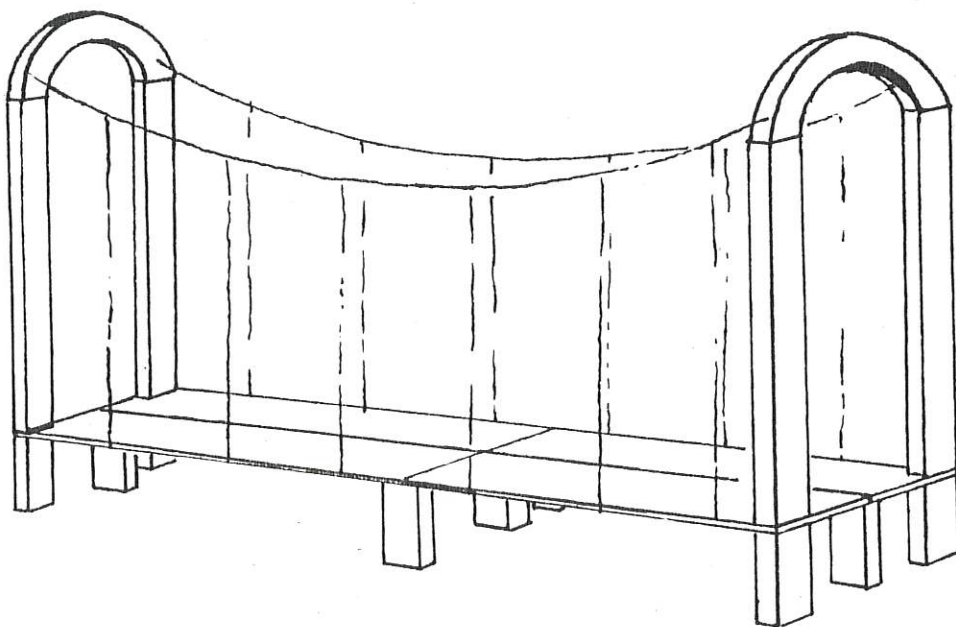


Figure 7

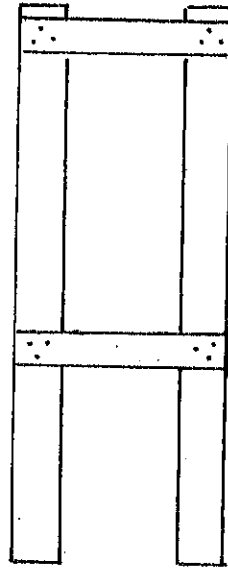


Figure 8

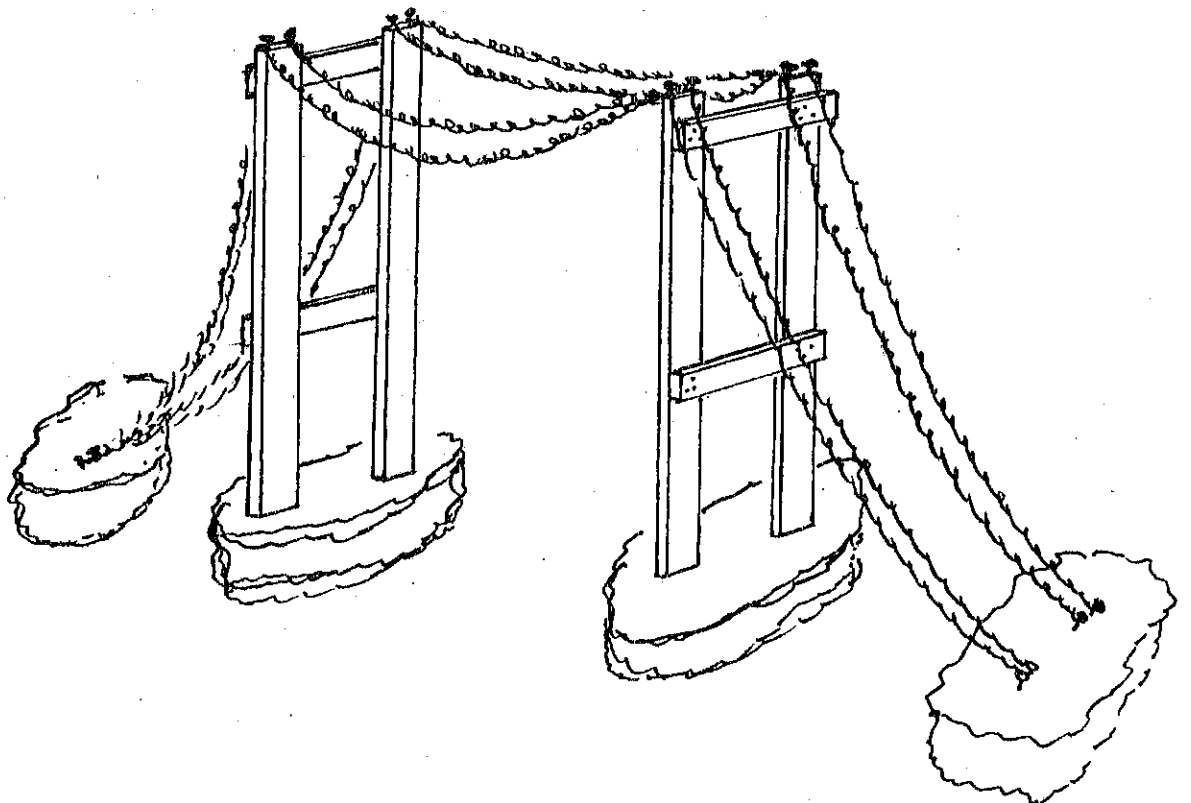


Figure 9

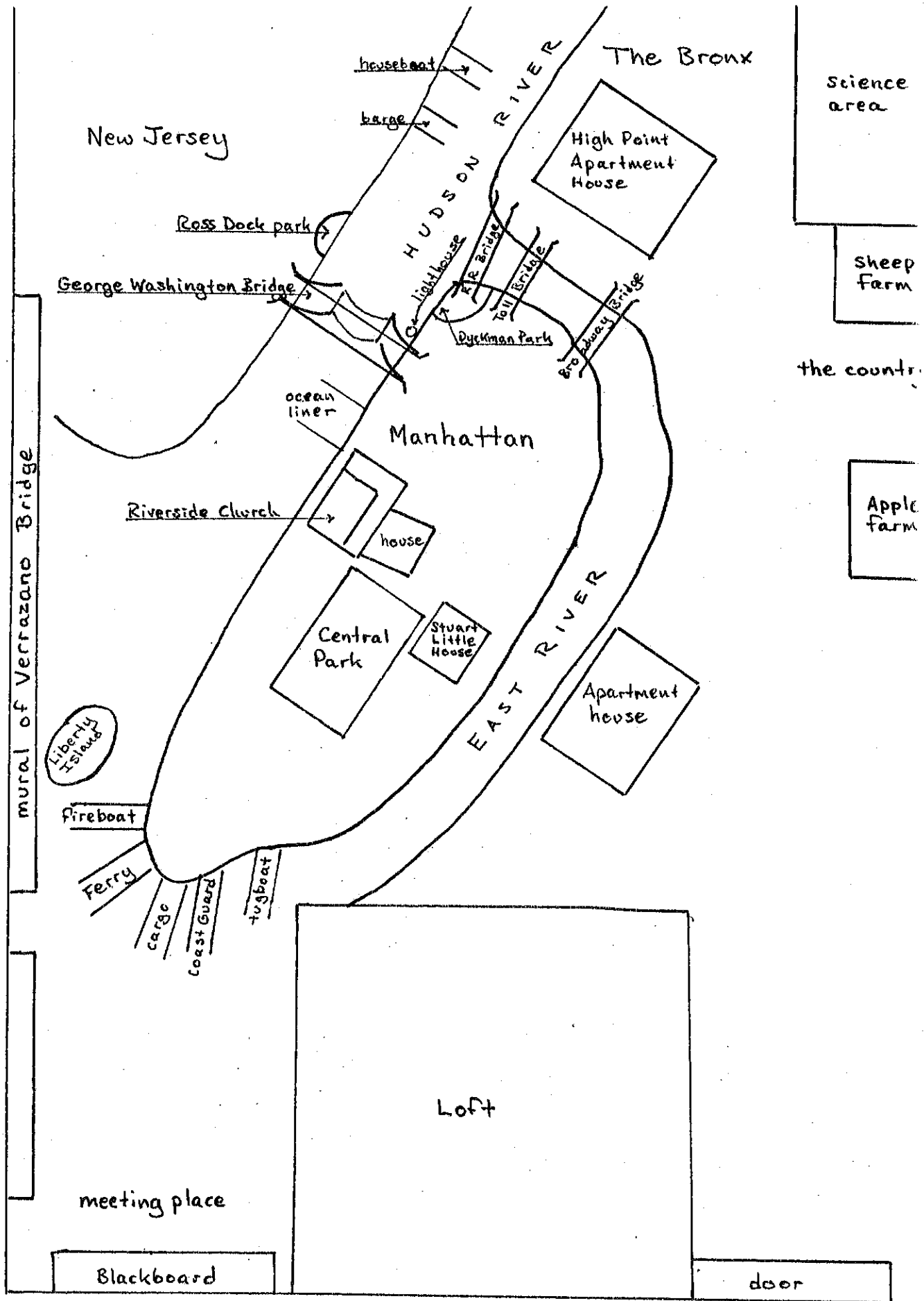
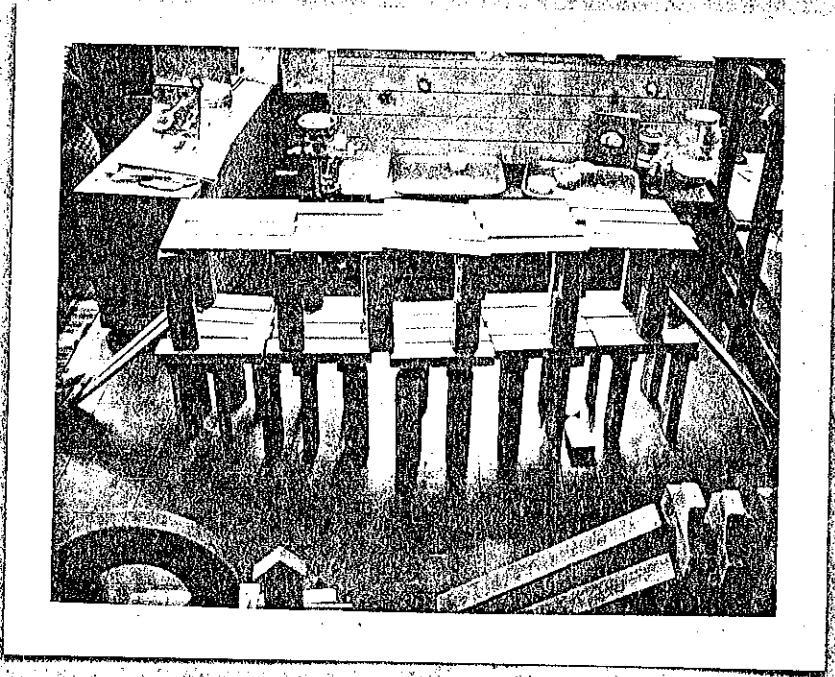
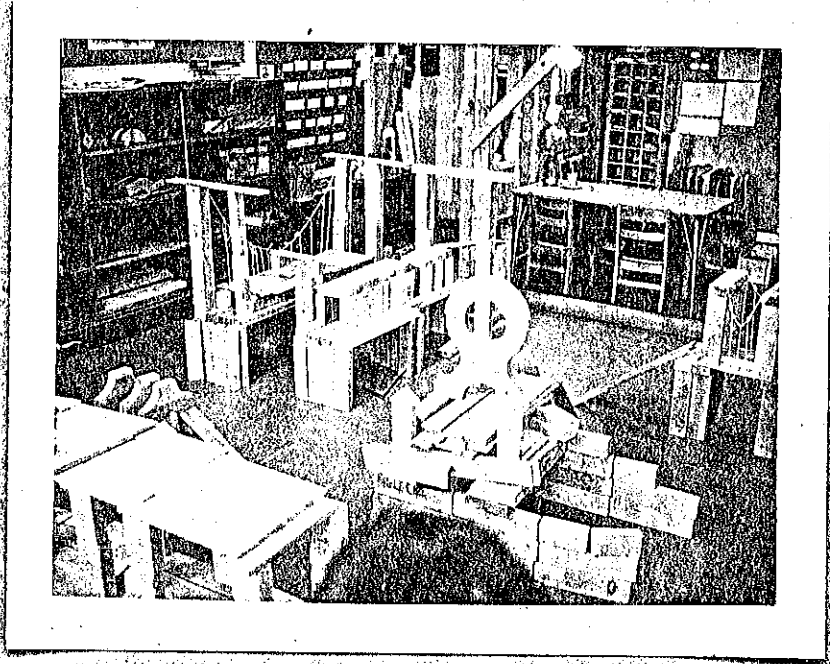
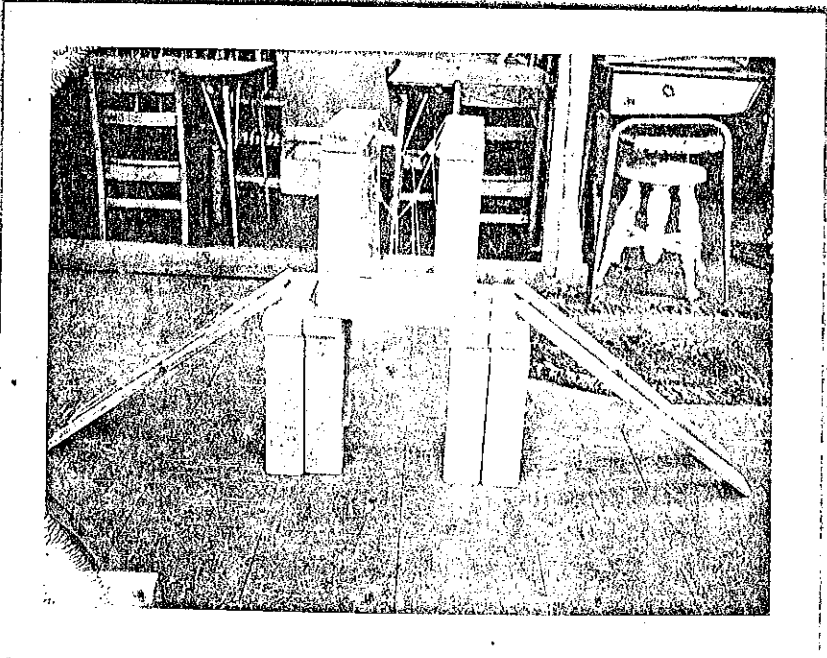
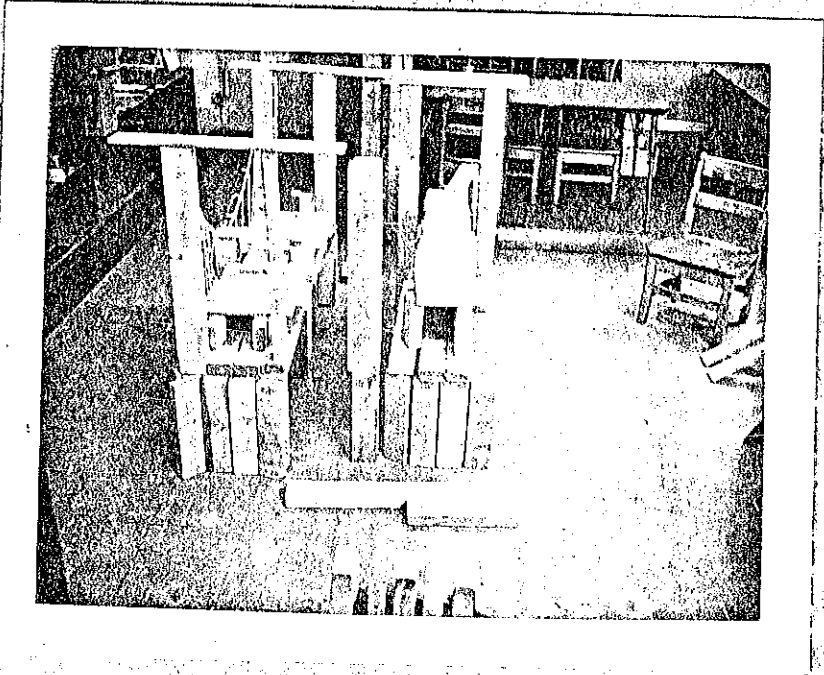


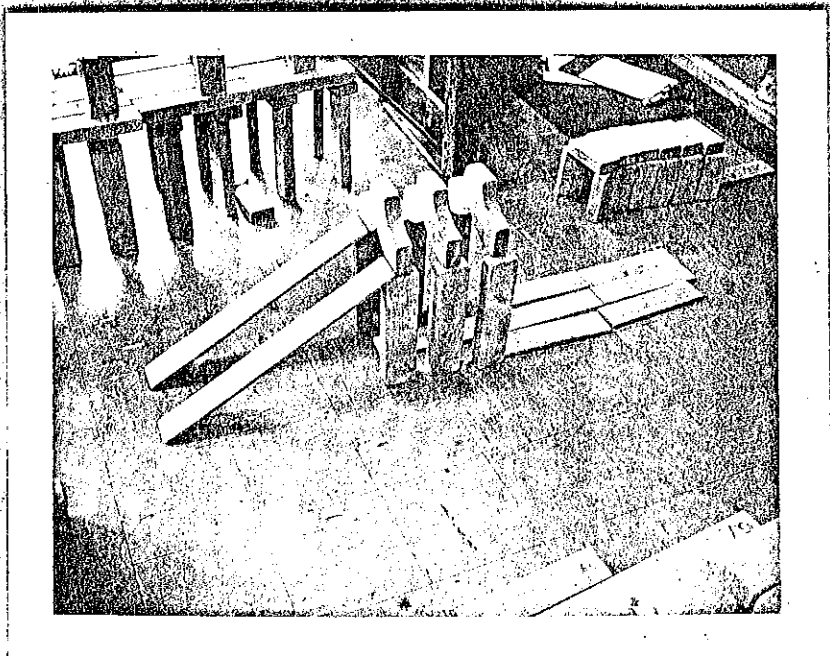
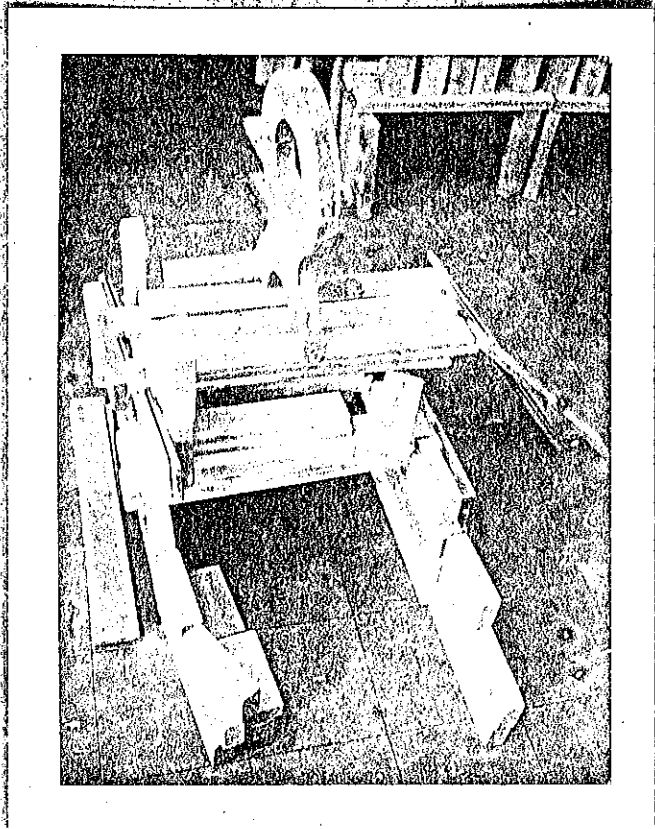
Figure 10

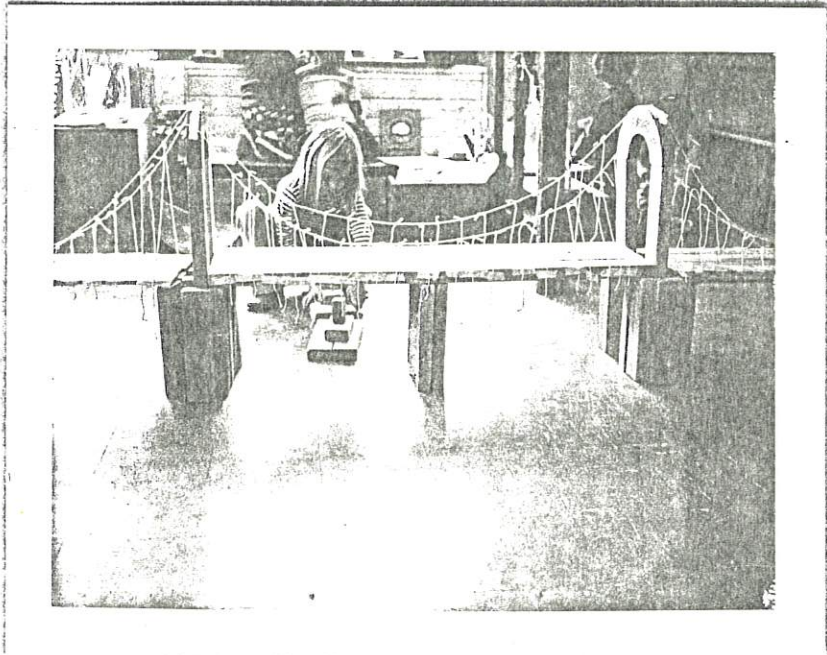
APPENDIX B: PHOTOGRAPHS OF BLOCK BRIDGES



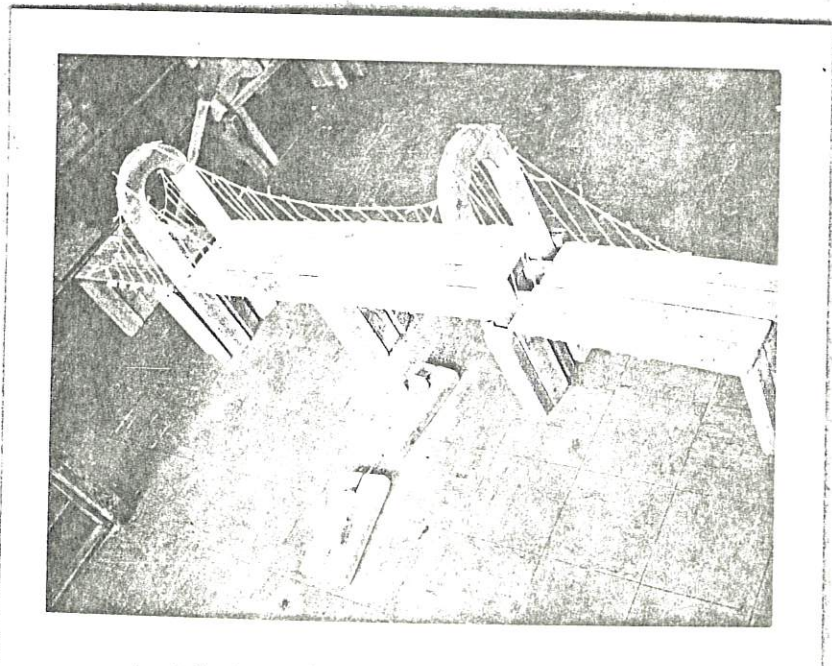








SARAH AND TERRY'S SUSPENSION BRIDGE



APPENDIX C : PHOTOGRAPHS  
OF THE LIVING CITY





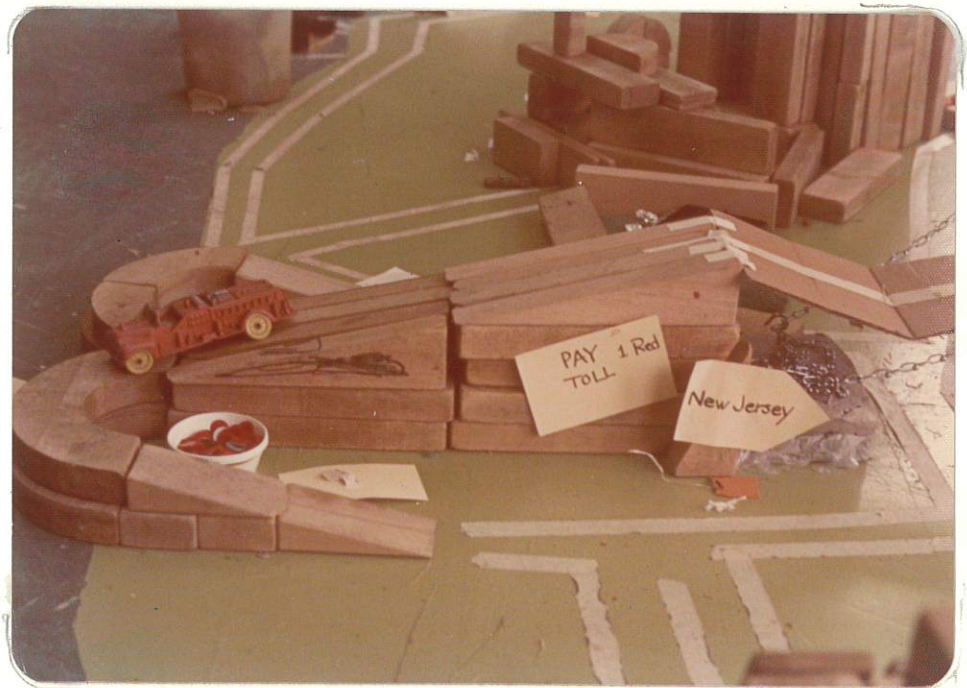
The George Washington Bridge





top: Robert drives his car  
down the ramp into  
New Jersey

bottom: ramp and signs





Two views of the bridge



## OTHER KINDS OF BRIDGES IN THE CITY

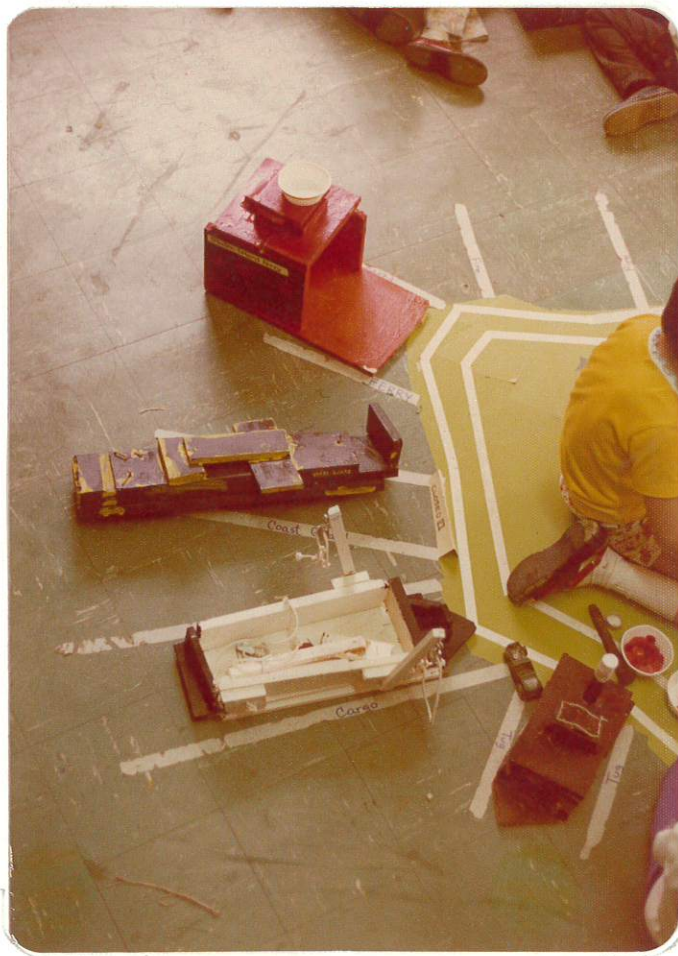


top: toll bridge and RR bridge

bottom: mural of the Verrazano bridge



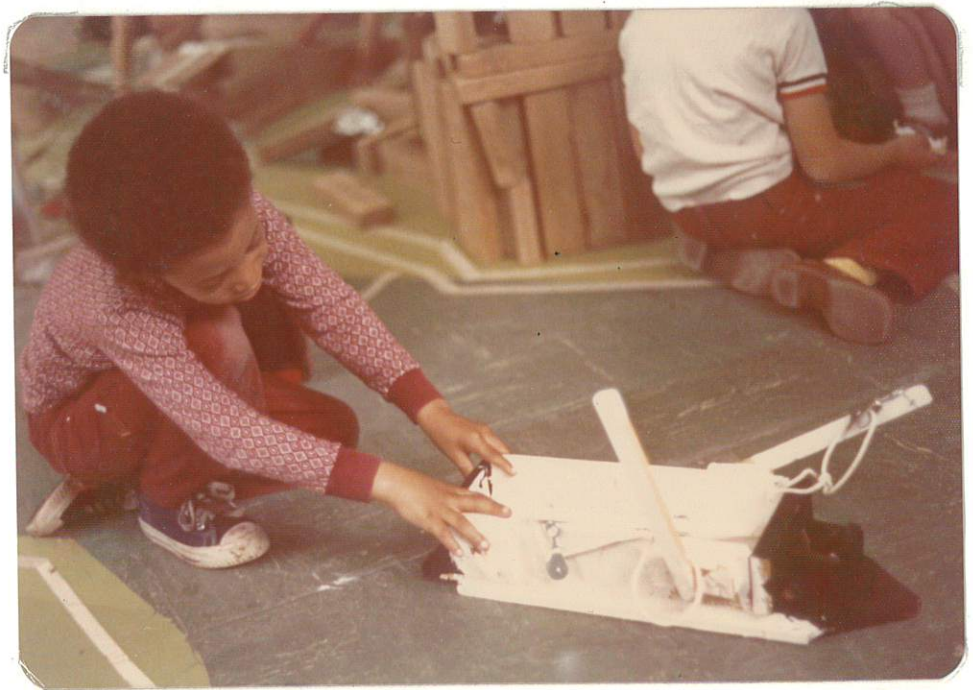
BOATS







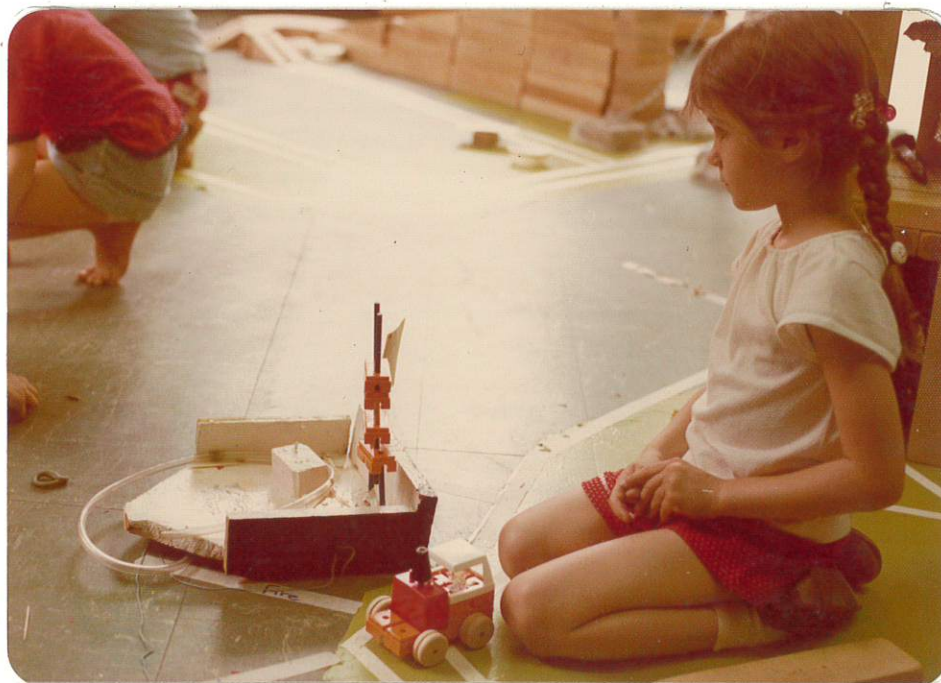
Andy borrows Robert's  
cargo boat for a ride up river





top: Helen loads stones into the barge

bottom: Kathy waits for Alex to return to his fireboat





top: Samuel pushes his ocean liner  
bottom: Alex visits the Statue of Liberty





William gives rides on his ferry



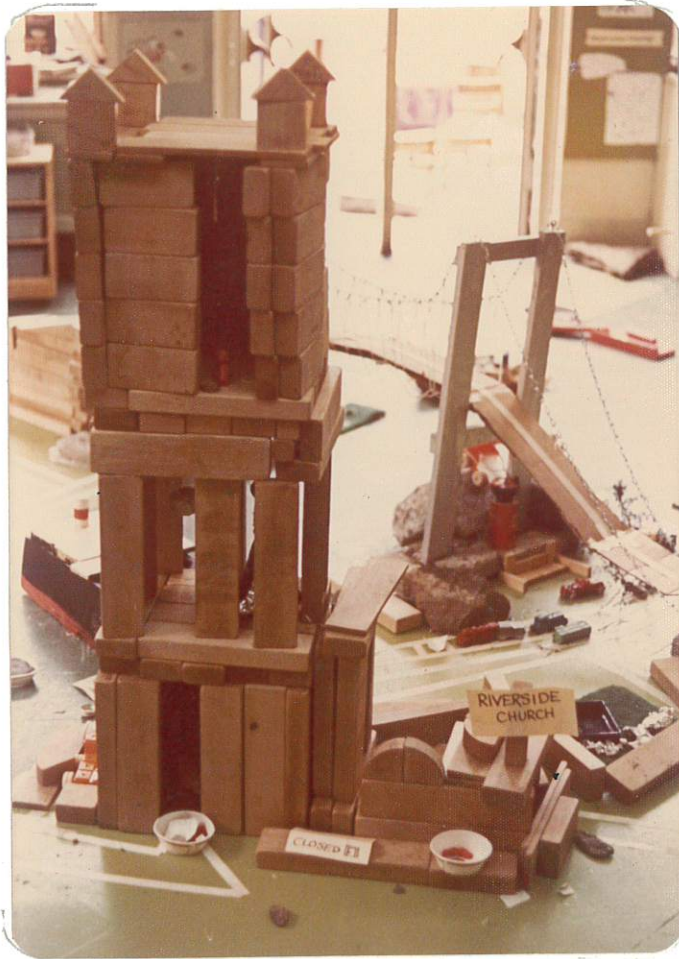


top: Steven patrols the harbor with his Coast Guard ship

bottom: Betty helps Daniel repair his tug



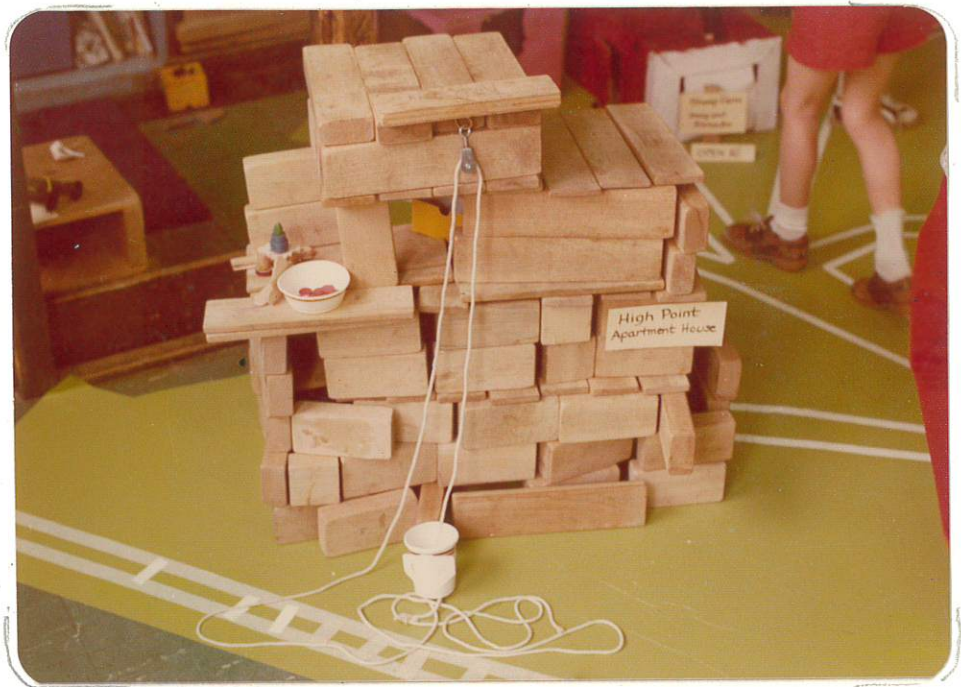
## BUILDINGS



top: Riverside Church

bottom: Sarah and Terry at their house on Liberty Island





top: High Point Apartment House  
with Daniel's outdoor elevator

bottom: interior of the second apartment house,  
showing two apartments and furniture





top: Kathy feeds the sheep

bottom: farm house







top: farm house

bottom: the apple farmers, Ted and Bob



## G R O U P S



Getting ready for the party:  
Sarah, Terry, and Daniel have  
brought their sheep

## Footnotes

<sup>1</sup>John Dewey, Experience and Education (New York, 1963), p.74.

<sup>2</sup>Dewey, "Lectures for the First Course in Pedagogy", Unpublished, No.4, p.7, in Arthur G. Wirth, John Dewey as Educator His Design for Work in Education (1894-1904), (New York, 1966), p.136.

<sup>3</sup>Dewey, Experience and Education, p.17.

<sup>4</sup>Ibid., p.48.

<sup>5</sup>Ibid., p.90.

<sup>6</sup>L. Joseph Stone and Joseph Church, Childhood and Adolescence A Psychology of the Growing Person, third edition, (New York, 1973), p.6.

<sup>7</sup>Dorothy H. Cohen, The Learning Child, (New York, 1972), p.60.

<sup>8</sup>Marguerita Rudolph and Dorothy H. Cohen, Kindergarten: A Year of Learning, (New York, 1964), p.22.

<sup>9</sup>Ibid., p.21.

<sup>10</sup>Erik H. Erikson, Childhood and Society, second edition, (New York, 1963), p.258.

<sup>11</sup>Ibid., p.255.

<sup>12</sup>Henry W. Maier, Three Theories of Child Development, revised edition, (New York, 1965), p.46.

<sup>13</sup>Stone and Church, Childhood and Adolescence, p.282.

<sup>14</sup>Cohen, op. cit., p.59.

<sup>15</sup>Barry J. Wadsworth, Piaget's Theory of Cognitive Development, (New York, 1971), p.88.

<sup>16</sup>Ibid., p.72.

<sup>17</sup>Susan Isaacs, Intellectual Growth in Young Children, (New York, 1968), p.98.

## Footnotes (continued)

- <sup>18</sup>Stone and Church, op. cit., p.273.
- <sup>19</sup>Maier, op.cit., p.45.
- <sup>20</sup>Harriet K. Cuffaro, "Dramatic Play -- The Experience of Block Building", Elisabeth S. Hirsch (ed.), The Block Book, (Washington D.C., 1974), pp.74-78.
- <sup>21</sup>Dewey, How We Think, revised edition, (Boston, 1933), p. 274.
- <sup>22</sup>Dewey, Experience and Education, p.25.
- <sup>23</sup>Ibid., p.38.

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- Dewey, John, Experience and Education, Collier Books edition, New York, 1963.
- ., How We Think, revised edition, Boston, 1933.
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- Hirsch, Elisabeth S. (ed.), The Block Book, Washington, D.C., 1974, see especially Harriet K. Cuffaro, "Dramatic Play -- The Experience of Block Building", pp. 69-87.
- Isaacs, Susan, Intellectual Growth in Young Children, Schocken Paperback edition, New York, 1968.
- Maier, Henry W., Three Theories of Child Development, revised edition., New York, 1965.
- Rudolph, Marguerita and Cohen, Dorothy H., Kindergarten: A Year of Learning, New York, 1964.
- Stone, L. Joseph and Church, Joseph, Childhood and Adolescence A Psychology of the Growing Person, third edition, New York, 1973.
- Wadsworth, Barry J., Piaget's Theory of Cognitive Development, New York, 1971.
- Wirth, Arthur G., John Dewey as Educator His Design for Work in Education (1894-1904), New York, 1966.



